

PRIVATE SCHOOLING INDUSTRY
A Survey of Kohima Town of Nagaland

by
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Declaration

I, Mr. Kevizakie Rio, hereby declare that the subject matter of this thesis **Private Schooling Industry: A Survey of Kohima Town of Nagaland** is the record of work done by me, that the contents of the thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/ Institute.

This is being submitted to North-Eastern Hill University for the degree of Doctor of Philosophy in Economics.

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CHAPTER 1

INTRODUCTION

1.1. The System of Private Schools as an Industry

The present study is concerned with an analysis of the “*enterprise of providing for schooling by the private sector*” to those who are ready to pay at much higher rate for the services that otherwise (and conventionally) are imparted at a very cheap rate by the system of schools run by the government. As we all know, imparting elementary as well as secondary education has since long been one of the most important activities of the state and in all the states of India there is a well organized system of primary and secondary schools run by the government. These schools in the government sector are almost fully supported by the state and therefore, they impart education to the students at a very cheap rate.

However, since the last three decades or so, many towns in India have experienced the flourishing of private schools of various types, some imparting *English medium* education in the areas of vernacular languages, some others imparting preparatory coaching education for competitive entry into certain reputed and prestigious schools, and still others claiming to impart better education than the local government schools do. It has been observed that there is an ever growing demand for private schooling in almost all states in India and the enterprise of private schooling has established itself so well that it has

now assumed the characteristics of a full-fledged industry in the tertiary sector. Private schools are flourishing in almost all towns in India; they have come up in large numbers in the rural areas as well.

The system of private enterprises imparting school education to students may well be called an *industry*, though it is often startling because, conventionally, first, '*industry*' is often associated with '*manufacturing*' and secondly, providing for school education has been the activity of the state, mainly with the widely acclaimed objectives concerning welfare and promotion of human capital for fostering development. The impression created by the overtone of welfare and development that surrounds schooling is often carried over to private schooling enterprise as well, though, evidently, the enterprise of providing private schooling is related to welfare and development no more than what any other enterprise turning out any other commodity or service is related to welfare and development.

Those who know these (private) schools rather closely would almost unanimously agree on considering them an enterprise, like any other enterprise, mainly undertaken to earn income and profit. These schools employ teachers at a very low salary (often about one third of the salary drawn by a teacher in the schools run by the government), charge substantial amount as admission and tuition fees, often provide for residential facilities to enhance profitability, and yet, at many instances, remain unmindful to providing enough facilities to

students. On scrutiny, one may have only a mixed type of feelings about the academic standard of these schools. However, in general, private schools strive hard to impress their clients and exhibit remarkable salesmanship to attract them, whereas the schools in the government sector have no incentives or urge to do so.

Not all private schools run and succeed only on the impression created by their skill at salesmanship. Many private schools indeed do better than government schools. Therefore, it is obvious for parents of the students to send their children to such schools with good prospects even though the costs are high.

It is a commonplace knowledge that most parents will develop a liking to a particular educational institution which is doing well. Matters like HSLC results, quality of education, surroundings, extra-curricular activities and most of all the devotion of teachers towards the students count. Since many of these qualities are available in some private schools, the parents prefer these brands (branded schools), though all private schools do not behave uniformly.

In this study, education has been given the epithet of *industry*, because it produces the manpower of different skills and efficiency for the production process of the economy. Whereas the products of other industries are valued for their usefulness in the production of final consumption, the product of

education is valued for its productivity – in production process. That is why, schools may be considered as “teaching firms”. Many “industrial’ concepts can be meaningfully employed for the analysis of education although it has its own peculiarities.

The system of private schooling organizations falls under the category of tertiary sector. It is concerned with provision of services (imparting education and allied facilities). Like in any other industry it buys factors of production such as land, building materials, study materials, etc. and further it employs teachers and non-teaching staff. Logically, a private school acts as a mill in which the customers (i.e., the parent of a child) bring in the raw material (the child), to be shaped for the future benefits. In doing so, the school charges necessary fees for the services rendered to the child or pupil.

Evidently, profit maximization is one of the basic objectives of these privately run schools. Unlike the government-run schools which are geared by ‘duty of the state’, social service, welfare or development motives and so on, a private school attempts to maximize its profit in various ways, viz. charging higher admission fees, tuition fees, hostel rent and other donations. Apart from these objectives some of the objectives which are deemed worth mentioning are expansion of the school and also providing quality education.

In the organizational perspective, private school may take the form of a ‘sole proprietorship’ in which a single individual is the sole owner of the

school. The discretion pertaining to policy making lies with the owner and he alone bears the losses and takes the profit. Secondly, there is 'partnership' where more than one person is involved. Mutual consent and voluntary agreement create them. Though the joint capital is not a norm of partnership they agree to share the profit. Thirdly, there are 'cooperatives' that run the school for the furtherance of their economic interests. Many of these schools proclaim to providing maximum services to all the students' community and not to make profit. Another form of schools may be referred to as 'joint schools' or 'deficit schools'. Both government and private individuals have their shares in the administration of such schools.

The system of private schools has a market structure. As an industry it falls under the purview of monopolistic competition. Schools produce more or less closely substitutable products such as instruction to pupils and examination results. One definite thing about the customers (the parents of pupils) is that they have preference for a particular variety or brand of products. These brands are close but not perfect substitutes for each other.

Pricing and provisioning in the private schooling industry are subject to what is known as '*moral hazard*' in Information Economics (**Luenberger**, pp. 432-436; **Byrns and Stone**, p. 435). Moral hazard arises when the reward of one party (e.g., students and their parents - *call them the buyers of the product of the private schooling industry*) of a contract (admission to the school)

depends on the performance of another party (the school, and its teaching and non-teaching staff, etc. - *call them the seller of the product of the private schooling industry*), and the performance cannot be monitored (because the students cannot judge the quality of the product they are receiving and the parents cannot be there in the classrooms/schools to assess the quality of the product, that is, teaching).

In general, moral hazard represents a situation in which there is a difference of information after trading (or contract signing) but before the terms have been fulfilled. This contract with adverse selection has asymmetry of information before trading. The difference in information in a moral hazard problem is associated with control of the level of performance. In the private schooling industry, the assessment of the difference of information and the intensity of the moral hazard is difficult. As a rule, therefore, pricing and control of output have a tendency to occur with large variances. This important issue has to be considered cautiously while studying the pricing and provisioning in the private schooling industry.

To summarize, the system of private enterprises catering to the demand of the clients (parents/students) for schooling have all major characteristics of an industry: (a) profit motive, (b) investment, (c) hiring of factors of production like skilled and unskilled labour, infrastructure like building/land, etc, (d) catering to the demand in the market, (e) product differentiation, (f) technology

and innovation, (g) advertising, (h) pricing policy, (i) competition, coalition, leadership and other types of organizational manifestations, (j) location decisions and localization, and so on. Since any system that sales its product in the market and exhibits the characteristics mentioned above would be labeled as an industry, there is no reason why the system of private schools should not be labeled as an ‘*industry*’. **Wadhwa** (2003) quotes Shomie Das, a Dehradun-based education consultant saying: “*People have realized that in these times of recession, schools make for regular, stable income. And given our growing population, the demand for school will only increase. The land and infrastructure remain assets forever. Plus the respectability and status that come from being in the education business are intangible profits*”. p. 49. This view of education business can only make private schools an industry.

1.2. Special Features of the Schooling Industry

Unlike many other industries, however, education industry’s outputs as well as inputs are not clearly identifiable and measurable; socio-economic and psychic factors abound in case of both inputs and outputs. The major and obvious components of the production function in the education industry are students’ time and effort, teachers’ time and effort, books, teaching materials and other equipments. Educational level in general and educated manpower in particular, is the output of this industry. Mathematical formulation of production function of this industry is complicated because of the difficulties

involved in identification and measurement of all of its components. However, some general observation may be made on the peculiarities of this production function.

Elasticity of substitution between different factors of its production function is likely to be very low. Buildings cannot be substituted for teachers, and obviously, teacher's effort cannot be substituted for students' effort, and so on. Substitution of teachers by modern teaching machines is possible only in a marginal way. Mechanization of education is a remote possibility, as even the modern equipments require the labour of more teachers.

This industry uses human capital intensively and produces human capital. One can say that it is engaged in the '*production of human capital by means of human capital*'. It uses the largest number of skilled manpower. Educated people in education industry are teachers and administrative staff. In manufacturing sector (factory industries), employees other than main workers usually have higher qualifications while in the education industry the main workers are more educated than the auxiliary workers.

In education industry production is rather cheap. Educational institutions do not make stringent demands on the scarce resources of the economy. In most of the developing countries, the required manpower is abundant. There are constant additions to the student population. The supply of teachers can be considered as scarce resource in some countries; but this scarcity can be

eliminated at least in the long run by proper organization of production in the education industry itself - say, by way of suitable planning of curricula and wage and salary structures. The other main demand which education makes upon an economic system is in the supply of buildings and equipments. These (building in particular) can be provided mostly from the indigenous material and at low costs also. The equipments used in the education industry (schooling in particular) are generally not very costly like those in manufacturing industries.

Foreign exchange components of education are very low. This industry may at the most demand some foreign exchange resources for foreign teachers, textbooks and sophisticated scientific equipments. Even in the higher branches of education, this may amount to not more than 5% of the total direct costs of education. It is thus clear that production in education industry demands very small amount of domestic as well as foreign resources. In view of the strategic importance of the output of this industry, education represents the easiest and a significant form of developmental expenditure which can be undertaken by a poor country (**Devi**, pp 33-35).

As manufacturing industries progress, they become more (material) capital intensive and less labour-intensive. This is a general observation in their case, as machines take over the work of men. But in case of education,

machines cannot eliminate manpower. Progress in education industry in fact means a higher teacher-pupil ratio indicating greater individual attention.

Some peculiarities can be observed in case of the rewards to the factors of production. The strategic factors of production in the commercial enterprises are paid highest - e.g., managers, engineers and administrative officers, etc. are highly paid. But in education industry the most strategic factor - teachers - generally receives low rewards as compared to its counterpart in other industries. This may be partly due to the low skills of the present teachers, but it is mainly due to the neglect of the long-term value of the output of this industry.

Whatever might be the reasons for the observed demand for private school and whoever be working in them on whatever terms, the following points qualify the private schooling industry to be an object of economic analysis:

- (i) It imparts education to a large number of students and thus adds to the augmentation of human capital that has its own role with regard to the economic development of the region and the nation as a whole.
- (ii) It generates employment opportunities and helps to solve the problem of general educated unemployment to some extent. It saves a good number of educated man-time from being unutilized and wasted.

- (iii) It generates income flows that in turn generate demand for many other services and commodities and further income and employment in turn.
- (iv) It helps to materialize entrepreneurial and managerial abilities in many youths and help to find the '*achieving society*' in the words of D C McClelland.
- (v) It promotes development - movement upward of the whole social system - in which literacy plays a great role.

1.3. Private Schooling in Kohima: An overview

Our study area is Kohima, the State Capital of Nagaland. Kohima is an administrative center where a large number of people are engaged in the tertiary sector (service). At present, the town occupies an area of 23 sq. kms. and has a total population of about 78.5 thousand (provisional figure, Census 2001, District Census Handbook, Kohima District). The present density of population in the town works out to be about 30 persons per hectare (about 3000 person per sq.km.), which is lower than the national standard (45.75 persons per hectare).

Today, Kohima is the centre of school education in Nagaland, with 34 high schools in total. Additionally, there are 8 middle/primary schools. Among the high schools, thirty-one (31) are run by private organizations and only three (3) are fully managed by the Government of Nagaland. The largest among the high schools run by the government has an enrollment of 845 students. In total,

government high schools cater to the schooling needs of a little over 1.5 thousand students in Kohima. However, private high schools (31 in number) cater to the schooling needs of over 25 thousand students. These figures are for the year 2000. In 1963, there were only 2 proceeding high schools. The growth of population in the town from 34.3 thousand in 1981 to 51.4 thousand in 1991, and further to about 76 thousand in 2000, and the inability of the government to establish more schools have encouraged the growth of private schools in the town. This was further encouraged due to the better performance shown by the private schools in the Board Examinations.

1.4. Why are Private Schools preferred to Public (i.e. Govt.-run) Schools?

Today, it is more important than ever before to convince parents of the value of increased education, both as a personal and as a national investment. With the rapid explosion of knowledge that is revolutionizing our lives, it has become very important that parents choose the right kind of institution to bring up their children to cope up with the changing education system.

In Nagaland, particularly Kohima, it has been observed that most of the parents prefer to send their children to private schools even though the burden of paying school fees are more in comparison to the government schools. A Member of Legislative Assembly had to say on the proceedings of the NLA, Eighth Session, 5th Assembly on 20-29 June 1985:

‘Nagaland is backward both economically and educationally. The children at the lower age should be guided properly and proper education should be imparted to them. It is usually the private schools that do better than the government schools. This can be so because of the discipline that the teachers impose on the students. When the government schools in Kohima, the capital of Nagaland, cannot produce good results, one cannot expect it in the rural areas.

Even the Grade IV staff in the town areas send their children to the private institutions where the policy of no detention up to Class IV is not adopted. If the students don’t study, they fail to get promoted to the next class. In the private schools, besides their normal classes they are given special coaching. But in the rural areas, as long as the teachers get their salary they do not bother whether the children are given proper education or not, and at the end of the year the children are given promotion.

At this tender age, proper education should be given since this is the moulding age. If the foundation is weak, in the later age it cannot be corrected. Therefore, the government should review this policy of no detention up to Class IV and act accordingly.’ (pp. 543-545).

The private schools have many problems common with the government high schools. Yet, in general, private schools perform better than the government-run schools. Some reasons are notable for the better performance of private schools:

- i) Better educational foundation of students.
- ii) Better learning atmosphere.
- iii) Higher motivation to do better for both students and teachers.
- iv) Greater consciousness of parents.
- v) Greater commitment on the part of management.
- vi) Better discipline.

Most students have better primary education either from the same school or from another private school, unlike those in government high schools who are mostly the products of very poorly run government primary schools. Better

learning discipline exists in most of the private schools, as there is greater sense of accountability by the school authority that prescribes fees for the students. They also have freedom to frame their own rules and regulations to provide the best possible learning atmosphere which are not easily enforceable in government schools.

The good results of the school in the past, whether in terms of ‘toppers’ or ‘distinctions’, serve as the best incentive to perform as well if not better. In many schools adequate attention is paid to the potential toppers and appropriate recognition is given to both the teacher and the student upon their achievement. This is not true for government schools.

The educational consciousness of parents and their desire for better education of their children motivate the parents to send their children to the good private schools. Due to this, they do closer monitoring of their own children’s progress as well as the input of the teachers on their children. The essential educational trait of student, teacher and parents relationship is thus better in private schools than in the government schools.

Another important reason why private schools are preferred more to government schools is that in Kohima it has become a status symbol to send one’s children to a private school. Kohima being the seat of those who can pay without a pinch and the value system of the society being the value system buttressed by the leisure class (**Veblen, T B**), the hard-pressed parents too send

their children to these privately run schools. Therefore, private schools are increasing year after year and more students are admitted every year.

1.5. Aims and Objectives of the present Investigation

In this perspective, it would be of utmost importance to study the development of private schooling industry in Nagaland, Kohima. Private schools may be studied in terms of their sizes, location, organizational pattern and economic endeavour. In particular, this study aspires to analyze and understand:

- i) Structure and trends in growth of the private schooling industry.
- ii) The clientele of the private schooling industry.
- iii) Amount of income generated by the private schools.
- iv) The employment opportunities (be it part time or full time) created by private schools.
- v) Pricing policy of the private schools. The efficiency, productivity and profitability of the private schools.
- vi) The obstacles faced by the schools in terms of finance and new techniques with the exigencies of time. Finally, it would suggest a few specific issues for future research through this study/findings.

1.6. The Methodology of Investigation

This is an empirical study and, therefore, it is mainly based on the data collected from the field. At the gross level, some secondary data have been

used. The sources of these (secondary) data are mainly the published reports (like Statistical Handbook of Nagaland, a booklet published by Nagaland Board of School Education, Census Reports, Nagaland, etc.).

As it has already been mentioned, there are 34 high schools in Kohima of which 31 are run by the private management. Additionally, there are 8 Middle/Primary schools. A schedule (of questions) was designed by the investigator and he met the Principals/Head Masters of the schools, and collected information on various aspects enlisted in the schedule. While data could be collected from 30 private schools (28 private high schools and two private Middle/Primary schools), three of the private high schools did not oblige the researcher saying that they (the head master) do not entertain such a request. For the purpose of comparison, data were also collected from the high schools run by the government.

The data pertain to the following aspects of the school: (1) Year of establishment, (2) Type of management, (3) Location, (4) Distance from main and approach road, (5) Medium of instruction, (6) Standard, (7) No. of periods taught/day, (8) Class strength, (9) Co-ed Status, (10) Residential and allied facilities, (11) Class-wise sex-wise enrollment, (12) Non-Naga enrollment, (12) Economic background of students, (13) Fees structure, (14) Particulars of teaching and non-teaching staff, and their Salary structure, (15) Physical assets of the school including Library, (16) Facilities for physical education and extra-

curricular activities, (17) Sources of income and items of expenditure, (18) Academic performance, (19) Problems and prospects perceived by the Principal of the school.

Based on the data so collected, the study proceeds to work out the trends in growth of private schools in Kohima and tries to overview the salient features of these private schools. Then an attempt is made to assess the capacity utilization as well as teaching force utilization in these schools. Subsequently, performance of these schools is assessed. Next, the study analyses the revenue, cost and profits of the private schooling firms/industry in Kohima. It also makes an attempt to identify the market type in which private schooling industry operates - delivers output and charges prices for the output.

Appropriate statistical methods including graphical/diagrammatical presentations have been used to analyze the data and draw relevant conclusions. Among the statistical methods, regression analysis, Principal Components Analysis, Factor Analysis, and Cluster Analysis are the main ones.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

There is only a scanty literature directly relevant to the study at hand. The reasons for the same are manifold. First, the enterprise of running private schools as an alternative to the schools run by the government in different states and towns of the country has scarcely attracted the attention of researchers, partly due to its recent emergence and partly due to its being in the *informal sector*. As it has been mentioned earlier, conventionally, provision for school education has been the activity of the state, mainly with the widely acclaimed objectives concerning welfare and promotion of human capital for fostering development. The impression caused by the overtone of welfare and development that surrounds schooling is often carried over to private schooling enterprise as well. This is the second reason to overlook its economics. The third reason is the wide acceptance of the paradigm that the ‘Economics of Education’ has put up before the researchers. In this paradigm, the economic study of institutions providing educational services, recognition of an individual institution as a firm and the collection of such institutions as an industry, probing into the pricing policy at the level of individual institutions as well as the collectivity, study of the relevant demand function, etc. have no place of importance. In short, this paradigm ignores the micro-economics of

education and concentrates on its macro-economics and that too mainly from the viewpoint of development. As a result, research papers abound in number that study economics of education at macro level and have development bias, but research work at the micro-economics of education is only few and far between. Of late, a large burden on the public exchequer because of maintaining the institutions of higher education coupled with a meager scope of employment that the state can provide for the pass-outs from such institutions (which give rise to several political problems) has sensitized some studies to work out the average/unit (variable) cost of higher education. However, such studies, obviously, have a different perspective than to understand the micro-economics of education in the private sector, in which lower education (schooling) has only a little importance. Nevertheless, there is now a growing recognition of the system of private schooling as an alternative to state-run schooling system and a perspective has emerged in which they may be compared and evaluated (*Government Vs Private Schools*. Delhi Times, June 11, 2001).

Observing the scanty literature directly related to the economics of private schooling industry, **Kipgen** (1988, pp. 12-13) has remarked that in spite of her best efforts to locate a research work directly studying the *economics of private schooling industry*, she has failed to find even a single published

research paper, article or book. Hence, she had to be content only with a few small articles in some daily newspapers.

However, of late the private schools are drawing the attention of many ones. **Wadhwa** (2003) documents: “*The Great Indian School Bazar is booming as never before. In a country where demand for good schools has traditionally outstripped supply, and a new generation of upwardly mobile parents want to give their children only the best, businessmen of every hue – realtors, traders, hoteliers, industrialists, NRIs, franchise chains – are setting up schools*” and “*People have realized that in these times of recession, schools make for regular, stable income*”. Also, “*The Pune Zilla Parishad has received 32 applications in just the last 20 months for starting private schools*” and “*The Jain Group of Bangalore plans to set up about 100 Jain International Schools in the next 10 years, each at a cost of Rs. 22 crore*”, etc. **Wadhwa** (2003) p. 49. **Choudhury et al.** (2003) also make interesting observations.

Rogers and Ruchlin (1989) consider economics a way of thinking, or a way of approaching problems. Economists have developed various tools and concepts that need to be learned before economic research can be understood. These tools are useful in analyzing diverse problems. Economic tools are applied to such problems as the determinants of the demand of education and the supply of educators. Many other applications such as the market price

(salary) of teachers, the production of education, the rate of return of investments in formal schooling and on-the-job training, the relationship between education and the alleviation of poverty, the efficiency and productivity of educational institutions, the role of education in economic growth and development, educational planning, the financing of education and the competitive structure of educational market are among the most prominent topics in the field of economics and education and we demonstrate the applicability of economic tools in generating information about these issues and in helping to formulate national policy for education.

2.2. Some Relevant Works on Micro-economics of Education

The micro-economics of higher education (and that of the institutions providing higher education) has been rather better studied. It has been so mainly because higher education invokes economics more readily than does the school education, the latter being closely associated with overall welfare considerations (conceptualized around literacy of the people and its advantages) rather indirectly related to the hard core economic considerations. This is quite clear in : “Article 45 of the constitution enjoins upon the state the responsibility to provide free and compulsory education to all the children up to the age of 14 years. In pursuance of the constitutional directives, the department of education for universalisation of elementary education has taken up a number of

measures. Special measures are included in these programmes for ST and SC. Provision of access is the primary concern of Universal elementary education. In order to enhance the access to primary education by the SC and ST children. The norm for opening of primary schools, which are generally one km. walking distance from habitations of 300 people, has been relaxed in the case of SC and ST habitation in whose case the norm is to have a primary school within one km. walking distance from habitation of 200 population. All state government has abolished tuition fees in government schools at least up to upper primary levels. In most of the states, education is also free in the school run by local bodies and in the private aided institutions. **The Govt. of India, Ministry of HRD, Dept. of Education** (1993) (p.7 on educational development of ST/SC states).

Literacy, primary school education and perhaps school education as a whole has been placed on such a high pedestal that it is difficult for a dismal science like economics to convince people that a lofty thing like school education could ever be a concern of the filthy lucre and hence a matter of an economic discussion. It is interesting to read **George** (2002) as a spokesman for such a grand view of education. “Literacy is a catalyst for development, a tool for empowerment, the necessary pre-requisite to access the right to information. For as perverse materialistic understanding of development, dams, factories and

skyscrapers make up the map of progress. However, in any development index the human context, into which all other development factors neatly fit needs to be given the pride of place, and living in this century of knowledge revolution, no human can develop his or her person without the apparatus of literacy. Economic factors of development have any meaning only if the human context is set for them and economic development cannot today sustain itself without the access of information to which literacy is the first step. That literacy brings social change is the universally acknowledged maxim. Times are gone when human were hostage to natural forces and primeval fears. Education has changed all such confinement of the human mind, and enlightening with understanding. Literacy is the basic tool for grappling with the expanded horizon of centuries of human knowledge, Information and insight, Coming to terms with the wealth of knowledge, in whatever small way, revolutionizes the mind, heralding the inevitability to change- social and personal, economic spiritual. Literacy in the sense of mercy, the ability to sign ones name is hardly relevant in this sense. Literacy means the power of the utter lighting up the human vision, leading to the development of his/her faculties to critically appraise the world and its facts without undue dependence on external aid. While we may say literacy leads to development we should not take our eyes off this functional sense of literacy” (pp. 1-2).

Nevertheless, experience suggests that government-run schools often run lackluster, provide poor services and pitifully fall short of the objectives they are meant for; private schools often do better, care better and charge much higher; ideals apart, the reality is that education worth its name is available only to those who can pay. **Dasgupta** (2000) comments on the method of our teaching at school, college or university: "...for the teacher to go on speaking incessantly for the whole period and then to leave the classroom without caring for his pupil's response to his work. And the teacher's routine of work for the day is so tight that he has just no time to come close to his students. And this is what obliges them to have private tutors or coaching classes. *Education has thus been commercialized and learning is on sale*. Our best students scoring high marks in their examinations may not be very imaginative students capable of being creative in our society's intellectual life. To have true creativity in our traditional institutions we have to redesign our courses and renovate our method of teaching (p. 41).

Leftwich and **Sharp** (1984) in their book "*Economics of Social Issues*" consider higher education as an industry and evaluate higher education in that framework (p. 70). **Joshi** (2000) observes that today with large number of private institutions both university affiliated and independent the monopolistic characteristic is widely visible. There are two characteristics of this market: first, Firms compete by selling differentiated products, which are highly

substitutable for one another but not perfect substitutes (in other words, the cross-price elasticity of demand are large but not infinite) and secondly, there is free entry and exit- it is relatively easy for new firms to enter the market with their own brand of the products (course design) and for existing firms to leave if their products/courses becomes unprofitable. The growth of these institutions seems to be more bent towards professional courses. Joshi takes into consideration the management courses as an example for analysis primarily because the increasing competition within these institutions has incepted the concept of product differentiation. The recognition of product differentiation has led to the development of rational for the selling expenses incurred by the institution with advertisement and other selling activities seeking to accentuate the difference between its courses and the courses of other institutions. It is so in the line of the assumption of Chamberlin that advertising in general will shift the demand and will make it less elastic by strengthening the preferences of the consumers for the advertised course. The selling-costs curve will be U-shaped, that is, there will be economies and diseconomies of advertising as output changes. Works of Leftwich & Sharp and Joshi are quite relevant to our investigation, although they relate to higher education (and not private schooling).

In an interesting report, **Chittaattukalam** (1999) observes that it is paradoxical to note that most of the privately managed schools are much in demand for admissions than those funded by the government and managed and controlled directly or indirectly by it. Clearly, the apathy or rather indignation shown by the parents to the govt.-run schools finds its origin in the poor services offered by these schools.

Some other works that relate to the micro-economics of (higher) education may be relevant to our investigation. **Eisemon** (1992) on private initiatives in higher education in Kenya opine that Africa's higher education crisis has prompted the growth of private institutions. Enrolments are very low and in most African countries do not account for a significant proportion university enrolments. The largest number of private institution is in Kenya, which is the subject of a case study. Private institutions provide professional training in fields of employment opportunity but also offer an education that emphasizes character-building functions of higher studies. Private higher education is expensive and many private institutions are caught in a dilemma. They cannot achieve significant efficiencies by reducing instructional costs without damage to the quality of their programs, and they are reluctant to raise tuition and accommodation charges because of the distorting effects on student recruitment. As long as public higher education is provided at low or no cost

and private higher education is entirely self-supporting, the private sector will have a peripheral role in higher education in Kenya and other African countries.

Saunders, Kingdon and King (1997) attempt to discover the attitudes and opinions of students both to the process of recording achievement whilst at school and the usefulness of the summative document, particularly in application to higher education. It also aims to determine students' expectations about how higher education will build on and further develop their records of achievement, and to identify any plans students may have to update the document. Questionnaire surveys were undertaken at the University of Glamorgan; University of Wales, Aberystwyth; University of Wales Institute, Cardiff; and Swansea Institute of Higher Education. The study identifies an overall positive response to recording achievement in school, but only a limited use of the document whilst planning for and applying to higher education. Students were generally keen to update their records of achievement (RoAs) at college or university, and were most likely to use them in the future when applying for jobs or further courses. Implications for further research are highlighted and a number of action points for schools and higher education are outlined. An example of one way in which higher education may build on the NRA started at school is offered.

Basch (1997) on private colleges' pricing experience in the early 1990s observes that during the early 1990s, percentage increases in private colleges' *"sticker prices"* continued to outpace increases in the economy-wide inflation rate, input prices, and income growth; but after netting out the effect of rapidly increasing college-funded grants, the positive differentials appear to have decreased relative to the 1980s. Perhaps as important as the overall picture, substantial dispersion exists among private colleges in the actual net prices received by the colleges from full-time freshmen. While total revenue net of college-funded grants increased at healthy rates taken together, a substantial subset of colleges experienced declines or subdued growth in net revenue. Shortfalls in the growth of net revenue were especially concentrated among colleges with less stringent admissions selectivity. The broad dispersion of college experiences supports the view that, in the context of national estimates of student responsiveness to price and aid changes, college decision makers consider their own college's special characteristics and local conditions in making price and aid decisions.

Basch (1999) looks at the changes in the endowment spending of private colleges in the early 1990s. He observed that from 1989 to 1995, the market value of private colleges' endowments grew sharply. However, the growth in endowment support for current operations lagged behind this growth in market

value. For private colleges as a whole, the decline in the actual endowment-spending rate appears to have brought it roughly in line with the optimal rate.

Bates and Santerre (2000) examine and explain private four-year college closures and mergers in the United States using time series data at the national level for the period 1960 to 1994. The data imply that, except during the 1970s, private colleges were much less likely to close than businesses in general. Furthermore, the data indicate that private college mergers occur more often than casual empiricism suggests. Multiple regression analysis of the exit and merger decision reveals that private college closures and mergers are more likely when the real tuition rate declines and real faculty salaries rise at private colleges. Both the closure and merger rates are found to be highly responsive with respect to changes in private tuition and faculty salaries. The empirical results further indicate that religiously affiliated colleges are less likely to close and merge than secular institutions and that a larger student pool leads to less closing and merging of private four-year colleges.

Morey (2001) examines the recent growth of *for-profit higher education* in the United States with a special emphasis on teacher education. Recent increased interest in *for-profit education* accompanied by the availability of venture capital has focused discussion and debate on this growing segment of American education. Supporters of *for-profit education* point to the benefits that accrue from competition in a free market scenario, most importantly, the

improvement of education and potential reduction in costs. Educators argue that public schools and universities play a critical role in a democratic society by providing education for citizenship and access to opportunity-functions rarely addressed by for-profit firms. At the higher education level, for-profit universities are beginning to offer teacher education programs specifically designed to meet state requirements only.

Thompson and Zumeta (2001) bring out the relationship between key state policy variables - (1) relative (private-public) tuition prices, (2) state student-aid funding, and (3) public institution density - and the competitive position of private colleges and universities is examined. Elite private schools are found to be nearly impervious to state policy. Large and moderately selective private institutions are adversely affected by public institution density and low public prices. Such prices divert students who would otherwise prefer these private institutions to similar public schools. State student aid funding most affects the enrolment market shares of the small, low-selectivity private colleges enrolling the greatest proportions of minority and modest-income students. The findings suggest state policies in this era of strong demand for higher education and constrained public sector capacity should use price signals (student aid and public institution pricing) to encourage students to consider seriously whether private higher education might serve their needs as well as or better than public institutions.

Gibbs (2001) on higher education as a market considers notions of the market in UK higher education. It is argued that the economic market commodities higher education as the accreditations earned at higher education institutions. He suggests that, if this is the consequence of the market, then the notion is inadequate to represent the achievements of higher-level learners. In its place, the author conceives of a mechanism that is built on higher education being a conversation by respectful and involved colleagues, who seek to develop educational relationships rather than transactional deals between traders.

Perna (2002) draws upon the final report of the National Commission on the Cost of Higher Education (1998), Ehrenberg (2000), and King (1999) to explore (a) the cost of higher education at selective private colleges and universities, (b) public concern about the rising costs of higher education, and (c) the shift in financial aid policy from access to affordability. It also discusses implications for selective private institutions, the broader goals of access and choice, and higher education professionals.

Bhatty (1998) observes that India's development performance and its yet unleashed' potential has been the subject of much discussion and debate in policy as well as academic circles. Yet the most glaring feature of the Indian economy – its more than disturbing record in human resource development, particularly as it relates to education – continues to receive inadequate

attention. While there have been numerous policy pronouncements and government programmes to alleviate the situation, the ground reality shows highly unsatisfactory progress.

According to Bhatta, earlier analyses of educational deprivation in India have often used as demand-supply framework to explain the slow progress of basic education. While it is certainly possible to associate most of the appropriate explanatory variables either with the 'supply side' (the provision of schooling facilities) or with the 'demand side' (the utilization of these facilities), the analogy with the standard demand-supply framework is somewhat misleading in several respects. First, education is not a homogeneous product; quality is a crucial consideration. Second, in the case of education, there is no single demand-supply equilibrium, and no well-defined price to bring demand in line with supply. Government school, for instance, charged fixed and negligible fees, and normally does not refuse new admissions; if access demand develops, it is typically contained via the decline in the quality of education that follows from overcrowding. Third, the demand for education has an important socio dimension, which can be easily overlooked in the standard demand-supply framework. Fourth, educational decisions are often made by some persons (e.g. the parents) on behalf of others (the children), a particular important feature in the case of female education: this interpersonal issue, again, are outside the focus of demand-supply analysis. The most widely

held belief regarding India's poor educational status relates the demand for education with the poor economic status of parents. It is commonly accepted, particularly in official circles, which poor people cannot afford to send their children to school. The main 'explanation' offered is that the opportunity of sending them to school is very high as children make valuable contributions to the household economy. Hence sending them to school instead of using them as household help or wage earners is not an economically feasible option. In addition if direct cost of education (books, stationery, uniforms etc) are also to be borne then schooling becomes practically out of reach for the poor. Referring to the fifth all-India education survey, Bhatta points out that (1) barely half of all primary schools in India have a single building, (2) about 42 per cent have a single classroom (if any), (3) just over half have a usable blackboard, (4) less than half have any drinking water facilities, (5) not more than 60 per cent have only one or two teachers in position (if any), and only 15 per cent have more than four teachers.

Konwar (2002) discusses the reasons of drop out in schools of the NER of India. He observes that the majority of children who are enrolled cannot continue their primary school mostly due to (i) poverty, and ignorance, (ii) child labour, (iii) lackluster schools and lack of minimum infrastructure in the schools, (iv) curriculum load (v) traditional teaching mode, (vi) lack of instructional material, (vii) faulty examination system, (viii) gender gap, (ix)

parent's ignorance, social stigma and illiteracy of parents, (x) first generation gap, (xi) causes of tribal gap in education, (xii) lack of early childhood care and educational facilities, (xiii) dearth of qualified teachers, (xiv) lack of job opportunities, (xv) efficiency and learning achievement, (xvi) migratory population, (xvii) difficulties in picking up the language of instruction.

2.3. Studies with Macro-economic and Development Considerations

Since the latter half of the last century, a large corpus of literature has grown on the relationship between human capital and economic growth. Recent studies in this area deal with many diverse questions such as the concept and formation of human capital, the residual factor in economic growth, man power forecasting and planning, correlation between education and earnings, estimation of the demand and supply of education, criteria for investment in education, cost-benefit analysis of education, education and equality of opportunity and so on. A number of seminars, discussion groups and conferences have also been organised, with 'economics of education' as the central theme by UNESCO, OECD, International economic Association and other national and international organisations

Economic development of a nation has always been associated with knowledge and knowledge with education whether formal or informal. However, at the lower stages of economic development human labour predominates human capital. As a nation moves up along the ladder of higher

stages of economic development, human capital gains relative importance over human labour. A thrust on human capital formation formalises education increasingly, and as a result, formal education predominates informal education in that proportion. Finally, *credentialism* rules the decisions of those who employ labour as well those who seek employment. It goes on and *credentialism* reinforces itself pushing up the need to further horizontally and vertically differentiated formal education.

The view has also been sounded by authors such as **Floud** and **Anderson** (1961) for whom education is a crucial type of investment for the exploitation of modern technology. This fact underlies recent educational development in all the major industrial societies- despite idiosyncrasies of national history, political structure, and social tradition, in every case the development pattern imposed by new and often conflicting pressures of technological and economic change. In an advanced industrial society, it is inevitable that the educational system should come into very close relationship with the economy. Education attains unprecedented economic importance as a source of technological innovation, and the educational system is bent increasingly to the service of the labour force, acting as a vast apparatus of occupational recruitment and training. Social selection is added to its traditional function of the social differentiation: it must promote new, as well as maintain old, elites. Furthermore, it must cater to new educational needs of the mass, deriving from

the changed status of labour in modern processes of mass production. Education becomes, then, a major form of investment, for the economy as a whole, and old educational forms turn themselves willy-nilly to the new purpose of the modern economy.

The economics of education is a vital yet somewhat amorphous component of the economics of development. It emerged as a separate branch of economics only in the early 1960's. The reasons for the said amorphousness and late emergence are manifold. First, the economics of development by itself became a separate branch of economics only after World War-II largely due to the politico-economic interests of the developed nations in exhorting the nations of the third World to gear up as well as the desire of the latter to foster development by design. In the beginning, physical capital as a major determinant of economic development was in the limelight and in due course, technology became the buzzword. Technology combines physical capital with a specialized knowledge and therefore, economics of education was only a natural offshoot of economics of development. Additionally, education is perhaps a necessary means to make a 'modern man' and inculcate 'modernization ideals' in the people considered as a pre-condition for development (Myrdal, pp. 33-45). Therefore, economics of development begets economics of education. However, primary and often exclusive importance given to investment in physical capital for development is grossly

responsible form rendering economics of education only loosely knit with the economics of development (**Myrdal**, pp. 359-361). Secondly, empirical studies in relationships among economic variables began only after the Great Depression and gained an impetus only after World War-II. It was empirically found that (in developed countries) there was a 'residual' in the capital/output model that could not be fully explained by physical investment. That 'residual' was imputed to education considered as a non-economic factor. However, unwilling to abandon the traditional instrument of capital/output ratio in the development models, economists widened the concept of capital investment to include, besides physical investment, the 'investment in man' or 'human capital formation'. Thirdly, the said amorphousness is best explained in the words of **Myrdal** (p. 360): *"The situation is, indeed, somewhat paradoxical. While most of the planning in South Asia and other under-developed regions, and most of the economic literature on development, is continued to be based on the notion that physical investment is the engine of development, there are today an increasing number of economists who denounce that view and who regard development, particularly in underdeveloped countries, as primarily an educational process."* Fourthly, economics has a tradition to consider consumption and investment as the two distinct and mutually exclusive categories of expenditure. It has always been inconvenient to consider an expenditure that, in an unspecified proportion, could well be consumption as

well as investment. In case of education and health at least, consumption plans and investment plans are not only mutually interlinked and determined simultaneously, they are often grossly overlapping. Traditional theories are inapt to deal with this situation (**Morishima**, pp. 124-125). In the traditional theory, investment builds up capital, but human capital built up through expenditure on education (and health) is hard to impute clearly to either consumption or investment. A lack of firm integration between economics of development and economics of education is, at least partly explained by the said fuzziness that traditional theories are inapt to deal with.

The National Education Commission Report (1966) says, in a world based on science and technology, it is education that determines the level of prosperity, welfare and security of the people. On the quality and number of the people passing out of our schools and colleges will depend on success in the great enterprise of national construction whose principal objective is to raise the standard of living of our people.

Mazumdar (1983) refers to R. A. Musgrave, who, while recognizing the consumption aspects of education, divides it into two parts: (a) Current consumption – the delights of attending schools, and (b) Future consumption – the ability of enjoying a fuller life in future permitted by education.

Rajaiah (1987) referring to Gunnar Myrdal pointed out that Myrdal elaborated the state of knowledge on the relationship between education and

development. He noted that once the economist identified the residual factor in economic growth with investment in man and the latter with education, this approach received support from various research undertakings that were themselves inspired by it. A positive correlation was found to exist between the level of development and literacy or some other easily available measure of educational level in different countries during different periods. Although, of course, it was recognized that statistical correlation does not establish what is cause and what is effect, these conclusions served to confirm in a general and vague way, the theory that education is a form of investment and a vital one. **Rajaiah** also refers to J. E. Vaizey who has assertively declared that education quite demonstrably is consumption, whatever else it may be.

Kothari and Panchmukhi (1990) point out that education influences economic development. It alters the attitude to work, consumption preferences, saving propensities, economic rationality, adaptability, innovativeness, flexibility, attitude towards family size and various social attitudes relevant from the economic point of view.

Enaohwo (1990) writes that, Development planning in education is increasingly adopting the economic option. The basis of this shift is the conventional evidence in support of the role of education in economic growth and development. Due to the significance of these findings to educational planning, the relationship between education and economic growth is the

subject of analysis. On the basis of findings from such correlational studies investment in education is founded. He further goes on to say that economic rationalization of education as an investment, which is available to individuals and society, has been confirmed to the extent that human capital now compares favourably with physical capital in the development process. Perhaps, the importance of this to society is not the historical relevance of such contribution, but the extent to which available indices could be maintained and improved upon under the overall gamut of economic planning and development.

Quoting Adam Smith, **Natarajan** (1990) has spoken of the significance of education in economic growth at various stages as perceived by Smith in his classic “The Wealth of Nation”. He included the human resources in his concept of fixed capital and he wrote that the acquisition of such talents by the maintenance of the acquirer during his education, study or apprenticeship, always cost a real expense, which is capital fixed and realized, as it were, in his person. Those talents, as they make a part of his fortune, so do they likewise of that of the society to which he belong.

Natarajan further refers to Alfred Marshall who felt that education is the most valuable of all capital that is invested in human beings and therefore considered it as a national investment. Marshall is of the view that the most valuable of all capital is that invested in human beings. He remarked that if the capital stock of the world were destroyed but the knowledge of its construction

and use still remained, it could be reconstituted within comparatively short period. But if the stock of knowledge and the skill to use it were destroyed then many ages might pass it was reconstituted – indeed it might not be reconstituted at all.

Heggade (1992) has stated that the economic studies of educational problem area are vital in an age when educational need far exceed the resources allocated to fulfill these needs. It does not suggest that the economic answer is the answer. Rather it should be weighed along the anthropological, psychological, political, sociological and other aspects of a problem. Even if the political aspects of a problem are deemed overriding in importance, it is important to know and understand the economic aspects of the question.

Singh (1995) discusses school education in the light of the contemporary shift of education policy favouring privatization, liberalization and globalisation. To quote him: “Now what would globalization mean for educationalists need to be thoroughly examined? To my mind, Globalization has the following implication as far as education is concerned.

(i). The market forces would also start looking they would expect schools to respond more to the needs of the market economy. This has implications in terms of values as well as the whole management of schools.

(ii). As a result of the play of market forces many question are being raised in this country; whether we should also allow our schools to be taken over by private bodies and institutions who would like to run these institution like industrial enterprises.

(iii). Private institutions always have their own values that they would like to integrate with the curriculum or activities of the school. It is here that one needs to be careful. A nation must ensure that while privatization takes place, it does not encourage fundamentalism and other constrained ideologies that divide the people.

As education is concerned, it must examine thoroughly the whole concept of privatization and commercialization. The issues of quality of education, privatization and commercialiasation, etc need to be thoroughly examined. It is possible that if we commercialize education, we may produce an excellent engineer or doctor, this person may be very good technologist but may not have rationalistic qualities”. (pp. 106-108). Further Singh observes: “... one of the ways of ameliorating the situation, to some extent, is the education or school budget. This hope of last resort has turned out to be the only weapon of survival for educational institution. This is so because of the inability of administrators to convince funding agencies to give education a greater priority. For this purpose, budgeting, which has been with us since time

immemorial, has become the popular chess board to which administrators are forced to adjust, so that institutions may conform to the so-called fiscal reality outside the school system” (p.179). “On the part of pupils and students, the budget also plays a very critical role. Thus their comfort and opportunities for relevant education is determined by the budget. This why students should not be apathetic to budgeting in the school. For this purpose, an acceptable way of involving students in the budgetary processes is for them to act as liaison channel between the school and their parents, who are taxpayers and ultimately policy makers. Such arrangement makes it incumbent on students to enlighten their parents on the need for government to give reasonable priority to education. In view of this, budgetary pursuits or goals should also be reasonable before students can successfully play their role (p. 183).

Chitty (1997) on privatisation and marketization elucidates that the term 'privatisation' is capable of many different interpretations where education is concerned. For many on the far right of the political spectrum, it embraces all those measures designed to work towards a situation where, eventually, all schools will be in private ownership and parents will be supplied with educational vouchers or 'credits' to spend at the schools of their choice. Yet, it can also be broadened to cover all those initiatives that blur the boundaries between the private and state sectors. While privatisation in the purest sense has not so far been achieved, developments since 1979 have created a situation

where there is considerable state support for private institutions, where state schools find themselves increasingly reliant on support from local businesses and where schools are pitted against one another in a cut-throat competition to attract pupils.

Tilak (1997) observes that with the increasingly strong opinion that welfare state is dead, the conventionally strong role of the state in financing education is under attack. Public good nature of education is no more recognized as an important aspect; education, higher education in particular is regarded as a non-merit good, public subsidies on which could be drastically reduced, if not eliminated altogether. Privatisation of education is no more undesirable; in fact, it is argued to be offering an effective solution to major educational problems. Privatisation, which was not a respectable term in education in 1950s and later, if not a taboo, became a fashionable slogan for the 1990s and beyond. The case for public financing of education is being questioned. Though the nature of education and the principles of financing education have not changed. Privatisation of education is also increasingly viewed as an effective solution to the problem of finances. The government seems to be encouraging privatization of all kinds, particularly opening up of private schools with no state support, and increased reliance of government schools and colleges on private resources. Experience has shown that private schools rarely ease the financial burden on the part of the government, besides

creating a dual system of education: one for the rich and another for the poor. Further, the mechanism of state aid contributed to enrichment of private schools and pauperization of government schools. It is too costly to overlook the valuable experience of our own and of others.

Rajaiah (1998) on privatisation of education argues that it would increase efficiency because: (1) The management of private colleges become more responsive to the needs of students; (2) they responds to the demands of the parents who pay the bills; and (3) they become more responsive to the needs of the economy (for e.g. autonomy, computerisation, etc.).

It is interesting to note that those who plead for privatisation of education take it for granted that all the ills of education are solely due to the state control and state financing of education. They assume that privatisation will do away with all the ills. However, matters might be different. Possibly, the malady in education is not because who controls it or who finances it, but because there are problems in governance accountable to the soft state. In a soft state privatisation may at best ease the financial burden of providing higher education on the public exchequer and absolve the state from the concerned responsibilities, it may continue with the current maladies or for the worse beget more serious problems detrimental to the goals of education.

Sharma (1998) discusses effectiveness of schools in developing countries. His observations may be summarized as follows. “Research on

school effectiveness or, the attempt to locate ingredients of good and successful schooling, traveled from developed countries to developing countries in the late 1970s. In developed countries the socio-economic background of the students emerged as a major determinant of achievement at school. However, Parallel research in developing countries found the variable of school quality far more significant. Generally, this difference has been attributed to two factors. One, that in developing countries population (i.e. people who follow conditional occupations like agriculture) tend to be less differentiated in terms of socio-economic and educational backgrounds than in the developed world, making the pupil's antecedents less varied and therefore, not a deciding factor for success at school. Second, there are wider variations in school quality in developing countries than in developed countries. All schools have some minimum basic facilities in developed countries. In contrast schools in developing countries can lack something as elementary and essential as a blackboard. Therefore many researchers assume that the quality of the school, rather than socio-economic background of students is central to learning outcomes. Consequently, there have been many studies about the impact of inputs such as libraries, instruction time homework, textbooks, teacher knowledge, teacher experience, laboratories, teacher salary and class-size. Further, Sharma observes that parents and public representatives in more developed areas are more concerned and vocal about children's education, and

consequently about the school. This is not surprising for modernization or development creates opportunities that can be exploited well by educated persons. The recent proliferation of private, fee charging English medium schools in large, prosperous villages illustrates the process very well. Moreover, development affects not only demand for education but also the capacity to translate the perceived need into action. In less developed areas even when villagers are concerned about the school, it is difficult for them to act upon this concern. The lack of a road can hamper in no mean measure the tendency to complain to higher authorities and events such as an absconding teacher are rarely noticed by local newspapers in less developed areas where even journalists and politicians do not go often. Teachers prefer to teach in schools situated in more developed areas that provide better living conditions and transport facilities. Therefore, ineffective and unsuccessful education should not be seen as a neutral or better-than-nothing phenomenon. It can very easily lead to misallocation and poor utilization of scarce resources. If school effectiveness is not given adequate attention, there could be meaningless and redundant universal elementary schooling at great cost. Moreover, if improvement in school quality is undertaken without understanding and making room for the socio-economic context, then too a great deal of money could be spent without real results.

Currie and Vidovich (2000) study privatisation and competition policies for Australian Universities. Privatisation encapsulates an ideological shift towards market principles such as competition, commercialisation, deregulation, efficiency and changing forms of accountability. In higher education, the privatisation trend includes the full gamut from the creation of fully private institutions that operate without government financial support, to reforms in largely government-funded institutions operating in more of a quasi-market mode. The study examines privatisation policies and speculates on their origins and their ramifications for universities around the world. In particular, it describes the impact of corporate managerialism (the import of management practices from the private sector) in institutions still largely under the control of governments, and focuses on examples of the particular effects of this ideological shift in three Australian universities. It argues that some traditional academic values should be preserved as important attributes of universities that enable them to operate in the public interest and maintain their role as a critical voice in society.

Hyslop-Marison (2000) studies on the market economy discourse on education and suggest that the most serious threat posed to contemporary education is the deleterious impact that market economy policies have on current curriculum theory and development. It explores the market economy discourse on education that emerges internationally from Me Organization for

Economic Cooperation and Development (OECD), and domestically from private institutions such as the Conference Board of Canada (CBOC) and public ministries such as Industry Canada. These organizations promote the market economy discourse on education by framing discussions on curriculum policy between government and business interests. By referring to the primary sources of the market economy discourse on education, then, this article draws attention to the global economic vision currently shaping Canadian schools and explores its impact on domestic education policy. Further, it proposes a means whereby those teachers holding a less intractable perspective on education might resist the current market economy siege on schools. Ironically, this approach involves using the critical tools appropriated by the market economy discourse on education in a manner entirely unintended and unforeseen by its supporters.

Garrett (2001) examines the interplay between public and private funding in English higher education. It argues that English higher education has reflected a tension between institutional diversity and a particular 'university ideal'. The absence of serious 'for-profit', private competition contributed to dependency upon the state. As public funding has diminished, the 'university ideal' has given way to the marketplace, with sweeping consequences for the system as a whole.

Gindling and Sun (2002) opine that the significant feature of Taiwan's educational development is the high degree to which the structure of educational expansion, especially in higher education, has been strictly planned by the government. The Ministry of Education controls the number of students who are allowed to attend all institutions of higher education (both private and public). They also presents evidence that this control over the relative supply of workers with higher education, rather than changes in relative demand for these workers, was the more important factor causing changes in the relative wages of Taiwanese workers with higher education between 1978 and 1995. For example, decisions by education planners in the 1980s to increase the number of students enrolled in universities and junior colleges led to a fall in the wages of workers with higher education relative to the wages of workers without higher education.

Eighth Five Year Plan Document of India (1992-1997), analysing the problems of the enormous quantitative expansion of higher education in India, brings out six important thrust areas to **resurrect** the existing system of higher education. They are: (1) integrated approach to higher education, (2) excellence in higher education, (3) expansion of higher education in an equitable and cost effective manner and in the process, making the higher education system, finally self-supporting, (4) making the higher education relevant in the context

of changing socio-economic scenario, (5) promotion of value education; (6) strengthening the management system in the Universities.

Salmi (1992) looks at the current higher education crisis in developing countries and discusses how problems are analysed and decisions made in the context of higher education reform. He focuses in particular on discrepancies between objectives and achievements in an attempt to highlight the importance of risk analysis in strategic planning for higher education development. He observes that traditional approaches to higher education planning and decision making have failed to build into their development and reform strategies appropriate mechanisms to evaluate risks and deal with uncertainties. Developing countries have been following three main strategies to minimize the adverse effects of the higher education crisis: the passive risk approach, the positive risk approach, and the diffuse risk approach. Experts have advocated a contingency planning approach to planning for educational projects sponsored by international donor agencies, taking into account the management requirements for a smooth implementation of innovative projects. In the case of higher education reforms, focusing on management variables is important but not sufficient. An impact assessment approach is needed to reflect the challenging nature of higher education reforms, which, by essence, confront established practices and stakes.

Jallade (1993) sets his study to highlight the contribution of higher education to the restructuring and reform of other sectors of the education and training systems in Central and Eastern Europe. It is organized around the four following key issues: (a) improving the connection between secondary and higher education, (b) developing the teacher training function of higher education, (c) strengthening the contribution of higher education to curriculum development at the secondary and primary levels, and (d) promoting continuing education within higher education. The study finds out that attempts at reforming education systems are under way in most Central and Eastern European countries. New education laws establishing the legal framework to operate these systems have been or are about to be adopted. Innovative thinking is taking place and cooperation with the West has made a significant start. The impact of these efforts is, however, jeopardised by extremely severe budget constraints, often causing cuts in education expenditure. There is inadequate maintenance of buildings, there is a lack of funds for the acquisition of teaching and learning equipment and, above all, there are low salaries for teachers and other staff. Within the education sector, higher education is in direct competition with primary and secondary education for public finance. Under such difficult circumstances, there is no point in proposing a radical overhaul of higher education systems, which would stand little chance of being implemented. Progress will come from steady efforts aimed at restructuring

those systems internally, mobilizing existing (but sometimes misused) resources, and providing incentives to influence the behaviour of the various participants - teachers, students, industry, educational administration, etc.

Birdsall (1996) discusses problems with the prevalent view that public resources for education in developing countries should be reallocated from higher to lower levels of education. There may be a case for maintaining and even increasing spending on higher education, as long as public funds can be directed to research and other "public good" functions of institutions of higher education. Current measures of social returns to primary, secondary and higher education do not reflect unmeasured social benefits at each level; since we do not know the relative size of these benefits across levels, we do not know the true ranking of social returns across primary, secondary and higher education. The true social rate of return to certain components of higher education, such as research and postgraduate training in science and technology, and creation of other skills where social returns probably exceed private returns (such as public administration) is probably high, and in some settings, may now be as high or higher than the social rate of return to primary and secondary education. Moreover, achieving and sustaining adequate levels of quality to capture these social returns requires minimal stability in public financing, arguing against major reallocations away from higher education. However, this does not argue for more public spending on all higher education programs. On the contrary;

within the envelope of total public spending on higher education, reallocation away from public spending on undergraduate training makes sense, since such training probably has low social compared to private returns, and can be accomplished by greater reliance on private universities and by increasing tuition and other fees in public universities, while ensuring equitable access through loan and scholarship programs.

Tilak (1995) estimated that economic returns – both private and social – on education are high. They are higher or at least comparable to returns on physical capital. Private returns to education are higher than social returns and returns to primary education are higher than returns to other higher levels of education.

Menon (1997) estimates perceived rates of return to higher education in Cyprus and uses them in logistic regression analysis in order to study the effect of economic considerations on the decision of secondary school pupils to pursue higher education. Unlike earlier studies, the data used in the computation of these rates are based wholly on the pupils' subjective estimates. The results are supportive of human capital theory: The mean rate of return to higher education estimated by higher education candidates is considerably higher than that perceived by labour market entrants. Logistic regression analysis shows the perceived rate of return to higher education, as estimated by both the elaborate and the short-cut methods, to have a significant effect on the

pupils' educational intentions. In estimating the rate of (private) return from higher education one often ignores the individuals who remain un-employed with the credentials. This bias may over-estimate the rate of private return at the macro-level.

Burkhalter (1996) looks at how the institutions of higher education will achieve quality within the new economy. Why has the concern for quality in higher education emerged as a public agenda throughout the world? More importantly, how can educational leaders achieve quality within the demands of the new economy? A quick review of professional organizations' and society's' conference themes over the past decade on total quality management, quality education, continuous quality improvement, continuous programme improvement and assessment provides clear indicators that the worth and merit of higher education are being questioned. Few topics elicit greater alarm in higher education than productivity and quality, and rarely is productivity linked with quality. Currently, educators are experiencing the reality and pain of restructuring higher education, as they have known it. These educational leaders are concerned and are searching for answers, which will allow proactive leaders to shape this change process while protecting academic freedom in teaching, outreach and research. Regardless of how proactive or reactive academicians decide to be in this restructuring process, one overarching belief is held in high regard: institutions of higher education must graduate

individuals prepared for their respective careers and roles within the new global economy. The fundamental message in this article is for the leadership and faculty to commit to the collective responsibility of achieving a new kind of quality in higher education as measured by those who purchase the university's services and, most importantly, those who employ their graduates.

Kempner and Taylor (1998) on an alternative assessment to higher education outcomes, propose higher education and community colleges in particular, be evaluated not solely on their functional merits, but on their value in promoting, what Dewey called an "active citizenry." Rather than considering only how well higher education meets the needs of democratic capitalism, they investigate alternative methods of assessing the contribution of higher education to the development of active citizens. In the exploration they consider how higher education preparation differs based on an individual's gender, race, class, academic program and the postsecondary institution attended. They explore alternative concepts of assessment in higher education not as proof and have discovered the method for assessing outcomes of higher education, but, rather, as an alternative approach to understanding the potential outcomes of higher education at its different institutional levels. One special significance of the study is the finding that although students who attend a community college, for example, may not be as successful economically as university students,

attendance at a community college is associated with an increased sense of self-empowerment. When considering community colleges having a higher proportion of students who are typically marginalized by postsecondary institutions, the community college does appear to offer opportunities for students that are not measured only in economic terms.

Van Damme (2001) looks at the quality issue in the internationalisation of higher education. Although the quality issue has become a central preoccupation in other domains of higher education, current internationalisation policies and practices in higher education have developed without much concern for quality assurance. The central thesis of this study is that we have come to a point in the development of higher education where internationalisation policies and practices face the limits of their development unless the quality challenge is addressed in all its consequences. The study first provides an overview of contemporary forms of and recent developments in internationalisation in higher education. From more or less 'traditional' forms such as student and teaching staff mobility, internationalisation policies and practices nowadays move into activities such as exporting higher education via branch campuses and institutional co-operation, developing transnational university networks and virtual delivery of higher education, and the harmonisation of higher education systems. In these recent developments,

several issues and challenges arise, which in one kind or another have direct links to the quality challenge. The quality of internationalisation policies and practices itself is an important problem, but of more importance are the issues of the recognition of foreign diplomas and degrees and the recognition of credits and credit-transfer. This study takes a critical stance towards for example the ECTS, which tries to solve these issues without much concern for quality. The way out lies in an integration of internationalisation policies and general quality assurance practices at institutional and policy levels.

Parikh (2002) on Education Policy, Goals, Actions and Reforms suggests that the number of institutions of quality for higher education should increase so that all those capable of becoming high-quality professionals have the opportunity to do so.

Teichler (1996) argues that research on higher education is an object-focussed area based on a broad range of disciplines. The institutional base is often shaky and diverse. Various characteristics, notably the blurred distinction between the scholar and the reflective practitioner, contribute to considerable tensions, though research on higher education enjoys substantial public attention.

Interest in comparative research on higher education grew in recent years and was reinforced by the community of higher education researchers in Europe. As it can be conceptually and methodologically demanding and

fruitful, the growing interest could serve as a stimulus for enhancing a common identity and a growing quality. However, few comparative research designs represent the ideal type of setting a research agenda of clearly defined hypotheses to be tested, and if they do so, the study mostly turns out to be too simplistic due to disregard of the complex context. Rather, most comparative projects are exploratory and most productive in providing unexpected insight.

In addition, comparative research faces many problems of a practical nature. Costly research seems to be granted sufficient funds only if it addresses issues of current political concern. Language barriers and limits of field knowledge often lead to a poor provision of information. International collaborative research teams tend to be vulnerable due to, among others, a heterogeneity of schools of thoughts, spiralling costs and different work styles.

Further comparative studies on higher education are most fruitful in destroying conceptual reasoning based on narrow experience; they are a gold mine for the early stages of conceptual restructuring. They are indispensable for understanding a reality shaped by common international trends, reforms based on comparative observation, growing trans-national activities and partial supra-national integration in higher education. Comparative projects can be regarded as theoretically and methodologically most promising if they are based on a semi-structured research design, whereby the strengths of various conceptual approaches in explaining the phenomena are analysed and the researchers

systematically deal with the fact that the project is likely to generate surprising information requiring to restructure the initial conceptual framework.

Gayle, Berridge and Davies (2002) attempt to present an example of the kind of detailed research necessary to identify factors associated with low rates of participation in higher education by some groups of young people. A number of studies have suggested that in addition to educational attainment, issues such as social class, gender and parental education also influence a young person's likelihood of entering higher education. They undertake exploratory analysis of a series of nationally representative data and through statistical modelling, then identify factors that influence a young person's chances of entry into higher education and participating on a degree level course. Through sample enumeration, an innovative statistical methodology, we were then able to quantify the substantive effects of these factors. They found that net of educational attainment a number of factors (e.g. gender and social background variables) influence the likelihood of a young person entering higher education and participating on a degree level course. In addition, the study highlights the interwoven effects of parental education and schooling and we discuss the complex nature of the effects of ethnicity.

Marginson and Rhodes (2002) offer an overarching analytical heuristic that takes us beyond current research, anchored in conceptions of national states, markets, and systems of higher education institutions. They seek to

shape comparative higher education research with regard to globalisation in much the same way that Clark's "triangle" heuristic has framed comparative higher education research in the study of national policies and higher education systems. Our "glonacal agency heuristic" points to three intersecting planes of existence, emphasizing the simultaneous significance of global, national, and local dimensions and forces. It combines the meaning of "agency" as an established organization with its meaning as individual or collective action. The study critiques the prevailing framework in cross-national higher education research, addressing the liberal theory that underpins this framework, the ways scholars address the rise of neo-liberal policies internationally, conceptual shortcomings of this work, and emergent discourse about "academic capitalism". They then discuss globalisation and our heuristic. Finally, they provide examples of how states, markets, and institutions can be re-conceptualized in terms of global, national, regional, and local agencies and agency.

Brint (2002) looking at the data on higher education in the United States brought out that data resources for the study of higher education are generally very good. This is particularly true for studies of students, faculty, institutional quality, and financial resources. He provides a catalogue of existing data resources, including comments about limitations in the quality of some data sources. They also discuss data resources needs for the future. These needs will

focus on key changes in higher education: the rise of for-profit enterprises and private resources, new markets for postsecondary education, new instructional technologies, and changing social partnership activities. The study concludes by describing a number of studies that could be conducted using data on higher education to address issues high on the agenda of students of the non-profit sector.

Strydom and Fourie (1999) provide a historical overview of the development of higher education research in South Africa by focusing on achievements and conditions, and present and future challenges. An attempt is made to point out the changes in both the context and paradigm of higher education research. They illustrate how research foci and methods were shaped by the political agenda of the 'old' South Africa, and highlight the issues which higher education currently and in the future will have to address as part of the transformation process of not only higher education, but of South African society as a whole.

Duggan (1997) on the role of international organisations in the financing of higher education in Cambodia found out that during the 1960s, when Cambodia dedicated 20% of its annual budget to education, a higher education system was put in place for the first time in Cambodia's 2000-year history. High quality universities were built in Phnom Penh and in a number of Cambodia's wealthier provinces. In the early 1970s, Cambodia entered a long

period of civil war. All universities except the University of Phnom Penh were levelled during these wars and because of the Khmer Rouge Regime, the entire education system was dismantled. The Vietnamese occupation of Cambodia in 1979 saw an immediate restoration of the education system except higher education. It has only been over the last few years that the higher education system has received meaningful support. Although the higher education system requires significant local and international financial assistance, the system remains heavily under funded and unresponsive to alterations in the labour market. Further, he examines provisions for higher education and discusses the issues, gaps and constraints facing the system in the lead up to the year 2000. It notes that despite heavy student and social demand for higher education, international financiers have not been enthusiastic about restoring the system. This omission is not consistent with developments in higher education throughout the region.

Humphreys (2000) found out that spending on higher education constitutes an important and increasing portion of state government spending and a major source of operating funds at public institutions of higher education. Anecdotal evidence suggests that state appropriations are subject to cyclical variation. An analysis of state appropriations to higher education, enrolment in two- and four-year public colleges and universities, and state-specific measures of the business cycle for all 50 states over the period 1969-1994 shows that

state appropriations to higher education are highly sensitive to changes in the business cycle. A 1% change in real per capita income was, on average, associated with a 1.39% change in real state appropriations per full-time equivalent student enrolled. This implied decline in state government funding, coupled with the increase in enrolment in higher education during recessions reported by Betts and McFarland (1995), suggest that public institutions of higher education may experience fiscal stress during economic downturns. These results also suggest that state legislators and education policymakers should reconsider their higher education funding policies during recessions in order to allow public colleges and universities to provide dislocated workers with access to quality education and training during these periods.

Berger and Kostal (2002) on financial resources, regulation and enrolment in US public higher education find that while total financial resources for higher education have been rising, there has been a significant shift in the share of resources coming from tuition and fees and a decline in the share coming from state appropriations. They seek to understand the enrolment consequences of this shift and to explore policy options using the results of a two-stage least-squares model of the demand for and supply of enrolment in public higher education. They estimate the model using 1990-95 data for the 48 continental US states. Tuition, average wage levels, and average education levels significantly affect enrolment demand, while state appropriations, other

revenue, number of institutions, and the level of regulation significantly affect enrolment supply. Our simulations of policy options illustrate the difficulty of maintaining enrolment levels in the face of tuition increases. If tuition continues to rise, states are faced with reducing supply through lower state appropriations, or attempting to maintain current supply by increasing the amount of regulation in higher education.

CHAPTER 3

THE STUDY AREA

This chapter aims at describing the study area, i.e. Kohima, the state capital of Nagaland. First, a brief historical account of development of Kohima is presented which includes its origin and its people including their socio-economic set-up and their links with outsiders. Subsequently, an outline of Kohima as today is given.

3.1. Kohima: Its Origin

Kohima district is occupied by the Angami tribes predominant in the southern Nagaland. Firstly Kohima was established as the administrative headquarters of the Naga Hills district of Assam by the British colonial rule. And later on it became the capital of Nagaland when Nagaland got its Statehood in 1963.

Kohima from the ages past continues to be the heart of Angami country and is surrounded by nine villages- Jotsoma, Chedema, Pfuchama, Phesama, Merema, Chiiziema, Riisoma, Sechiima and Chakhabama. The traditional village had a population of more than 15 thousand and the capital city which has grown around Kohima village has a population of about 78.5 thousand (in the year 2001). The original village still stands with its own tribal social organization. Since, in the early process of settlement and evolution of various Angami villages we do not find any evidence of the villages of Kohima and

Khonoma, it is important to probe thoroughly and establish the various factors that led to the evolution of these villages. After a long drawn process of migration and settlement, the important centers, which emerged in the Angami country, are Kohima and Khonoma. Kohima is said to be the second largest populated village in the world and the biggest village in the Asia in terms of population.

One of the oldest legends still surviving in the mind of the villagers is that this area was discovered and chosen for settlement by a man called Whio and that Kohima in course of time came to be termed as Kewhimia named after Whio, which means men of Whio.

The other version of the origin of this village is that the first settlers were Usou and Rhieo who came with their sister Meseiü and her son Tsiera from Kigwema. These people saw from a far a huge tree on a hillock on the land where Kohima now stands. The tree appeared to be in the center of the area and they searched for 7 days to locate it.

When eventually they found the tree they came down to settle in Kohima. The legend also reads that the first settlers had a dream where they saw plenty of white and black ants mixing. This dream was interpreted to mean that this place was a land where the population would increase and that strangers would come and settle here. Notwithstanding the dream, it becomes

very clear that a group of the early settlers did realize that Kohima was a place, which would assume a central character and welcome people from various directions.

3.2. The Social Life

A typical Angami village is built on the summit of a hill or on the ridge. The houses are dotted all over the hill slope. Most of the villages are divided into Khels, local units that in older times had independent laws and customs and settled their disputes by bloody fights. Though head hunting and Khel fends are a thing of the past, there is still a competitive spirit among the Khel.

The Angamis were never ruled by autonomous chiefs and no one individual seems ever to have authority over the entire Village Community. Villages are run strictly on democratic lines with no one commanding his neighbours. Today it is difficult to envisage how in olden days an Angami village was run.

One of the most noticeable features of an Angami village is Thehuba-the sitting place. They are built of stone and arranged in tier form on a more or less circular platform. They vary in height from three or four to twenty feet or more. Mostly built on higher points of the villages, they occupy a central position in the village.

Perhaps in the past the Thehuba might have been a look-out place from where one could look out for the approach of enemies, but now it serves mainly

as a sitting place, where a meeting (kehou) could be convened or from where an elderly man could keep watch of the children in the village.

Another important feature of an Angami village is Kharu (village gate). These are strong thick wooden doors made out of one piece of solid wood. Although Kharu in the Angami dictionary is translated as village gate. The village as such do not have its own gate. Gates are always of the khel and in the past they used to act as Barricades. Now they lie as a symbolic object, being never closed at night. In the past whenever the gates required an overhauling, repair or replacement, the entire khel ceremoniously carried out these processes. For the last twenty years or so, the rituals of gate construction and ceremonial pulling have declined and most of the gates, except those where the khel population in sizeable non-Christian, stand termite-ridden and decapitated.

3.3. The Economic Life

The Angamis are basically agriculturists and most of their land is cultivated by an elaborate system of terracing and irrigation. Terrace cultivation is a system of which he turns the steepest hills side into flooded rice fields. The rice grown is of a number of varieties. Other crops that are grown are maize, millet and soyabean. In addition to these main crops mustard, chilies, cucumber, beans, oilseed etc. are also grown. Cotton and a species of jute are used for making coarse cloth. They are grown in patches by some village. Although jhuming (shifting cultivation) is also practiced here and there, but this

practice is on the decline, as villagers now know the disadvantages of this type of cultivation.

The staple foods of the Angami are rice and meat. Beef, pork and chicken are no doubt his commonest meat foods, while all wild animals and birds are eaten. Meat of mithun and dogs are esteemed as a delicacy

Today, Kohima being the metropolitan town of the state is inhabited by all different tribes of Nagaland and outside the state as well. It is the seat of the State Government Offices including the Governor, the Ministers, the Secretaries and Commissioners, the Head of almost all departments, etc. and residence of a large number of officers and the employees of both central and state governments. Over and above those employees there is a good number of both Naga and non-Naga businessman engaged in various trades. There are also farmers, craftsman, the artisans, vendors etc. and a large number of students come from various corners of Nagaland and also from other states of India.

3.4. Cultural Activities and the Festivals

Though the crazy search after westernization has become a tremendous force in diluting and transforming the valuable culture and tradition of the Nagas particularly upon the emerging youths yet there is a growing concern among the senior and intellectual citizens of the town about the need to preserve and ravine the age-old culture and traditions particularly those of which are valuable even in the modern context. And with this emphasis and

concern, today Kohima has become like a multi-cultural center where every tribe or race inhabited times to maintain its cultural identity. It has become an exemplary character, which is educative towards creating an environment of communal harmony and co-existence.

Apart from celebrating universal Christmas, different tribes and races living in Kohima celebrate their traditional festivals at an appointed and appropriate time giving colourful and spectacular cultural show through dances and songs.

Kohima being the home of the Angamis celebrate different festivals at different parts of the year. One of the most popular festivals is Sekrenyi. The Angamis celebrate Sekrenyi in the month of February. It normally falls on the 25th of the Angami month of Kezei. The ten-day festival is also called Phousanyi by the Angamis.

The festival follows a circle of ritual and ceremony, the first being Kezie a few drops of rice water taken from the top of the jug called Zumho are put into leaves and placed at the three main posts of the house by the lady of the household. The first day begins with all young and old man going to the village well to bath. In the night, two young men will go to the well to clean it. Some of the village youth guards especially are not allowed to touch the well water. Hence they have to see that water is fetch for the household before the well cleaning.

Early the next morning, all the young men at the village rise to wash themselves at ritualistic manner. The young men will don two new shawls (the white Mhoushü and the black Lohe) and sprinkle water on their breast, knees and on their right arm. This ceremony is called Dzüseva (touching the sleeping water) and it assures them that all their ills and misfortunes have been washed away by the purified well water. On their return from the well, a lock is sacrificed by throttling it with the bare hands. It is taken as a good omen when the right leg falls over the left leg as the cock falls down. The innards of the fowl are taken out and hung outside the house for the village elders to come and inspect it. Beginning from the fourth day of the festival, a three-day session of singing and feasting starts.

The 'Thekra he' is the best part of the young people of the village sit-together and sing traditional songs throughout the day. Jug and rice-beer and plates of meat are placed before the participants. On the seventh day the young men go for hunting. The most important ceremony falls on the eight-day when the bridge pulling or gate pulling is performed and inter village visits are exchanged. Until the close of the festival; no one goes to the fields and all fieldwork cease during this season of feasting and songs.

The young unmarried girls of feasting and songs heads sit down with the bronzed youth and sing tunes of bygone ages, recreating a part where no care touched the human soul.

3.5. Links with the Outside World

Before the Angamis developed proper villages like Kohima and Khonoma, there does not seem to have existed trade and commerce with neighbouring states which should have evolved various mechanisms for transporting goods from one area to another. Besides this, the Angamis were not dependent on these domestic and other items which would have to be produced from outside. It will not be wrong to state that the growth of villages and the expansion of Angami areas to the plains broke the self-sufficiency of the Angamis and increased their dependence on outside elements. It is as a result of this that we find the technology of transport almost absent in the pre-Kohima phase. For collecting and carrying purposes they used cane containers and baskets. In some rare instances, the Angami reared horses but they themselves do not seem to have used them for transport and instead used them for bartering and sale.

We find that Kohima was more easily accessible and gradually got transformed into an urban center within the tribal mode. It was from here that the people from the interior would come and get their products unchanged and gain awareness about the new influences of technology and economy. This development seems to have played a vital role in transforming Kohima from a tribal village into a center of Angami civilization. It is the urban nature of

Kohima, which increased the mobility within Naga society. From the establishment of Ahom rule, we get a lot of evidence to prove that there was regular contact between the Angami and the plains of with gifts by Ahom rulers and there commenced a good relationship of trade and commerce. The Naga tribes (Angamis) bordering the plains traded their products like cotton, betel leaves (pan), ginger, taro (kachchu) and salt and in exchange carried back articles in which these hills were deficient.

Some of the Angamis were said to have joined the Ahom army. Often when there was a fight between two or more claimants to the throne to Assam, the weaker ones sought refuge in Naga Hills. Even Atan Borgohain, who was the Prime Minister of Ahom from 1622-1669, also seems to have taken refuge in Naga Hills.

However, this period of Ahom rule in Assam did not register serious change in Kohima social organization. Though there was a long drawn process of mutual exchanges, it did not disturb the tribal setting among the Angamis prior to the British occupation, the ties of kinship, lineage, can based organization did not promote the mobility of the Angamis outside the region. Hence such measures kept tribal social organization uninfluenced and restricted the penetration of outside economy.

Although with these developments, Kohima society entered into a transitional phase gradually assimilating the influence exercised by outside

economy, with the decline of Ahom rule, a closed nature of economy was imposed and Kohima seems to have closed its doors to developing contacts from Manipur and on one hand and Assam on the other for a period until British made Kohima headquarters in the later part of the 19th century.

The first British contacts with the Nagas was established in 1832 when Francis Jenkins and RB Pamberton traveled through the Angamis territory in search of a route between Manipur and Assam.

Though initially the British entry in Angami country met with strong resistance, the British were gradually able to establish themselves in Nagaland with the main center at Kohima. It was with the establishment of colonial rule that Kohima assumed prominence from every point of view, until Kohima became the center not only of political activity but the hub of the socio-cultural and political life of the Nagas.

3.6. Kohima Today

We have seen how Kohima won prominence and became the political, socio-cultural and in the due course, the administrative hub of Nagaland. Dimapur, another class II town of Nagaland, is the economic and commercial hub and it is called the gateway to Nagaland. Kohima and Dimapur are complementary to each other, the first performing socio-cultural, political and administrative functions and the second performing economic and connective functions. The nearest Railway station and Airport are about 74 kms away from

Kohima. However, Dimapur is well connected by railways, roadways and airways.

Connectivity and Transportation: Kohima is not connected by railways or airways. As it has been mentioned earlier, the nearest Railway station and Airport are about 74 kms away from Kohima. However, it is connected through the roadways. The means of (intra-city) transport in Kohima are buses, taxis, maxi cab (Sumo) etc. The Nagaland State Transport Corporation has services to almost all the districts of Nagaland. The most frequent service is towards Dimapur, where the bus leaves every one hour and joins Kohima to the rest of the world. Private taxis and Mini Buses ply through all the places of Kohima. Approximately there are about 120 mini buses and around 350 taxis. On the other hand there are communities buses which come to Kohima everyday and move back to various places (village) everyday.

Administrative Functions: Kohima, being the capital of Nagaland, is the seat of the Governor, the Council of ministers, MLAs, Secretaries and the heads of major departments in Nagaland. Until 2001, Kohima town was under the control of 'Town Committee'. But in 2002 it was given the status of 'Municipal Corporation'. There are 42 Departments each headed by the Director or an officer of equivalent rank. The high court of the state is also in Kohima.

Education and Health: Kohima has one civil hospital, and one mental hospital. Besides, it has five private hospitals/nursing homes. It also has an

AIDS control cell and Family planning Board both run by NGOs. Educational institutes such as schools, colleges, and other commercial institutes have been established to meet the needs of the people. .Kohima now has 2 Bible College (pvt), 6 Arts Colleges (pvt), 2 Commerce Colleges. (Pvt), 1 Science College (Govt), 1 Polytechnic Institute. (Govt),1 Arts College (Deficit College),1 Industrial training Institute. (Govt), 1 Administrative training institute. (Govt),1 Law College. (Govt),1 state institute of rural development (Govt). 1 State council of educational research and training (Govt.),1 Community information centre.(Govt).

Table 3.6 (i). Relative Importance of Towns of Nagaland

Township	According to Census 1991			Growth Rate		Class
	Persona	Males	Females	1971-81	1981-91	
Kohima	53122	27824	25298	59.39	54.69	ii
Dimapur	56918	32273	24645	164.59	73.12	ii
Mokokchung	24636	13618	11018	3.66	36.41	iii
Tuensang	20971	12327	8599	-	71.89	iii
Wokha	14066	7785	6281	-	71.96	iv
Zunheboto	12079	6728	5351	-	57.32	iv
Mon	11137	6823	4314	-	61.45	iv
Chumukedima	8734	4893	3841	-	-	v
Phek	8432	5130	3302	-	-	v

Finance and Commerce: Apart from administrative, health and educational institutions there are commercial institutes such as Computer training Center, Tailoring, Weaving, Stenography, Carpentry, Martial Arts Training Centre, etc. There about 10 commercial Banks (branches) in Kohima. Other financial/commercial institutions include LIC of India, Oriental Insurance Company, etc. Other places of importance are II World War Cemetery, State Museum, Cathedral, Zoological Park, Botanical Garden and beautiful landscapes.

According to the 1991 Census, the percentages to the total population (break-up of economic activities) in Kohima District are as follows.

**Table 3.6(ii). Occupational Structure of population
Nagaland and Kohima Districts**

Category	Population Break up	State (%)	District (%)
Main workers	Persons	42.29	38.09
	Males	46.69	46.77
	Females	37.32	27.95
Marginal Workers	Persons	0.39	1.17
	Males	0.17	0.51
	Females	0.64	1.94
Non-Workers	Persons	57.32	60.74
	Males	53.14	52.72
	Females	62.04	70.11
Cultivators	Persons	72.65	55.21
	Males	59.77	42.81
	Females	90.83	79.45
Agricultural labourers	Persons	1.41	3.57
	Males	1.71	3.76
	Females	1.00	3.20
Livestock, forest,	Persons	1.14	1.54

Fishing, hunting, Plantation, orchar	Males	1074	1.99
	Females	0.30	0.66
Mining and Quarrying	Persons	0.06	0.15
	Males	0.09	0.21
	Females	0.01	0.04
Household industry	Persons	0.39	0.88
	Males	0.30	0.39
	Females	0.52	1.83
Other than Household Industry	Persons	1.32	2.63
	Males	2.05	3.69
	Females	0.30	0.57
Construction	Persons	1.77	2.20
	Males	2.76	3.02
	Females	0.36	0.61
Trade and Commerce	Persons	3.19	6.42
	Males	5.04	8.94
	Females	0.58	1.50
Transport . storage and Communication	Persons	0.89	2.27
	Males	1.45	3.29
	Females	0.08	0.27
Other services	Persons	17.18	25.62
	Males	25.09	31.39
	Females	6.02	11.87
Some other Statistics			
Percentage of ST Population to Total population	Persons	87.70	74.47
	Males	85.01	70.95
	Females	90.33	78.58
Number of Occupied resi- dential houses		216725	72961
	Source: Census of India 1991. Kohima District Census Handbook. Note: The total population of the District was 12 09546 in 1991		

CHAPTER 4

EDUCATIONAL INSTITUTIONS IN KOHIMA PAST AND PRESENT

4.1. Kohima: Educational Institutions in the Past

Now we look into the development of educational institutions in the Naga society. Since, there were no scripts, formal education did not have its place in the early Naga society. However, there were some institutions that played a major role in the village community educating its children. Most of these practices were similar among the Nagas.

There was a transition in the nineteenth century when Christian missionaries came to Nagaland to spread education and facilitate evangelizations. Later in the twentieth century, it moved into another dimension when India achieved its freedom and began to enforce its own educational policies. Then in 1963 when Nagaland attained its statehood, the state government was empowered to enhance education at national pattern.

Ever since education spread rapidly, the government started to set up new schools and colleges and also sponsored many students for technical and medical studies since this institution are not available in the state. However, the schools and colleges run by the government fell short of the demand for their services and private institutions imparting school as well as college education started appearing.

4.2. Education in Pre-literary Stage

Education that prevailed during pre-literary stage was in the form of discourse between the elders and younger generation through oral communication, direct observation, attempted imitation and by repeated practice under guidance, usually of remarkable kind. Thus gradually the child was inducted in the full life of an adult. The village community played an important role in educating its children to fulfill the needs of political, social, economic and spiritual life. Education was concrete and concerned with practical activity not abstract generalization.

The old people used to say, ‘the Nagas script was written on animal skin: the dog ran away with it and was eaten up’. Thus goes on old Naga saying. Their (Nagas) script being lost they had to adopt other methods of schooling quite different from that of the rest of the world. They had different schools and from these schools emerged the perfect citizens of the village state who could shoulder social responsibilities. These are schools where the students were taught with practical methods. Here habits and manners were shaped, character built-up and disciplines imparted. Some of the institutions responsible for imparting education in pre-literary stage are worth mentioning.

KIKRU: This was a kind of family institution where children learn economic value at their early age. In the evening when all the members of the family get

together usually sitting around the fire place, older member initiates story telling, session legends, folk songs taught and explained to the youngsters. Children are taught with the right kind of conduct. Through all these activities and associations with their parents, learning by doing takes place among children.

PELI: It is an age-set group activity. Boys, girls of a particular age-set or peer group work in the field of each others by rotation. They jointly collect eatables and fuels to maintain the village life. They help aged people, disabled and sick people in their locality.

THEHU: It is an open field surrounded by stone seats, which is used as a meeting place for men, where it is a taboo for a woman to be a member. It is the village court where disputes are settled. It is a place where communal affairs are discussed. It is the sacred place for a community's religious rites.

THENYI: It is a festival where all the members of the community join in singing, dancing, feasting and participate in sports and games. Such festival is observed with a specific purpose in non-working seasons. During festivals religious rites are performed in each family. Community activities and games and sports are held on competitive basis group-by-group or individual participation in these activities.

KICHUKI/MORUNG: For the Nagas, a Morung was the pivot around the social, religious, educational and cultural activities of the young revolve. The

Morungs and the ladies dormitories are therefore rightly called the Naga schools. All the young men were compulsorily required to become members of the Morung and slept there together. Society's discipline and other manners with regard to societal orders are taught in Morungs. Morung produced many a fine sportsmen and tough wrestlers. Sometimes they were sent out to the jungle to bring particular leaves for minor surgery or for treatment of injuries. They were also trained in first-aid etc.

The objective of this Naga School was therefore similar to the views of the great educationist H. Elbert who says, It is not book learning young men need nor instruction about this and that, but a stiffening of vertebrae which will cause them to be loyal to a trust, to act promptly, concentrate their energies to do a thing.

Ladies dormitory was equally well organized and suited to the requirement of the weaker sex. In every village state, there used to be at least two or three ladies dormitories. Weaving of various kinds: embroidery and design work and the handicraft work were taught in the dormitory at night. The most important value of this institution however lay in the moulding of the girls' future, building up their character and facilitating selection of partners. There was no summer vacation nor was there annual examination conducted in the Naga School. It was a continuous process of testing in young people till they get married and accepted social responsibility.

On the Naga Morung Dr. Horam, a Naga writer has recorded thus; 'It is in the Morung that the boys get all the useful lessons of community living. The Morung gymnasium turns out skillful sportsman, wrestlers and warriors. Here the youth receive invaluable lessons in leadership. They also get acquainted with the history, culture, folklore, songs and dances of their village. The curriculum of the Morung is not all work. Play, singing, dancing are regular if not daily feature of this institution. The Morung is therefore both a training school in the art of life and war and a club for entertainment and fun'.

With passage of time, the heydays of Morung and dormitories are gone. There are some fragments; the last remains of Naga School here and there in isolated villages but the charms and vigour of this institution are gone forever.

4.3. Early Influence of Western Education in Nagaland

The history of the North-East India of which Naga Hills form a part underwent a significant change with the conclusion of the treaty of Yandabo on 24th February 1826. The very enactment of Article 2 of the Peace Treaty signaled the final death knell of Burmese influence and simultaneously inaugurated the formal foundation of British power and influence over the North-East India.

The treaty had an immense impact on the tribes of North-East India with no evidence of any knowledge of these tribes; the British became the de-facto guardian of the whole region by the terms of the peace treaty. From the

assumption of active administration in 1887 to the transfer of power in 1947, the British administered Naga Hills as a frontier district of Assam. This intervening period of seven decades, British administration concentrated on the maintenance of law and order in this border district. The establishment of peaceful conditions in Naga Hills was a gradual process which went on steadily throughout the period along with the extension of colonial rule and administration. The British directed this policy primarily towards practical and pressing problems such as the establishment of law and order, the foundation of administrative system and the dispensing of justice, and, not the least, the raising of revenue necessary for the discharge of the function of the government. At the same time British policy was not that of imposing a European model of administration, but of establishing the rule of law for the security of colonial interests. Accordingly, the existing native institutions, which had no contradiction with their policy or interests were left undisturbed. Nevertheless, certain natural by products of British rule – the development of road communications, introduction of education and Christianity, changes in agricultural processes and promotion of public health – had significant transformation impact on the Nagas.

One important agency of British administration was education. It was used as an instrument of pacification as well as civilization. The object of introduction of modern education in Naga Hills was to train the natives for the

service of colonial administration. With this purpose, the administration encouraged the establishment of schools in Naga Hills. Although the administration has been in opening schools, initially they did not directly shoulder the responsibility. Naga education was left to the care of the American Baptist Missionaries. However, later in the first decade of the 20th century, the government gradually took over some of the mission schools, and opened new schools of its own. Consequently, the number of missionary educational institutions decreased and correspondingly, the number of government school increased. On the whole, education as a colonial instrument was to a great measure successful, especially as it was an agent of peaceful change.

4.4. Kohima Mission and Western Education

Kohima is the largest and the most central of Angami villages. The British government occupied Kohima as its Headquarter by the end of 1878. Clark and other missionaries of Assam felt that Kohima would be a strategic place for mission. Clark declared that, “everything points to Kohima as the best location for the new mission station.”(*Report on the progress of Education in Eastern Bengal and Assam, 1907-1912, Vol.1, p.121*). He described Angamis as the most independent, enterprising, warlike and treacherous of all the numerous hill tribes of southern Assam.

C.D. King was the first missionary appointed by the mission board to work among the Angamis. He and his wife reached samaguting (now

Chumukedima) on June 27th 1879 to get acquainted with the Angami and further moved to Kohima to start a mission school. King took with him from Nowgong School an Assamese teacher, Punaram, with a view to opening a school if the government would support it.

The Angamis raided the whites in October 1879, and the Kings fled to Sibsagar, when peace was restored in 1880, King secured permission again and hastened to Kohima. For health reason, his wife had to leave for America. King was in Sibsagar till March 1880. Possibly King reached Kohima in April 1880. At Kohima, he built a house and a school, practically with his own hand. But the government ordered him to vacate the site. He pulled down the frames and erected them on a new site. Henry Goldsmith, an Assamese Christian from Nowgong and Sarbey, a Mikir Christian joined King at Kohima to teach in the school and help in the mission work. The school was started with eleven Naga boys. Later on, Assamese preacher, Robi also joined them. Mrs. King returned in 1882. The first church among the Angamis was founded at Kohima on March 23, 1883, with Mr. & Mrs. King and Mr. & Mrs. Henry Goldsmith, Messrs Sarbey and Robi as founding members. The school work was also carried on with much success till 1886. The medium of instruction was done in Assamese since no Naga language was published. C. D. King was replaced by Rev. Rivenburg who returned to Kohima on October 29, 1894, carried on with the work undertaken by King.

The beginning of 1907 found Rev. H. B. Dickson at Kohima successfully occupied with the school which reached a membership of 103. With excellent local helper the school work was carried on with 77 pupils. At the end of 1908, Miss Narola Rivenburg, daughter of Rivenburg gave up her studies in the Vassar College and taught in the Kohima School. In 1909, the station school at Kohima has been smaller in number, only 72 but the devotion of the teachers had been above question, and there was marked progress. During the beginning of 20th century, the British Government had changed their policy on Education. Instead of leaving the responsibility to the Christian missionaries, much of the primary schools and secondary schools were initiated by the government. Nevertheless, Christian missionaries still continued to establish schools with the grants-in-aid they received from the government.

4.5. Education under D.C.'s Control

Education as a subject of colonial administration was placed under the general control of the Deputy Commissioner. Accordingly, government schools were opened from time to time on his recommendations. Moreover, the schools were under his close supervision. In 1912, giving the report of education in the district, the Deputy Commissioner stated:

... the Nagas as a rule failed to appreciate the advantages of education, so that year by year the number of primary schools and scholars dwindled until from 32 schools with 787 pupils on the rolls on the 31st March 1907, the number has fallen to 22 schools with 327 pupils on the 31st of March 1912

(Quinquennial Review of the progress of Education in Assam, 1937-1962, p.118).

The declining aspects of schools and scholars became a matter of concern for the government. The Deputy Commissioner attributed the decline to the literary nature of the educational system. This opinion was backed by other officials saying that the Nagas had a very practical turn of mind and hoped that they would do well if given education which would be of practical use. Moreover, one of the causes of the decline of enrolment the government identified was the heavy language burden in the school curriculum.

4.6. Technical Education

The large scale drop-out of students and the dwindling number of schools in the district compelled the government to re-examine the system of school education. It was considered that practical type of education would be suitable for the Nagas. To meet that requirement, in 1907, an industrial school, called the 'Fuller Technical School' was opened at Kohima for training the Naga boys in carpentry and blacksmith (*Quinquennial Review of the progress of Education in Assam, 1942-47, p.36*).

Table 4.6(i)
Growth of Education in Naga Hills District
during the British Period, 1882-1947.

Year	Number of L Schools	Number of M Schools	Number of Hig Schools	Number of students		
				Primary	Secondary	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1882-1883	6	-	-	-	-	-
1883-1884	6	-	-	107	-	107
1884-1885	5	-	-	63	-	63
1885-1886	11	-	-	-	-	-
1886-1887	20	-	-	-	-	-
1887-1888	10	-	-	199	-	199
1888-1889	16	-	-	221	-	221
1889-1890	15	-	-	256	-	256
1890-1891	16	-	-	297	-	297
1891-1892	17	-	-	332	-	332
1892-1893	15	-	-	236	-	236
1893-1894	17	-	-	299	-	299
1894-1895	16	-	-	322	-	322
1895-1896	14	1	-	330	-	330
1896-1897	15	1	-	292	-	292
1897-1898	17	1	-	371	-	371
1898-1899	16	1	-	309	-	309
1899-1900	13	1	-	211	-	211
1900-1901	16	1	-	73	6	79
1901-1902	16	1	-	80	5	85
1902-1903	22	1	-	81	6	87
1903-1904	22	1	-	-	-	667
1904-1905	22	1	-	-	-	-
1905-1906	-	1	-	-	-	-
1906-1907	31	1	-	-	-	787
1907-1908	24	1	-	-	-	-

1908-1909	21	1	-	-	-	-
1909-1910	23	1	-	-	-	-
1910-1911	24	1	-	-	-	-
1911-1912	22	1	-	-	-	-
1912-1913	26	1	-	385	-	-
1913-1914	27	1	-	458	-	-
1914-1915	27	1	-	525	-	-
1915-1916	39	1	-	-	-	-
1916-1917	35	1	-	659	92	751
1917-1918	-	1	-	773	97	870
1918-1919	32	1	-	815	106	921
1919-1920	59	1	-	1279	123	1502
1920-1921	62	1	-	1909	111	2015
1921-1922	84	1	-	1051	106	1157
1922-1923	84	1	-	3209	110	3319
1923-1924	85	1	-	2145	93	2238
1924-1925	85	1	-	1868	92	1969
1925-1926	88	1	-	2202	92	2314
1926-1927	92	1	-	2401	79	2480
1927-1928	107	1	-	2388	83	2471
1928-1929	107	1	-	3132	92	3224
1929-1930	124	1	-	3365	351	3716
1930-1931	124	1	-	3677	611	4288
1931-1932	149	1	-	3804	628	4432
1932-1933	150	1	-	3835	602	4528
1933-1934	145	1	-	3749	796	4545
1934-1935	135	1	-	4261	959	5200
1935-1936	141	1	-	4118	974	5092
1936-1937	141	1	-	4325	1120	5445
1937-1938	141	1	-	3594	938	4532
1938-1939	-	1	1	3912	997	4909
1939-1940	-	1	1	-	-	-
1940-1941	-	1	1	-	-	-
1941-1942	-	1	1	-	-	-
1942-1943	-	1	1	-	-	-
1943-1944	-	1	1	-	-	-
1944-1945	-	1	1	-	-	-
1945-1946	-	1	1	-	-	-
1946-1947	161	3	1	-	-	-
1947-1948	-	-	-	-	-	17443

This institution offered a three year training course for the pupils. At the initial stage, the school admitted 3 students annually but increased the annual intake to 7 students per year during the 1930s. In 1941, the school was brought under education department and amalgamated with the first government high school of the district, located at Kohima. Since then, the high school boys attended technical classes in the afternoon as part-time pupils (*Quinquennial Review of the progress of Education in Assam, 1907-1912, Vol.1, p. 121*).

4.7. Medium of Instruction

The diversity of tribal languages posed considerable difficulties in determining the medium of instruction in schools in the district. At the initial stage, however, the pupils were taught in their local vernaculars, Assamese and English. Out of the three media of instruction two were foreign languages for the Naga boys. It was proved by experience that the course was difficult for the beginners in modern education. Subsequently, in order to remove the linguistic burden, Assamese was dropped as a compulsory subject and the vernacular and English were taken as media of instruction, with English acting as the medium for higher classes. Nevertheless, Assamese was also retained as a compulsory subject, though it was made a non-examinational subject, in consideration of the fact that the Nagas needed to learn it for their commercial transactions with the people of the plains.

4.8. School Curriculum

The textbooks used in schools were mostly translated by the missionaries and their converts. However, in view of the language difficulties involved in translation work and the absence of a script in tribal languages, the government readily accepted the available book for use in schools as textbooks.

As discussed earlier, because of diversity of language, no vernacular books could be used as uniform school textbooks in the district. Accordingly, each tribe had to use books translated or written in their own local language. As for instance, books written in Angami could not be used as textbooks for the Sema students and vice-versa. Consequently, the government closely cooperated with the missionaries in the publication of school textbooks. Textbooks translated into tribal languages were mostly published at the expense of the government although Christian mission also partly met the cost of some publications (*Quinquennial Review of the progress of Education in Assam, 1901-1907, p. 118*).

4.9. Stipends

As a measure of encouragement for the prosecution of post-primary school studies, the government also provided scholarship to the Naga students. In 1942, there were three primary scholarships of Rs. 3 each and three Middle English scholarships of Rs. 10 each available to the Naga boys. In 1946, there was a significant increase in the grant of scholarships, whose total number rose to 13. These scholarships were to the value of Rs. 3 a month, each tenable for three to four years for post primary education

4.10. Constraints in Government Educational Policy

In view of the lack of employment opportunities, the government followed a very cautious policy in the promotion of education for the hill tribes. While welcoming the increase of primary education, it expressed doubts regarding the expansion of secondary school education. The quinquennial review of the progress of education in Assam, 1932-37 stated: “There is very little chance of employment for Naga and Lushai matriculates in their own hills, and practically none for them outside”.

The government discussed the problems of Hill education at a conference in Shillong in 1935 and again in 1938 and decided that education up to class VIII should be given to the Naga boys in their home hills, and that they should then be given opportunities for training in mechanical pursuits or agriculture, and that facilities for high school and college education should only be given to exceptional boys. Needless to say, the backwardness in hills education was partly the direct effect of government policy which restricted the scope for higher studies in general.

Even though government's efforts in the development of education reached a significant mark, its policy for tribal education was later found to be defective. The analysis of colonial education policy in Naga Hills may be summed up in the words of the report on the North East Frontier Agency of June 1944, which noted:

No educational policy has yet been laid down and matter will require very careful consideration. Our present system is clearly gravely defective when applied to primitive tribes, for it tends to affect the individual rather than the community and, instead of making the individual more fitted for his community, to separate him from it and cause him to seek a living elsewhere, with the result that such good as he may have received is not ordinarily passed on by example to his fellow villagers (*Home Dept., File No.31/15/45 Public*).

Thus, though government had made considerable progress in imparting rudiments of education in the district, it still had to make efforts for higher education oriented planning of education. However, with the exception of taking over of a high school at Kohima in 1941, no further notable measures were taken for the improvement of education in the district.

4.11. Education after Independence (1947)

After independence the government laid stress on the spread of education amongst the backward and hill tribes. Special provisions were made for the

expansion and development of education in these areas. Many government as well as private schools came to be started.

Prior to 1947, Naga Hills under Assam had 161 government schools. These primary schools were supervised by the inspectors of schools, Upper Assam Circle, with headquarters at Jorhat. He was assisted by one Assistant Inspector of Schools posted at Shillong and two inspecting pandits.

Owing to internal political troubles the schools which were started could not function effectively for a long period. Many of the schools were even closed down, but in spite of all these the Nagas' enthusiasm for education did not cease. The Nagas deeply felt the need of education and by 1950, many boys and girls were attending schools and colleges.

The great impediment of the spread of education in the early days was the absence of higher standard schools for which Angami students had to go to Gauhati, Shillong, Jorhat etc., on foot for their higher studies. The first high school in Kohima district which had been upgraded from M. E. School was recognized around 1939-40. Many more schools were started after independence, but during the disturbance period the epicentre concentrated in Kohima which led to temporary closure of many schools. After the formation of the interim government, schools increased immensely, both private schools and government schools. Teachers training centres, colleges and vocational training schools have also been established and are catering to the needs of the people.

Another opportunity came when Nagaland got its statehood on 1st December 1963, and the aftermath of the cease fire around on 6th September 1964, with its own state government many new schools came up during this time. Like any other states in India, Nagaland has generally accepted the policy of education. The main objectives of education in the state are, however, to aim

the organization of an integrated and comprehensive system of education which should act as a catalytic agent in ushering in social transformation, promoting economic growth and accelerating the pace of overall development. In order to achieve these objectives, certain goals have been set as given below:

1. To provide free and universal primary education.
2. To improve girls education.
3. To introduce work experience programs.
4. To reduce stagnation and wastage at all levels.
5. To introduce profession, vocation and agricultural based education for practical minded Naga youth, and
6. To improve teacher training and method of teaching through the use of educational technology.

With this in view the present policy of the state is geared to consolidate the existing schools, improve the quality and standard of education in the state and to provide all possible help to educationally backward areas so that they may be able to come up to the level of the advance areas as early as possible. In this direction, the Government of Nagaland has taken following measures:

1. Providing school within walking distance for age group 6-11.
2. Providing incentives for the spread of girls education in the form of special stipends and free uniforms.
3. Conducting training programmes and orientation course for teachers at all stages of school education.
4. Strengthening of the existing SCERT (State Centre of Education Research and Training) with more manpower and specialization.
5. Textbooks up to Class VIII in local language have been developed.

6. Provision of Hindi teachers in private schools.
7. Provisions for science supervisions for extending innovative techniques in the teaching learning process.
8. Supply of mass media facilities to at least 9 high schools.

The present list of government/private schools stands as given below:

Sl. No.	District	Govt. Higher Secondary Schools	Govt. Schools	Private Higher Secondary	Regular Recognized Private Schools	Permitted Schools	Provisionally Recognized Private Schools	Total
1.	Dimapur	1	10	6	2	34	23	76
2.	Kohima	1	23	6	1	32	20	82
3.	Mokokchung	1	16	2	-	9	14	41
4.	Mon	1	8	-	-	7	3	19
5.	Phek	1	17	-	-	8	6	32
6.	Tuensang	1	21	-	-	10	7	39
7.	Wokha	1	9	1	-	10	6	26
8.	Zunheboto	1	10	1	-	15	3	30
	Total	8	114	16	3	125	82	351

Source: NBSE, Notification No. 41/2000.

4.12. Govt.-run vs. Private Schools in Kohima

Our proclaimed objective in this investigation is to study the micro-economics of private schooling industry in Kohima. It would be facilitating, therefore, to present some distinctive features of private schools in comparison with the government run schools in the study area. At present, Kohima has three govt.-run high/higher secondary schools with a total enrollment of some 1.6 thousand students while private schools, 31 in number, enroll some 25 thousand students. Of the govt.-run schools, all enroll students from a modest economic background exclusively, while among the private schools several have a clientele (18 out of 30 private schools surveyed by us) of well-to-do/medium income group/class exclusively, while the rest (12 out of 30 private

schools) have a clientele base formed by the parents of a modest income group. Others enroll students from a mixed economic background. In general, govt.-run schools perform much poorer than their counterpart (private schools). Some important characteristics of govt.-run and private schools are presented in the tables below.

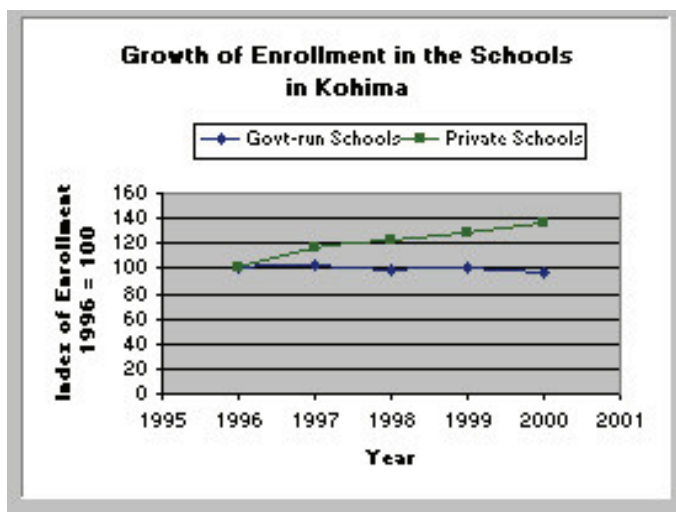


Table 4.12(i). Salient Features of Govt. run High/Higher Sec. Schools in Kohima

Name of the School	Govt. HS. Seikhazou	T.M. Govt HS	Govt. Hr Sec School
Enrollment in 2000	419	310	828
Annual Admission Fee	Rs 300	Rs 350	Rs 500
Total No. of Teachers	17	30	54
No. of Matriculate Teachers	0	10	0
No. of Graduate Teachers	12	16	30
No. of PG Teachers	5	4	14
No. of classrooms	8	10	18
Monthly salary of matriculate teachers	NA	Rs 6500	NA
Monthly Salary of Graduates teachers	Rs 11000	Rs 11000	Rs 11000
Monthly Salary of Post-graduate teachers	Rs 12000	Rs 12000	Rs 12000

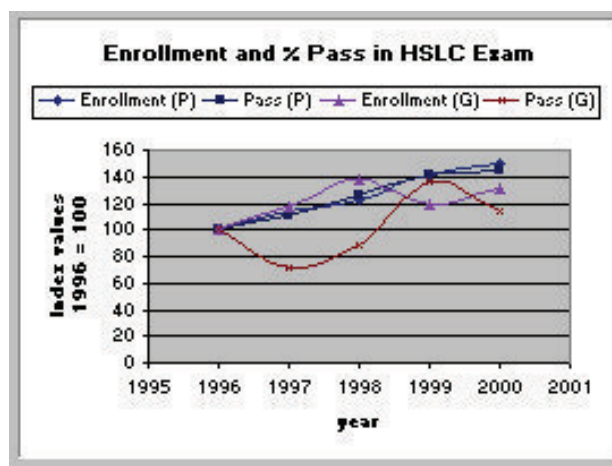
Table 4.12(ii). Salient Features of Govt. run High/Higher Sec. Schools in Kohima

Name of the School	Govt. HS.Seikhazou	T.M. Govt HS	Govt. Hr Sec School
Established in	1975	1969	1941
Distance from the main road	100	500	120
Languages taught	Hindi/ Tenyidie	Hindi/ Tenyidie	Hindi/ Tenyidie
Number of periods	7	7	8
Type of school	Co-education	Co-education	Co-education
Eco. Background (students)	Low income class	Low-income class	Low-income class
Type of building	Single storeyed	Single storeyed	Single storeyed
No,of stds in 1996	318	425	865
In 1997	293	435	909
In 1998	318	350	935
In 1999	328	309	989
In 2000	419	310	828
No. of computers	3	5	10
No. of students appeared HSLC in 1996	17	17	68
“ in1997	23	24	73
“ in 1998	27	35	78
“ in1999	25	24	72
“ in 2000	19	27	88
No. of 1st Div in 1996	0	0	0
“ in1997	0	0	0
“ in 1998	0	0	0
“ in1999	0	0	0
“ in 2000	0	0	0
Overall pass % in HSLC in 1996	23%	37%	62.7%
“ in1997	21%	45%	35.3%
“ in 1998	18%	43%	40.8%
“ in1999	92%	44%	64.0%
“ in 2000	36%	47%	53.0%

Table 4.12(iii). A Comparative View of Govt.-run and Private Schools in Kohima

Characteristics	Govt.- run Schools	Private Schools*
No. of Students in 1996	1608	17616
1997	1637	20519
1998	1603	21555
1999	1626	22605
2000	1557	24049
No. of Students appeared in HSLC in 1996	102	754
1997	120	866
1998	140	926
1999	121	1067
2000	134	1129
No. of Pass in HSLC in 1996	59	680
1997	42	748
1998	52	852
1999	80	966
2000	67	988
Overall Pass Percentage during 1996-2000	48.62	89.29
Pass in I div (Percentage during 1996-2000)	0.0	23.72
Average no. of Teachers	34	25.53
Average no. of Computers	6	5.3
Average no. of Classrooms	12	17.87
Annual Admission Fee --- Lowest (Rs)	300	515
Annual Admission Fee --- Highest (Rs)	500	2500
Annual Admission Fee --- Average (Rs)	400	1591
Monthly salary of a matriculate teacher (Rs)	6500	2824
Monthly salary of a graduate teacher (Rs)	11000	3658
Monthly Salary of a PG teacher (Rs)	12000	4241
Average no. of Classrooms	12	17.87

* Based on thirty (30) private schools surveyed to collect information for this study.



It is interesting to note that while (during 1996-2000) enrollment in govt. run schools has not made any progress (rather a decline is observed), the enrollment in private schools has substantially increased. Unlike for the Govt-run schools, enrollment and performance are highly correlated for private schools. While during 1996-2000 the Govt-run schools had no student securing I division at the HSLC examinations, private schools succeeded in turning out about 24 percent of the examinees (in HSLC exams) in I division. All these data support the popularity of private schools among the parents who can pay for sending their children to the private schools.

CHAPTER 5

PRIVATE SCHOOLING IN KOHIMA

5.1. Introduction

The structure of schools in any area responds to changes in demand for educational facilities which in turn depends on population in relation to schools and teachers available to meet the demand. In other words, population is one of the most importance determinants of the structure of schools in any townships; it generates demand for school facilities on the one hand, it supplies teacher and non-teaching staff to the school on the other. If in a particular area the ratio of population to school increases beyond proportion, the existing schools become stressed and pave a way to establishment of new schools. But when ratio of population to school declines to a suitable proportion there may not be any incentive to start new private schools.

The population of Kohima was 21.54 thousand in 1971, which grew to 34.34 thousand in 1981, 53.12 in 1991 and 78.50 thousand (provisional) in 2001. It is estimated that the population of Kohima was around 76 thousand in the year 2000.

For the state of Nagaland, the estimated population in the age group 6-14 years (school-going age) is about 35.5% of the total population (basic statistics of NER 1995 NEC, Shillong, p.140). Accordingly, the number of school- going population in Kohima may be estimated at (about) 27 thousand. This is based

on the assumption that the ratio (0.355) at the state level is applicable to a capital town. It is likely, however, that the student population from the surrounding areas must be there in the schools at Kohima. It is difficult to estimate the quantum of such student population, but it may safely be held that about 20% of the total student population may hail from the surrounding areas. Private schools (30 schools regarding which we could obtain information) in Kohima enrolled some 24 thousand student population (in the year 2000). It is estimated that the enrollment in private schools (31 in number) may not exceed 25 thousand at present. Further, the enrollment figures suggest that some 1.6 thousand students are studying in the govt-run schools. This makes about 26.6 thousand student population in the town. Additionally, a good number of students must be enrolled in the govt-run primary/middle schools in Kohima.

. At the present rate of growth of population in Kohima, it is estimated that about 2.5 thousand persons are added to the total population of the town every year. On this the basis, it may be estimated that about 900 school-going students are added to the student population every year which may support two new small size school (or one new large size school) every year. During 1981 to 1993 (a span of 13 years) 18 new private schools were established in Kohima. These schools enrolled some 9.6 thousand students in the year 2000. Besides, the student population in the older private schools (established before

1981) increased over the years. Many students may have been enrolled in Government schools as well.

5.2. Patrons of Private Schools in Kohima

It would be of general interest to know of the patrons of private schools in Kohima. From the survey (covering 30 private schools) the researcher could identify seven types of private schools existing in Kohima.

Table 5.2(i). Types of Private Schools in Kohima

Sl.No.	Name Of The Patrons	No. Of Schools
1	Christian Mission	2
2	Missionaries	5
3	Church Sponsored	5
4	Armed Personnel	1
5	Women Association	1
6	Single Individual	12
7	Partnership	4
Total		= 30

Christian Mission Schools are the Educational institutions which are sponsored by the association of churches belonging particularly to a tribe (or community). Budgets are drawn from time to time and collected from all the churches under the association and used for the maintenance of the schools. The Headmasters/Principals are usually appointed by the managing board that are again appointed by the Church Association. Religious subject is compulsorily used as a curriculum.

Missionary run schools are similar to Christian Mission Schools in respect of scriptural subject which is used as one of the main subjects. These Missionaries belong to the Catholic group whose motives are to spread education and expand their religion as well. Teachers of these schools are mostly from outside the state.

The third category of private schools is the Church are patronised Schools. These schools are owned by a single Church which may be of any denomination. The Church, from among its members chooses the management committee to look after the School. Profits of such Schools are used for improving infrastructures and developmental works.

A private schools sponsored by armed personnel is there in Kohima. To start this school, salaries were deducted from each armed personnel in Kohima. The Commandant is usually the Chairman of the School board. Armed personnel's children and those children residing in the vicinity of the camp are admitted in the school.

Another type of patron of Private School are the women Association. The Association raised funds and set-up a School. From their own group the Board of Trustees were appointed and given the responsibility to look after the management, appointment of Headmaster and teaching staff. The profit from this School is utilised for school development and other social services.



There are twelve schools patronized by individuals. These schools are usually family managed schools. The patron is a sole proprietor and decides the policy, management and other matters single handedly. He alone bears the losses and takes the profit.

Partnership patronised schools are also there in Kohima. They have two or more persons managing the school. Mutual consent and voluntary agreement create them. Although the joint capital is not a norm of partnership, the partners agree to share the profit.

In what follows, we provide a brief description of these thirty private schools from which information have been collected and analysed in this study.

5.3. Respondent Schools: A brief Description

School No. 1: Baptist High School --Status: Higher Secondary: Baptist High was earlier known as Baptist English School. It is situated in Mission Compound. This school is sponsored by the Angami Baptist Church council (Christian Mission). One of the main objectives of this school was to educate the students in Christian atmosphere. In 2000 A.D., the school had 1534 students. The school has a well furnished auditorium, library, science laboratory and 10 IBM Computers. It was established in 1959.

School No. 2: Don Bosco School--Status: Higher Secondary: Don Bosco School was established in 1972 by the Salesian of Don Bosco (Catholic Mission). It is situated near Billy Graham Road. It has a good Chapel,

Basketball Court, football field, a large library and a youth centre which gives training like music and summer camps. Apart from that it gives coaching for HSLC failed students. In 2000 A.D., the school had 1536 students.

School No.3: Holy Family School--Status: High School:The school was established in 1991, owned by a single individual. The school is situated at A.G. Colony. One peculiar feature about this school is that the first divisioner of each class are exempted from paying their school fees. In 2000 A.D., the school had 645 students.

School No. 4: Savio K. G. School--Status: Primary (Up to Class 2): Savio K. G. School was established in 1981 by Catholic missionaries. The school is situated in the main town attached with catholic Parish. In 2000 A.D., the school had 247 students.

School No. 5:Minister Hill Higher Secondary School--Status:Higher Secondary: Minister Hill School was established in 1968. It was sponsored by Minister Hill Baptist Church and located at Old Ministers' Hill. The school also has a music school attached to it. The school has a large auditorium and library. In 2000 A.D., the school has 1663 students.

School No. 6: NAP Regimental School--Status: High School: The school was established in 1972 where the initiative was taken by the police personnel, it is located at Thizama (Police Complex). Teachers, Headmaster and other staff are

appointed by the School Board. The Commandant is the adviser of the School.

In 2000 A.D., the school has 749 students.

School No. 7: Sunbeam School--Status: High School: Established in 1977, Sunbeam school is located near Leprosy Colony. It is far from the main town, therefore, the enrolment of the school is less. In 2000 A.D., the school has only 123 students. Facilities like playground and auditorium are not available in this school. It is a joint venture school.

School No. 8: Nagabazar Baptist School--Status: High School: Nagabazar Baptist School is located in Nagabazar. It was established in 1980. Sponsored by Nagabazar Baptist Church. The church has a school board and staff of the school are appointed by them. The church acts as their auditorium. In 2000 A.D., the school has 399 students.

School No. 9 : Christ King School--Status: High School: Christ King School is located in Kohima village and is run by Christ King Partish (Catholic Missionary). It was established in 1969, the first Catholic educational institution. In 2000 A.D., the school has 1317 students. The school has a parish, football field, basketball court and indoor games like table tennis etc.

School No. 11: Pinewood School--Status: High School: Pinewood School was established in 1983 and is owned by a single individual. It is located at Chandmari. The school has a library and a chapel hall. In 2000 A.D., the school has 649 students.

School No. 10: Christian School --Status: Up to Class VIII: Christian School was earlier known as Christian English School. It was established in 1993 and owned by a single individual. The school has hostel facilities, playground and library. It is located at Botsa. In 2000 A.D., the school had 202 students.

School No. 12: Model School--Status: High School: Model School is located at Tsiepfetsiepfu (A.G.) established in 1987, owned by a single individual. The school has a very good compound and has hostel facility. It has a playground, library and science laboratory. In 2000 A.D., the school has 642 students.

School No. 13: Fernwood School--Status: High school: The school was established in 1988, a branch of school No. 20 (Mezhur Higher Secondary School). Owned by a single individual. It is located at Forest Colony. In 2000 A.D., it has 729 students.

School No. 14: Shalom School--Status: Up to Class VIII: Shalom school was established in 1955, sponsored by Union Baptist Church and located in the Church premises near Kohima local ground. The school board belongs to the Church elders. The school has a chapel and a library. In 2000 A.D., Shalom school has 369 students.

School No. 15: Mt. Hermon School--Status: High school: Mount Hermon School is located at Kenuozou Hill and established in 1983. It is owned by a

single individual. The school has a library science laboratory and hostel. In 2000 AD., the school enrolment is 1170 students.

School No. 16: Mt. Sinai School--Status: High School: Mount Sinai School was established in 1990 and sponsored by the Chakehsang Baptist Church. It is located at Porter's Lane. The church board looks after the management of the school. It has a large auditorium, library and science laboratory. In 2000 A.D., the school has a total enrolment of 1053 students.

School No. 17: Supplee Memorial School--Status: Up to Class VIII: Supplee Memorial school was established in 1993. It is located at mission compound. The Supplee Memorial Church members look after and manage the school. In 2000 A.D., the school has a total strength of 162 students.

School No. 18: Modern School--Status: High School: Modern School was established in 1988 and located at New Market area. It is an individually sponsored school. The school has a library, and a badminton court. In 2000 A.D., the school strength stands at 350 students .

School No. 19: St. Mary's Cathedral School--Status: High School: St. Mary's Cathedral School was established in 1993. It is run by Catholic Society (Catholic Missionaries). The school has a nun convent attached to it. The school has a playground, library and science laboratory. It is located at Lerie Colony. In 2000 A.D., the school has 865 students.

School No. 20: Mezhur Higher Secondary School--Status: Higher

Secondary: Mezhur Higher Secondary School was established in 1958 and is considered to be the oldest private school in Kohima. It is managed by a single individual. Located at Midland, the school has a library, playground, and auditorium. So far the school has produced many topper students both of HSLC and HSSLC. The school has a total enrolment of 2145 students in 2000 A.D.

School No. 21: Baptist School--Status: Up to Class IX:

Baptist School was established in 1986 by a single individual. It is located at Botsa. The school has hostel facility, playground and a library. In 2000 AD., the school has 235 students.

School No. 22: Stella High School--Status: High School:

Stella High school was established in 1987. It is owned by a single individual. Students securing first division in all the standards are exempted from paying their school fees in the current academic year. It is located at Agri Colony. In 2000 A.D., the school has a total strength of 672 students.

School No. 23: Children's Christian School--Status: High School:

Children's Christian school was established in 1967. It is located at Mission Compound. Till the beginning of 90's it was individually owned, but by late 90's the ownership was changed and run by joint venture. The school has a chapel, library and indoor games. In 2000, the school has 495 students.

School No. 24: Chandmari Higher secondary School--Status: Higher

Secondary: Chandmari Higher secondary school was established in 1974. It is located at Chandmari. Educated parents from the local joined hands together and started this school. The school produces good results both in HSLC & HSSLC Exams. The school has a science laboratory, library and a badminton court. The school has a total strength of 2030 students in 2000.

School No. 25: Little Flower School--Status: High School:

Little Flower School was established in 1964. The school is located at New Ministers' Hill. Little Flower School is the only female school in Kohima. It is run by Catholic nuns. The school has a basketball court. Badminton court, library, auditorium and children's park. The school also produces good results in HSLC Exams and plays the role model in school administration. In the year 2000, the school has a total of 1538 students.

School No. 26: Bayavu Hill School--Status: High School:

The school was established by concerned parents of Bayavu Colony in 1974. The colony appoints the school board who looks after the management of the school administration. The school has a library and a large compound for outdoor games. In 2000 A.D, the school has a total of 654 students.

School No. 27: Charity School--Status: High School:

Charity school was established in 1988 by the Kohima Circle Catholic Women Group. It is located in Daklane area. The school administration is looked after by the office bearers

of this women association. The school has library and indoor games. In 2000 ,the school has a total enrolment of 654 students.

School No. 28: Grace High School--Status: High School: Grace High School was established in 1991. The school is run by a single individual, the principal himself. It is located at Bayavu Hill. The school has a compound for outdoor games and hostel facility. In 2000, the school has 450 students.

School No. 29: Mount Carmel School--Status: High School: Mount Carmel school was established in 1985. It is located at High School area. It is an individually run school. The school has a playground and library. In the year 2000, the school has 280 students.

School No. 30: Khedi Baptist School--Status: High School: Khedi Baptist Church was established in 1984. It is sponsored by Khedi Baptist Church and is located at Kohima village. The school has a large auditorium, a playground and laboratory. In the year 2000 , the school has a total of 522 students.

5.4. Growth of Private Schools in Kohima

The first private school in Kohima was established in the year 1958. This number increased to 5 in 1968 and 12 in 1980. Afterwards, since 1981, the growth rate of (the number of) private schools accelerated and by the year 1993, the number of private schools in the town increased to 30. Before 1980's the dominant motive of starting a private school was perhaps different than that during and after the 1980's. In the later period, schools have been started due to

economic motives and run accordingly. This change in motive of starting and running the private schools has its impact on the motive and management of the older schools as well. In the due course, the entire system of private schooling grew up into an industry. Table–5.4(i) presents the details on the number of private schools, their year of establishment and the enrollment in these private schools in Kohima as in the year 2000.

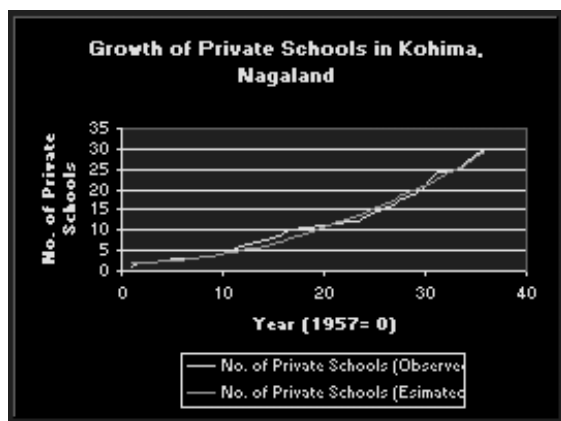
The older schools are better established and enroll (relatively) larger number of students. The oldest six private schools (that make up $1/5 = 20\%$ of the total number of private schools in the town) enroll 36% of the total number of students in the private schools, while the youngest six schools enroll only 14% of the student population (in the private schools).

Table – 5.4(i): Growth of Private Schools in Kohima, Nagaland

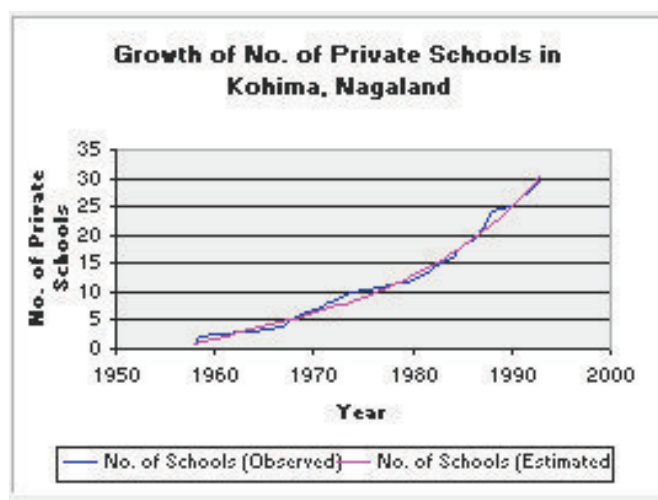
Up to the Year	No. of Schools	No. of Students in the Year 2000 (Cumulative)		Establishment Year	No. of Schools	No. of Students in the Year 2000 (Cumulative)	
		Total	Percent			Total	Percent
1958	1	2145	8.91	1981	13	14400	59.87
1959	2	3679	15.29	1983	15	16219	67.44
1964	3	5217	21.69	1984	16	16741	69.61
1967	4	5712	23.75	1985	18	17390	72.31
1968	5	7345	30.54	1986	19	17625	73.28
1969	6	8662	36.01	1987	21	18939	78.75
1972	8	10947	45.51	1988	24	20672	85.95
1974	10	13631	56.68	1990	25	21725	90.33
1977	11	13754	57.19	1991	27	22820	94.88
1980	12	14153	58.85	1993	30	24049	100.00

A comprehensive presentation of trends in growth of (the number of) private schools in Kohima may be made by a quadratic or cubic curve given as follows:

Quadratic Trends in Growth of Private Schools in Kohima



Cubic Trends in Growth of Private Schools in Kohima



Quadratic Trend: Trend equation : $N = 1.9396 + 0.0146 T + 0.0207 T^2$; $R^2 = 0.998$ and $F = 574.10$ for $n = 20$. Here N stands for the number of private schools and T stands for time (year, 1957 = 0). The quadratic trend has been depicted in the diagram below.

Cubic Trend: Alternatively, one may present the growth of the number of private schools by a cubic curve. The coefficients of the curve are given in the table – 5.4(ii) below.

**Table 5.4(ii). Cubic Trends in
Growth of Private Schools in Kohima, Nagaland**

Model: No. of Schools f(*,*,*); For 1957 : T = 0	n =20	Coefficient	Std. Err.	Beta	t value	Sig.
	(Constant)	.578	.772		.749	.465
	T	.486	.174	.595	2.788	.013
R ² = 0.992	T ²	-1.136E-02	.011	-.535	-1.045	.312
F = 463.75	T ³	5.818E-04	.000	.965	2.999	.008

Growth in the Size (Number of students enrolled) of the Private Schools:

Over the years, the number of private schools increased and, alongside, their size also increased. Depending on the capacity of absorption and many other factors, including their performance and reputation, the number of students in these schools increased over time.

**Table – 5.4(iii): Rate of Change in Enrollment
in the Private Schools in Kohima, Nagaland (1996-2000)*.**

Change in Rate of Enrolment	No. of Schools	Sl. Nos.	Size Category (Enrolment)	Age Category (Established)
Decline	4	5, 8, 7, 4	¾ are Small	Before 1982
0 - 15	7	21, 9, 26, 30, 25, 12, 2	Mixed	Mixed
15 - 30	4	10, 17, 29, 14	Small	After 1984
30 - 45	6	23, 18, 20, 22, 11, 1	Mixed	Mixed
45 - 60	2	15, 13	Middle	After 1982
60 - 75	3	27, 24, 6	Mixed	Mixed
75 - 90	2	28, 19	Small	After 1990
90 - 105	1	3	Small	In 1991
105 and above	1	16	Middle	In 1990

- Details are given in Table – 5.4(iv)

Table – 5.4(iv) presents the increase in the size of enrolment in the private schools of Kohima during 1996-2000. It may be observed that different schools have exhibited different rates of growth. Four schools have exhibited decline in enrolment. They are: serial nos. 5, 8, 7 and 4. On the other hand, eight schools have experienced a sizeable (greater than 50 students per year) increase in the

rate of enrolment. They are: serial nos. 13, 27, 24, 6, 28, 19, 3, and 16, mostly established in the 1980's or afterwards and small or medial in size. A gist of the changes in enrolment is given in table – 5.4(iii).

**Table – 5.4(iv): Growth of No. of Students
in the Private Schools in Kohima, Nagaland (1996-2000).**

Sl No.	Year of Establish-ment.	Total No. of Students in the School 1996-2000					Growth	
		1996	1997	1998	1999	2000	Student per year	Annual Rate
1	1959	1355	1436	1608	1616	1534	44.75	3.3
2	1972	1480	1492	1503	1506	1536	14	0.94
3	1991	NA	365	409	513	645	93.33	25.57
4	1981	275	238	252	248	247	-7	-2.55
5	1968	NA	1686	1644	1697	1633	-17.67	-1.05
6	1972	450	500	550	636	749	74.75	16.61
7	1977	NA	148	125	104	123	-8.34	-5.64
8	1980	458	449	380	344	399	-14.75	-3.23
9	1969	1304	1298	1294	1342	1317	3.25	0.24
10	1993	125	140	153	160	202	19.25	15.4
11	1983	480	470	560	600	649	42.25	8.8
12	1987	610	610	624	601	642	8	1.31
13	1988	514	524	603	714	729	53.75	10.45
14	1985	251	268	272	270	369	29.5	11.75
15	1983	985	1002	1085	1102	1170	46.25	4.69
16	1990	394	613	772	988	1053	164.75	41.81
17	1993	62	78	96	112	162	25	40.32
18	1988	199	230	268	300	350	37.75	18.96
19	1993	516	597	657	786	865	87.25	16.9
20	1958	1985	1962	2056	2087	2145	40	2.01
21	1986	234	241	225	229	235	0.25	0.1
22	1987	512	541	600	650	672	40	7.81
23	1967	350	360	320	365	495	36.25	10.35
24	1974	1750	1780	1900	1930	2030	70	4
25	1964	1510	1522	1520	1525	1538	7	0.46
26	1974	640	645	650	650	654	3.5	0.54
27	1988	389	470	509	538	654	66.25	17.03
28	1991	115	145	200	270	450	83.75	72.82
29	1985	173	188	210	216	280	26.75	15.46
30	1984	500	521	510	506	522	5.5	1.1
Total		* 19800	20519	21555	22605	24049	* 1062	* 5.36

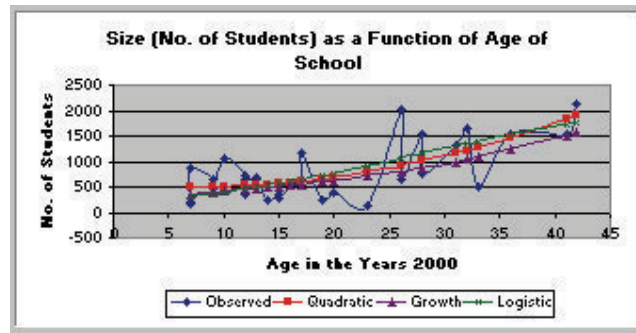
Note: Where the figures for 1996 are not available (NA), the figures for 1997 have been used. * = Estimated

5.5. Relationship between Age of a School and its Enrolment Size

We have seen that private schools started coming up in 1958 and the rate of entry (establishment of a new private school) accelerated during and after

1980's. As on today, there are private schools that are over 40 years old while there are others that are relatively middle-aged or young. It is pertinent to enquire if the age of a school matters in determining the size of its enrolment. There are a few points in favour of such an enquiry. First, that over the years schools earn reputation, partly due to the accomplishment of their students in the School Board Examinations and partly due to their internal management. They earn reputation due to the teaching staff that they employ and retain. Secondly, schools face problems of resource generation, resource management and capacity utilization. In the long run, schools can expand their capacity and teaching force. They may innovate better ways to serve their students as well as strengthen their position in the industry. Nevertheless, economies and diseconomies of scale are operative on the schools. Every school has a catchment area and a catchment population. By introducing school buses for fetching and dropping the students back home, catchment area may be expanded. But transportation has its cost in terms of money as well as time. All these considerations suggest that any school cannot possibly grow in size (of enrolment) beyond some limit.

The relationship between the age of a school and its enrolment size may be investigated by some type of curve fitting. First, we chose three types of curve to fit the data: (a) the Quadratic Curve, (b) the Growth Curve and (c) the Logistic Curve. The equations of the three said curves are given below:



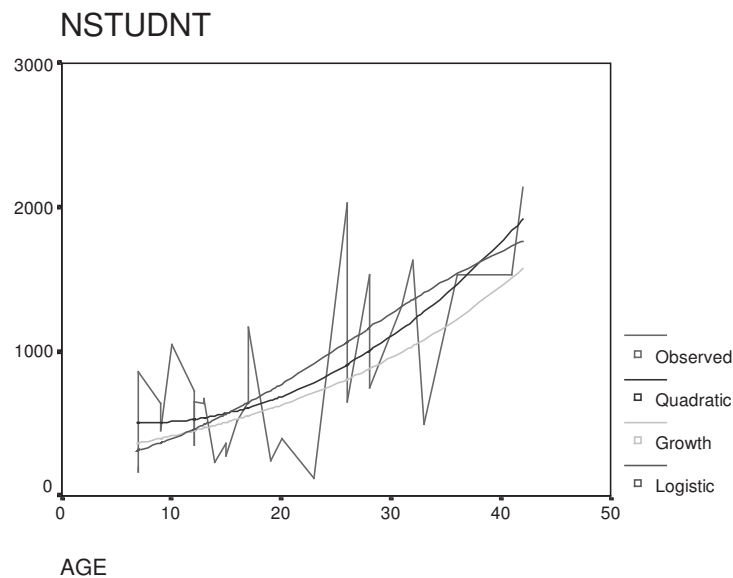
Quadratic : $F(t) = b_0 + b_1 t + b_2 t^2$; where $t = 1, 2, \dots, n$

Growth : $\text{Log}_e\{F(t)\} = b_0 + b_1 t$; where $t = 1, 2, \dots, n$

Logistic : $\text{Log}_e[\{F(t)\}^{-1} - (K)^{-1}] = \text{Log}_e\{b_0 + \text{Log}_e(b_1) t\}$; where $t = 1, 2, \dots, n$
and $0 < \text{Max}\{F(t)\} < K$. Here K is the upper bound of $F(t)$. Fitting of the Logistic curve requires that K is set by the analyst. We have used $K = 2200$.

Table 5.5(i). Statistical Relationship between Age of the a School and its Enrolment Size								
	b_0	b_1	b_2	R^2	F	Signif	df.	K
Quadratic	579.972	-18.67	1.203	.496	13.31	.000	27	-
Growth	5.6085	0.0418	-	.319	13.10	.001	28	-
Logistic	.0051	0.9132	-	.418	20.07	.000	28	2200

$F(t)$: No. of students (on Roll); Age = t (= 2000–Year of Establishment)



The relationship between the age of a school and its enrolment size may also be investigated by some other type of curve fitting. We chose two other curves to fit the data: (a) the Preece-Baines Curve, and (b) the Modified Preece-Baines Curve. The equations of the two said curves are given below:

Preece-Baines Curve : $F(t) = h_1 - (h_1 - h_0) / [0.5 \exp\{s_0(t - \phi)\} + 0.5 \exp\{s_1(t - \phi)\}]$.

Mod. Preece-Baines Curve : $F(t) = h_1 - (h_1 - h_0) / [k_0 \exp\{s_0(t - \phi)\} + (1 - k_0) \exp\{s_1(t - \phi)\}]$.

The difference between the (normal) Preece-Baines and the modified Preece-Baines equations is that while in the former k_0 is assumed to be equal to 0.5, in the latter it is estimated. The modified Preece-Baines equation is more flexible than the (normal) Preece-Baines equation.

The Preece-Baines curve has been very popular in Physical Anthropology where the (mean) height of persons (in the age-group 3 to 18 or 20) is regressed on age. Persons reach their maximum height at the age of maturity and different communities (anthropological types) have different maturity heights. We seek to draw a conclusion from Preece-Baines regarding the maturity size (enrolment) of private schools that have attained the t years of age, which may be a good age for maturity. We find that the normal Preece-Baines curve estimates the largest (enrolment) size of at 2471 and the critical age (ϕ) at about 26 years. However, the modified Preece-Baines curve suggests that 1368 is the maturity size with a critical age of 26 years.

Table 5.5(ii). Estimated Parameters of (normal) Preece-Baines Curve.

Parameter $R^2 = 0.499$	Estimate N = 30	Asymptotic Std. Err.	Confidence Interval (95%)	
			Lower	Upper
h_0	913.38612494	3134.7368612	-5542.725293	7369.4975433
h_1	2471.5803156	4907.3147051	-7635.223510	12578.384141
s_0	-0.018992857	0.122745018	-0.271790954	0.233805240
s_1	.088033397	.448763547	-.836212429	1.012279222
ϕ	25.879842327	60.299084365	-98.30844662	150.06813127

Starting points: $h_0=1200$, $h_1=1400$, $s_0=0.04$, $s_1=0.4$, $\phi=17$; Method of estimation : Non-linear Regression using Sequential Quadratic Programming (unconstrained).

Table 5.5(iii). Estimated Parameters of Modified Preece-Baines Curve.

Parameter $R^2 = 0.513$	Estimate N = 30	Asymptotic Std. Err.	Confidence Interval (95%)	
			Lower	Upper
h_0	1328.4540424	1327035703.4	-2745181179	2745183835.7
h_1	1368.3548878	180.22123550	995.53885745	1741.1709182
s_0	0.000000000	0.030773804	-0.063660464	0.063660464
s_1	6.296711440	941758.45264	-1948169.494	1948182.0870
ϕ	25.931687819	5541322.2758	-11463072.57	11463124.429
k_0	0.047082990	1565902.0006	-3239315.044	3239315.1377

Starting points: $h_0=130$, $h_1=170$, $s_0=0.2$, $s_1=0.8$, $\phi=18$, $k_0=0.5$, Constraint : All parameters $\Rightarrow 0$.
Method of estimation : Non-linear Regression using Sequential Quadratic Programming.

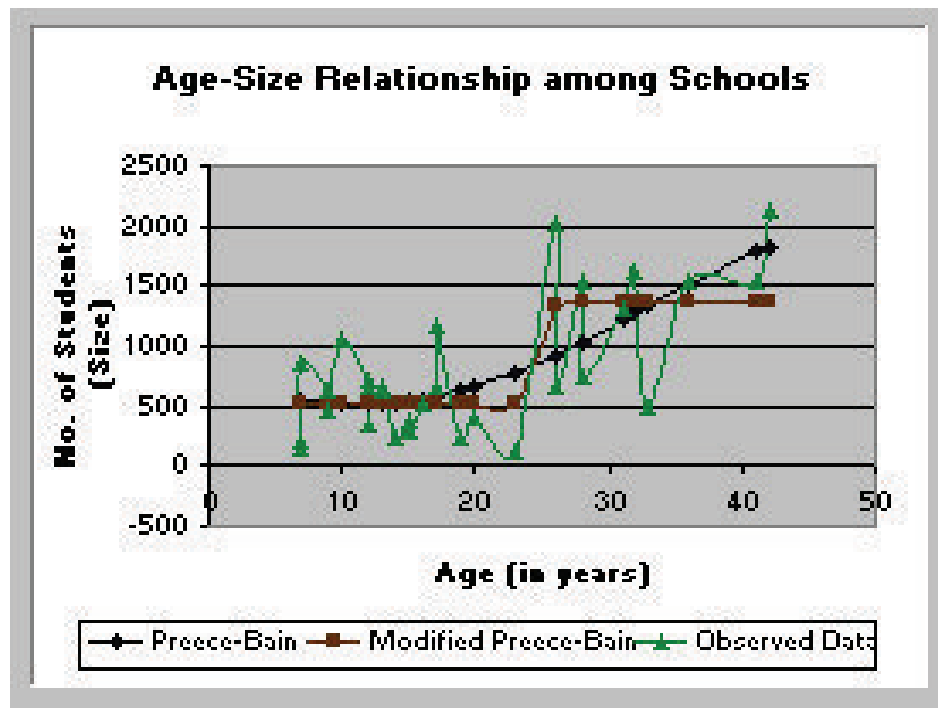


Table – 5.5(iv): Relationship between Age of the School and the Size (No. of Students): Growth Curves							
Year Estab- lishment	Age School in Year 2K	Total No. Students	Predicted/Estimated Number of Students by Curve Fitting				
			Preece-Baines		Quadratic	Growth	Logistic K = 2200
			Normal	Modified			
1959	41	1534	1784.471	1368.355	1836.772	1512.179	1729.044
1972	28	1536	1032.626	1368.355	1000.378	878.5067	1165.716
1991	9	645	528.9705	520.8971	509.388	397.2186	367.609
1981	19	247	622.427	520.8971	659.5331	603.1965	730.9894
1968	32	1633	1274.89	1368.355	1214.422	1038.285	1360.598
1972	28	749	1032.626	1368.355	1000.378	878.5067	1165.716
1977	23	123	770.7571	520.8973	786.9597	712.9031	917.6783
1980	20	399	653.4743	520.8971	687.7807	628.9291	775.9841
1969	31	1317	1213.355	1368.355	1157.302	995.804	1312.96
1993	7	202	549.1262	520.8971	508.2313	365.3791	315.2892
1983	17	649	572.8798	520.8971	610.2559	554.8466	645.1609
1987	13	642	522.5369	520.8971	540.5738	469.4629	492.6142
1988	12	729	519.3273	520.8971	529.1683	450.2548	458.7571
1985	15	369	539.8698	520.8971	570.6028	510.3723	565.5302
1983	17	1170	572.8798	520.8971	610.2559	554.8466	645.1609
1990	10	1053	522.7737	520.8971	513.5754	414.1641	396.2701
1993	7	162	549.1262	520.8971	508.2313	365.3791	315.2892
1988	12	350	519.3273	520.8971	529.1683	450.2548	458.7571
1993	7	865	549.1262	520.8971	508.2313	365.3791	315.2892
1958	42	2145	1831.627	1368.355	1917.952	1576.689	1761.795
1986	14	235	529.321	520.8971	554.3853	489.4904	528.212
1987	13	672	522.5369	520.8971	540.5738	469.4629	492.6142
1967	33	495	1336.345	1368.355	1273.948	1082.579	1407.223
1974	26	2030	919.868	1341.968	907.7929	808.0891	1065.88
1964	36	1538	1516.361	1368.355	1466.962	1227.124	1539.564
1974	26	654	919.868	1341.968	907.7929	808.0891	1065.88
1988	12	654	519.3273	520.8971	529.1683	450.2548	458.7571
1991	9	450	528.9705	520.8971	509.388	397.2186	367.609
1985	15	280	539.8698	520.8971	570.6028	510.3723	565.5302
1984	16	522	554.3463	520.8971	589.2263	532.145	604.5315

5.6 Size-Distribution of Private Schools in Kohima

A perusal of tables # 5.6(i) through 5.6(iv) suggests that about 40 percent of schools are small in size (from the viewpoint of enrolment having less than 600 students). Two schools are quite large with an enrolment over 1700 students.

Table – 5.6(i). SIZE DISTRIBUTION OF SCHOOLS

(According to the Enrolment of the total No. of Students)

Size Class	No. of Students	Frequency	Percent	Cumulative Percent
1	100 - 300	6	20.0	20.0
2	300 - 600	6	20.0	40.0
3	600 - 1000	9	30.0	70.0
4	1000 - 1700	7	23.3	93.3
5	1700 - 2200	2	6.7	100.0
Total	100 - 2200	30	100.0	

Table – 5.6(ii). SIZE DISTRIBUTION OF SCHOOLS

(According to the Enrolment of the total No. of Students in Lower, Secondary and Higher Secondary Classes)

Size Class	Number of Students	Frequency (Number of Schools)		
		Lower Classes	Secondary Classes	Higher Secondary
0	None	0	1	25
1	50 - 300	11	17	5
2	300 - 600	10	8	0
3	600 - 1000	7	4	0
4	1000 - 1300	2	0	0
Total		30	30	30

Table – 5.6(iii). SIZE DISTRIBUTION OF SCHOOLS

(According to the total No. of Teachers of Various Denominations)

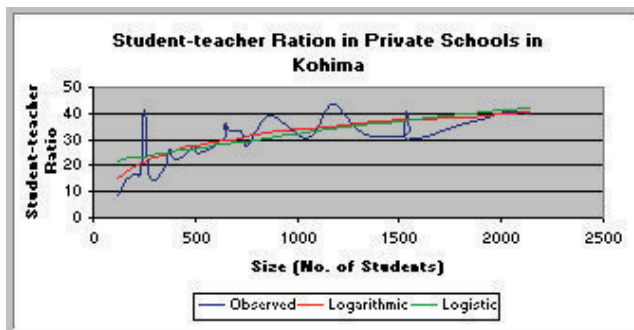
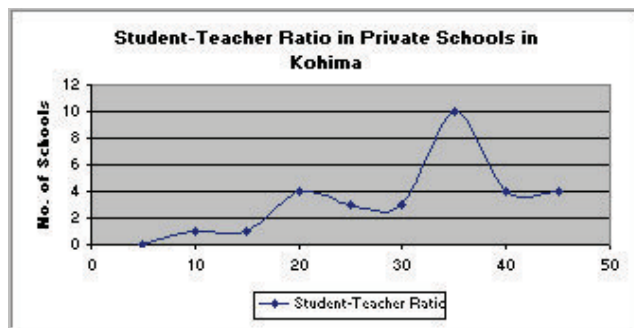
Size Class	Class (No. of Teachers)	Frequency (Number of Schools)			Class (No. of Teachers)	Frequency (Number of Schools)	
		Matriculate	Graduate	PG		Theology	Computer
0	None	1	0	7	None	13	13
1	1 - 5	4	1	16	1	8	9
2	6 - 10	15	10	6	2	5	5
3	11 - 15	6	8	1	3	2	2
4	16 - 20	2	5	0	4	1	1
5	21 - 25	2	1	0	5-6	0	0
6	26 - 30	0	2	0	6-7	0	0
7	31 - 40	0	3	0	8	1	0
Total		30	30	30		30	30

Five schools have teaching staff over 40 in number. Schools in the modal class employ 10 to 15 teachers and enroll 600 to 1000 students. The majority of schools employ 5 or less number of non-teaching staff. Larger schools have

higher student-teacher ratio in general. Distribution of schools according to the number of staff (teachers as well as non-teaching) is positively skewed.

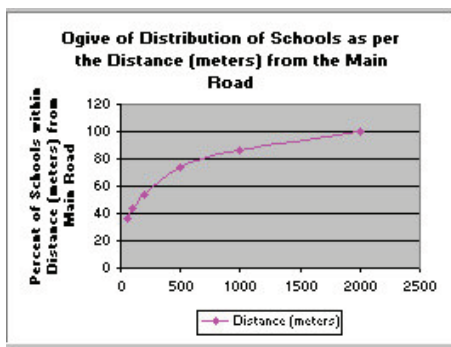
Table – 5.6(iv). SIZE DISTRIBUTION OF SCHOOLS
(According to the total No. of Teaching and Non-teaching Staff)

Size Class	Number of Staff	Frequency (Number of Schools)		
		Teaching	Non-teaching	Total Staff
0	None	0	1	0
1	0 -5	0	21	0
2	5 - 10	1	6	1
3	10 - 15	5	2	1
4	15 - 20	10	0	6
5	20 - 25	4	0	8
6	25 - 30	2	0	4
7	30 - 35	1	0	2
8	35 - 40	2	0	1
9	Above 40	5	0	7
Total		30	30	30

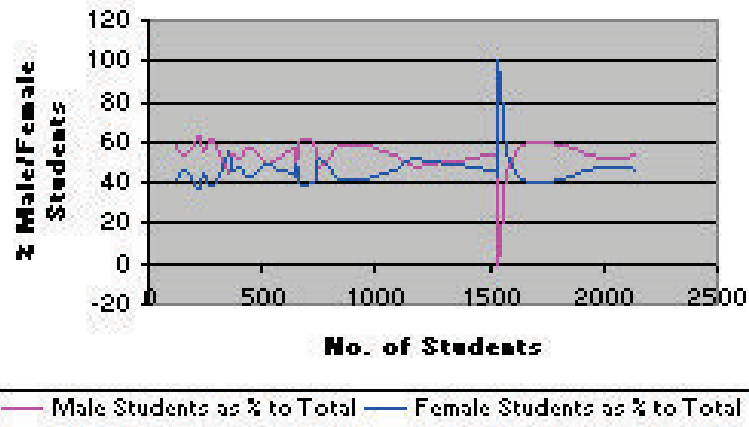


5.7. The Salient Features of Private Schools in Kohima

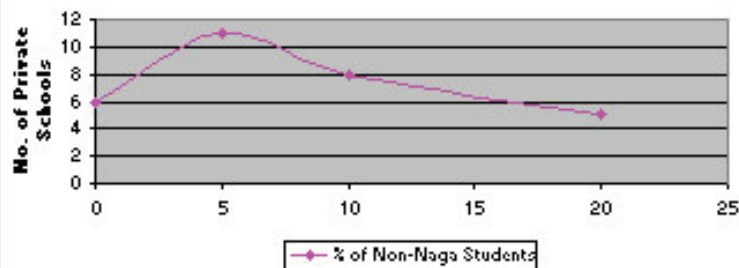
There are 12 (36%) schools in which students are mostly from modest economic background while the rest (18 schools = 64%) enroll students largely from a better off economic background. Almost $\frac{3}{4}$ of the total number of schools are within $\frac{1}{2}$ kilometer's distance from the main road. Except one (which is a girls' school), the schools provide for co-education. The percentage of the girls (in the total students) in the schools is within a range of 40 to 50 while the percentage of the boys lies in the range 50 to 60. Of the thirty schools, six schools have no non-Naga enrolment. Eleven schools have non-Naga students up to 5 percent. Thirteen schools have non-Naga enrolment within 10 to 20 percent. Except six schools, all others have a provision for Hindi as the second language. Eleven schools offer Tenyidie, a local (Naga) language, as the second language. In most of the schools % of female teachers exceed the % of male teachers. Larger schools have higher student/classroom and student/teacher ratios in general.



Sex-wise Distribution of Students in Private Schools in Kohima



Percentage of Non-Naga Students Enrolment in Private Schools in Kohima



Sex-wise Distribution of Teachers in Private Schools in Kohima

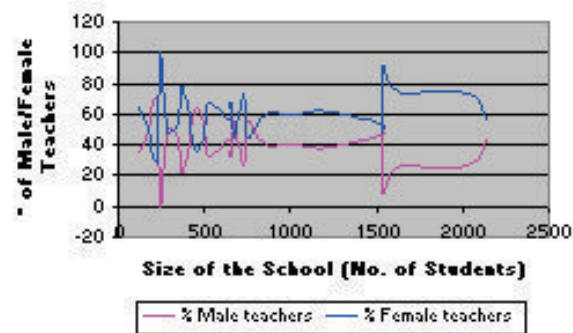


Table 5.7(i). Characteristics of the Private Schools in Kohima, Nagaland												
Sl no	Distance from Main Road	Ind Language		Type of The School	No. of Periods Taken (per day)			Co-Educ Ation (0 = girl only)	No. of Students in the Year 2000		Students Fromout side Naga land	Econ Back ground
		H	T		Low	Sec	HS		Male	Female		
1	20	1	2	1	6	7	7	1	815	719	84	2
2	1500	1	0	2	8	8	8	1	883	653	19	1
3	20	1	0	3	7	7	0	1	327	273	20	1
4	10	0	0	2	5	0	0	1	138	109	0	2
5	20	1	2	4	6	8	8	1	921	712	5	1
6	200	1	0	5	4	8	0	1	354	395	0	2
7	200	1	0	6	5	7	0	1	71	52	0	1
8	500	1	0	4	5	7	0	1	208	191	40	1
9	500	1	2	2	7	7	0	1	670	647	30	2
10	300	1	2	3	5	8	0	1	120	82	11	2
11	1000	1	2	3	7	8	0	1	354	295	61	2
12	2000	1	0	3	6	7	0	1	361	281	77	2
13	20	1	0	3	6	8	0	1	435	294	12	2
14	30	1	0	4	5	7	0	1	199	170	65	1
15	120	1	0	3	4	7	0	1	560	610	11	2
16	30	1	2	4	6	8	0	1	583	470	155	1
17	50	1	0	4	6	8	0	1	86	76	11	1
18	15	1	0	3	6	6	0	1	157	193	25	2
19	1500	0	0	2	4	7	0	1	509	356	0	1
20	100	1	2	3	6	8	8	1	1142	1003	5	2
21	50	0	0	3	4	6	0	1	148	87	22	1
22	1500	1	2	3	6	8	0	1	411	261	0	2
23	500	1	2	6	5	7	0	1	262	233	10	1
24	500	0	0	6	4	6	6	1	1050	980	30	2
25	1000	0	0	2	8	8	0	0	0	1538	100	2
26	1000	1	2	6	4	8	0	1	341	313	13	2
27	100	1	0	7	6	8	0	1	392	262	80	1
28	1000	1	0	3	5	7	0	1	255	195	7	2
29	500	1	0	3	4	7	0	1	173	107	25	2
30	50	0	2	4	6	8	0	1	261	261	0	2

Table 5.7(ii). Gender Ratios of Students and Teachers and Profitability

Model: Profit Rate = f(*,*)	N=29	Coefficient	Std. Err.	Beta	t value	Sig.
R ² = 0.552	(Constant)	-14.894	34.869		-.427	.673
F = 16.01	Ms/Mt	1.899	0.458	.547	4.146	.000
	Fs/Ft	4.384	1.272	.454	3.446	.002

Table 5.7(iii). Gender Ratios of Students and Teachers and Profitability

Model: Profit Rate = f(*,*)	N=29	Coefficient	Std. Err.	Beta	t value	Sig.
R ² = 0.242	(Constant)	46.093	42.704		1.079	.290
F = 4.16	Ms/Ft	3.685	1.303	.545	2.828	.009
	Fs/Mt	0.374	0.206	.350	1.813	.081

Ms/Ft = (Male Students/Female Teacher); Fs/Mt = (Female Student/Male Teacher)

**Table 5.7(iv). Gender-wise Distribution of
Students and Teachers in the Private Schools in Kohima, Nagaland**

Sl No	Teachers (Total)				Students (Total)				Student/Teacher Ratios		
	M	%	F	%	M	%	F	%	Ms/Mt	Fs/Ft	S/T
1	22	45.83	26	54.17	815	53.12	719	46.88	37.04	27.65	31.95
2	20	52.63	18	47.37	883	57.48	653	42.52	44.15	36.27	40.42
3	6	33.33	12	66.67	352	54.57	293	45.43	58.66	24.41	35.83
4	0	0	6	100	138	55.87	109	44.13	NA	18.16	41.16
5	13	24.52	40	75.48	921	56.39	712	43.61	70.84	17.80	30.81
6	15	55.55	12	44.45	354	47.26	395	52.74	23.60	32.91	27.74
7	5	35.71	9	64.29	71	57.72	52	42.28	14.20	5.77	8.78
8	6	33.33	12	66.67	208	52.13	191	47.87	34.66	15.91	22.16
9	16	40.00	24	60.00	670	50.87	647	49.13	41.87	26.95	32.92
10	8	66.66	4	33.34	120	59.40	82	40.60	15.00	20.50	16.83
11	7	35.00	13	65.00	354	54.54	295	45.46	50.57	22.69	32.45
12	9	42.85	12	57.15	361	56.23	281	43.77	40.11	23.41	30.57
13	6	27.27	16	72.73	435	59.67	294	40.33	72.50	18.37	33.13
14	3	21.42	11	78.58	199	53.92	170	46.08	66.33	15.45	26.35
15	10	37.03	17	62.97	560	47.86	610	52.14	56.00	35.88	43.33
16	14	40.00	21	60.00	583	55.36	470	44.64	41.64	22.38	30.08
17	5	45.45	6	54.55	86	53.08	76	46.92	17.20	12.66	14.72
18	8	44.44	10	55.56	157	44.85	193	55.15	19.62	19.30	19.44
19	9	40.90	13	59.10	509	58.84	356	41.16	56.55	27.38	39.31
20	24	44.44	30	55.56	1142	53.24	1003	46.76	47.58	33.43	39.72
21	10	71.42	4	28.58	148	62.97	87	37.03	14.80	21.75	16.78
22	11	55.00	9	45.00	411	61.16	261	38.84	37.36	29.00	33.60
23	10	55.55	8	44.45	262	52.92	233	47.08	26.20	29.12	27.50
24	13	26.00	37	74.00	1050	51.72	980	48.28	80.76	26.48	40.60
25	4	8.00	46	92.00	0	0	1538	100	0	33.43	30.76
26	7	35.00	13	65.00	341	52.14	313	47.86	48.71	24.07	32.70
27	6	33.33	12	66.67	392	59.93	262	40.07	65.33	21.83	36.33
28	12	63.15	7	36.85	255	56.66	195	43.34	21.25	27.85	23.68
29	9	50.00	9	50.00	173	61.78	107	38.22	19.22	11.88	15.55
30	7	33.33	14	66.67	261	50.00	261	50.00	37.28	18.64	24.85
All											
	295	38.51	471	61.49	12211	50.77	11838	49.23	41.39	25.13	31.39

Ms/Mt = Male Student Teacher Ratio, Fs/Ft = Female Student Teacher Ratio, S/T = Student Teacher Ratio.

**Table 5.7(v). Cumulative Frequency Distribution of Private Schools
as per No. of Class Rooms/All Rooms in the School Premises**

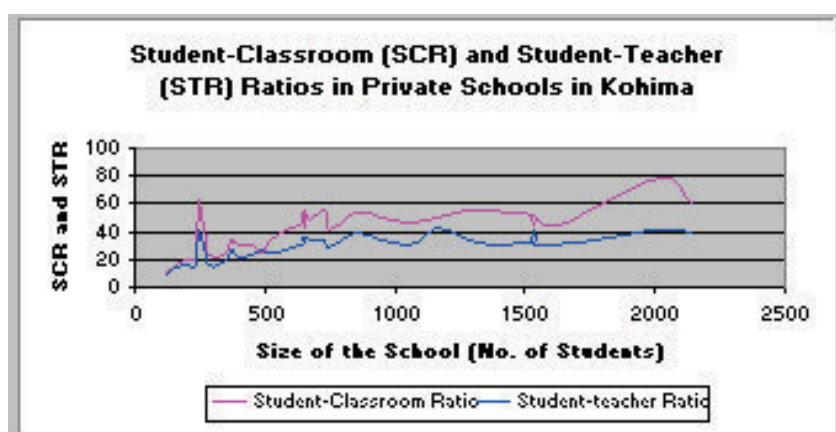
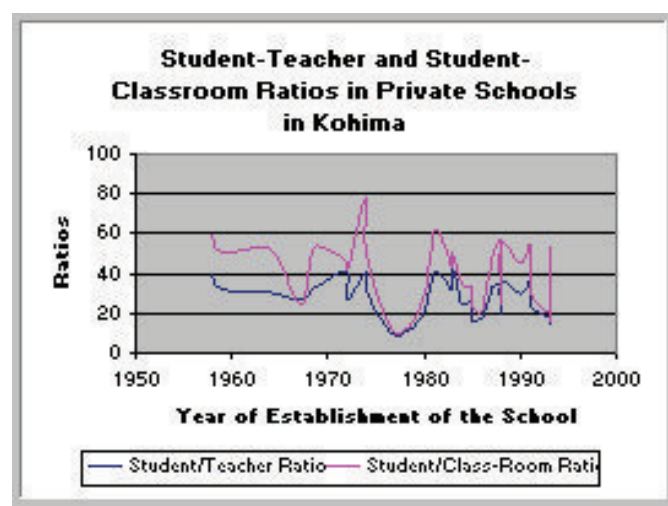
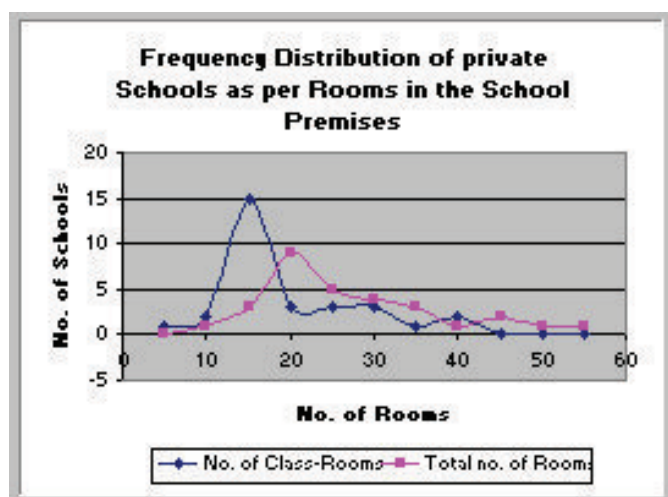
Class-rooms/All Rooms <= x	5	10	15	20	25	30	35	40	45	50	55
No. of Schools with [C] <= x	1	3	18	21	24	27	28	30	0	0	0
No. of Schools with [R] <= x	0	1	4	13	18	22	25	26	28	29	30

As we observe in the table# 5.7(v), eighteen (18) schools have at most 15 class rooms and 21 schools have at most 20 class rooms. Four schools have at most 15 rooms (in all, including the class rooms) and 13 schools have at most 20

rooms. The largest number of class rooms is 36 (falling in 35-40 range) and the largest number of Rooms is 51.

Table 5.7(vi). Infrastructure in the Private Schools in Kohima

Sl. No.	Various Types of Rooms in the School Building						Total no. of Rooms in the School Building [NR]	Total No. of Students	Student Class-Room Ratio
	Build-ing Type [BT]	No. Class Rooms [NC]	Office Room [NO]	Confe-rence Hall [CH]	Head's Room [HR]	Other Rooms [OR]			
1	1	30	3	1	1	7	42	1534	51.13
2	1	34	5	1	1	4	45	1536	45.17
3	3	12	1	1	1	2	17	645	53.75
4	1	4	0	1	1	2	8	247	61.75
5	2	36	4	0	2	5	47	1633	45.36
6	2	18	4	0	1	5	28	749	41.61
7	3	12	4	1	1	2	20	123	10.25
8	3	13	1	1	1	0	16	399	30.69
9	1	24	2	1	1	3	31	1317	54.87
10	2	10	2	1	1	2	16	202	20.2
11	2	15	3	1	1	0	20	649	43.26
12	2	14	4	1	3	1	23	642	45.85
13	1	13	3	1	1	2	20	729	56.07
14	1	11	1	1	1	1	15	369	33.54
15	3	23	4	1	2	1	31	1170	50.86
16	2	23	5	0	1	1	30	1053	45.78
17	2	10	2	0	1	1	14	162	16.2
18	1	14	2	0	1	4	21	350	25
19	1	16	1	1	1	2	21	865	54.06
20	2	36	10	1	2	2	51	2145	59.58
21	2	11	3	0	1	1	16	235	21.36
22	2	14	1	0	1	2	18	672	48
23	1	20	3	0	1	3	27	495	24.75
24	1	26	2	0	1	2	31	2030	78.07
25	1	30	4	1	1	4	40	1538	51.26
26	2	13	3	0	1	4	21	654	50.3
27	1	12	1	0	1	0	14	654	54.5
28	2	15	5	0	2	3	25	450	30
29	1	12	2	1	1	0	16	280	23.33
30	1	15	4	1	1	7	28	522	34.8



5.8. Co-curricular and Extra-curricular Facilities

Over and above teaching, most of the schools provide facilities for several co-curricular/extra-curricular activities to their students. Among such facilities they have (1) Science Club, (2) Media Club, (3) Music Concert, (4) Cultural Programme, (5) Philately, (6) Educational Tour, (7) Sales Day, (8) Games and Sports, (9) Scout Training, (10) Jr. Red-Cross, (11) Martial Art Training, and (12) Parents Day. Every school provides for a Parent day when they interact with the parents and guardians of the students to monitor the progress and the problems of the students.

These facilities may grossly be classified into two heads, the one related with the artistic, aesthetic or emotional development and the other related with external communication skill and physical development of the students. Introvert students may readily opt for the former while extrovert students often do better at the latter. This classification is not mutually exclusive. Accordingly, we have constructed two simple indices, ECUR(1) and ECUR(2), by a simple aggregation of the binary score given to these facilities denoting whether the school has the specified facility (1) or not (0). **ECUR(1)** includes Science Club, Media Club, Music Concert, Cultural Programme and Philately. **ECUR(2)** includes Educational Tour, Sales Day, Games and Sports, Scout Training, Jr. Red Cross Training and Martial Art Training.

**Table 5.8(i). Extra-curricular Facilities
in the Private Schools in Kohima, Nagaland**

Sl no	Sc. Club	Media Club	Music Concert	Cult Program	Philately	Educn Tour	Sales day	Game Sport	Scout	Red Cross	Mart Art
1	0	0	1	1	0	0	1	1	1	0	0
2	0	0	1	1	0	1	1	1	1	0	1
3	0	0	0	0	0	0	1	1	0	0	0
4	0	0	0	0	0	0	0	1	0	0	0
5	0	0	1	0	0	0	1	1	0	0	0
6	0	0	1	0	0	1	1	0	1	0	0
7	0	0	1	0	0	0	0	1	0	0	0
8	0	0	1	0	0	0	0	1	0	0	0
9	0	0	1	0	0	1	1	1	1	0	0
10	0	0	0	0	0	1	1	1	1	0	0
11	0	0	1	0	0	1	0	1	1	0	0
12	0	0	1	0	0	0	1	1	0	0	0
13	0	0	0	0	0	0	1	0	1	0	0
14	0	0	1	0	1	0	0	1	0	0	0
15	0	0	1	0	0	1	1	0	1	0	0
16	0	0	1	0	0	0	1	1	0	0	0
17	0	0	1	1	0	0	0	1	0	0	0
18	0	0	1	0	0	0	1	1	1	0	0
19	0	0	1	0	0	1	1	1	0	0	0
20	0	0	1	0	1	1	1	1	0	0	0
21	0	0	1	0	0	0	1	0	1	0	0
22	0	0	1	0	0	0	0	1	0	0	0
23	0	0	1	0	0	1	0	1	1	0	0
24	0	0	1	0	0	0	1	1	0	0	0
25	0	0	1	0	0	0	0	1	1	0	0
26	1	1	1	0	0	0	0	1	0	0	0
27	0	0	1	0	0	0	1	1	0	0	0
28	0	0	1	1	0	1	1	1	1	1	0
29	0	0	1	1	0	1	1	1	0	0	1
30	0	0	1	1	0	0	0	1	0	0	0

Note: Yes = 1 and No = 0. Define ECUR (1) = Sum(1,...,5) and ECUR (2) = Sum(6,...,11)

Although construction of the two indices, ECUR(1) and ECUR(2), by a simple aggregation of binary scores of facilities appear to be quite arbitrary and crude, factor analysis of the facilities attaches significant meaning to them. Media Club and Science Club identify with factor #1, while philately and Music Club identify with factor #5. Cultural Programme highly loads on factor #3. It is interesting to note that ECUR(1) is significantly correlated with factors #1, #5 and #3 and not (significantly) correlated with factors #2 and #4.

Table 5.8(ii). Factor Scores (Bartlett) of Extra-curricular Facilities in Private Schools, Kohima						Gross Measures Extra-cur Facilities	
Sl	Factor1	Factor2	Factor3	Factor4	Factor5	ECUR(1)	ECUR(2)
1	-0.26826	-0.09018	0.65168	0.70532	-0.62515	2	3
2	0.0226	0.90552	3.30843	-0.41464	0.10848	2	5
3	-0.50047	-0.42941	-0.34782	-0.8016	-1.36881	0	2
4	-0.39805	-1.04466	-0.57253	-0.52618	-1.35	0	1
5	-0.28562	-0.50217	-0.1488	-0.33905	-0.1345	1	2
6	0.14978	2.1306	-0.50603	-0.26358	0.17002	1	3
7	-0.1832	-1.11742	-0.37351	-0.06363	-0.11569	1	1
8	-0.1832	-1.11742	-0.37351	-0.06363	-0.11569	1	1
9	-0.0573	0.97823	-0.06084	0.14983	0.43338	1	4
10	-0.27215	1.05098	-0.25986	-0.31273	-0.80093	0	4
11	0.04512	0.36298	-0.28555	0.42525	0.45219	1	3
12	-0.28562	-0.50217	-0.1488	-0.33905	-0.1345	1	2
13	-0.19081	1.47458	-0.96739	-0.81688	-1.79059	0	2
14	-0.41179	-1.03184	-0.93607	-0.53211	2.70228	2	1
15	0.14978	2.1306	-0.50603	-0.26358	0.17002	1	3
16	-0.28562	-0.50217	-0.1488	-0.33905	-0.1345	1	2
17	-0.26843	-1.45704	0.60136	0.58261	-0.44791	2	1
18	-0.18304	0.24945	-0.32319	0.05909	-0.29292	1	3
19	-0.15988	0.22661	0.11354	-0.24831	0.5918	1	3
20	-0.38847	0.31219	-0.44902	-0.71679	3.40977	2	3
21	0.02404	1.40183	-0.76838	-0.35432	-0.55628	1	2
22	-0.1832	-1.11742	-0.37351	-0.06363	-0.11569	1	1
23	0.04512	0.36298	-0.28555	0.42525	0.45219	1	3
24	-0.28562	-0.50217	-0.1488	-0.33905	-0.1345	1	2
25	-0.08062	-0.3658	-0.54789	0.33451	-0.27411	1	2
26	5.22363	-0.57812	-0.1559	-0.11928	0.00173	3	1
27	-0.28562	-0.50217	-0.1488	-0.33905	-0.1345	1	2
28	-0.15468	0.57674	0.07744	4.80446	0.21543	2	5
29	-0.07999	0.1539	3.48281	-0.81278	0.2669	2	4
30	-0.26843	-1.45704	0.60136	0.58261	-0.44791	2	1
The coefficient of Correlation [r] between Factor Scores and Gross Measures of Welfare Facilities							
r	0.482**	-0.207	0.443*	0.310	0.507**	1.000	0.065
	-0.149	0.678**	0.477**	0.334	0.144	0.065	1.000

Significance of the coefficient of correlation : ** = 1%, * = 5% (2-tailed)

On the other hand, factor #2 identifies with Scouts Training, Games & Sports, Educational Tour and Sales Day. Factor #4 identifies with Jr. Red Cross Training and Cultural Programme. Martial Art Training loads heavily on factor #3. Now it is interesting to observe that ECUR(2) correlates highly with factors #2 and #3, but not with other factors. Factor #4 is almost equally correlated (though not significant at 5%) with ECUR(1) and ECUR (2) both. On the basis

of this one may consider ECUR (1) and ECUR (2) as reliably representative indices, though constructed by a simple aggregation.

Table 5.8(iii). Rotated Component (Factor) Matrix
[Extraction - Principal Components; Rotation – Varimax; Loadings < 0.3 uppressed]

	Factor1	Factor2	Factor3	Factor4	Factor5
MEDIACLB	.987				
SC_CLUB	.987				
SCOUTS		.764		.306	
GAMESPRT		-.712			
ED_TOUR		.647	.326		.385
SALESDAY		.602			
MARTART			.923		
CULTPGM			.739	.462	
JREDCROS				.907	
PHILATEL					.831
MUSCNCRT					.530

Table 5.8(iv). Component Score Coefficient Matrix

	Factor1	Factor2	Factor3	Factor4	Factor5
CULTPGM	-.035	-.138	.397	.263	-.135
ED_TOUR	.062	.357	.129	.044	.356
GAMESPRT	-.072	-.398	.154	.143	.091
JREDCROS	-.002	-.011	-.153	.732	.021
MARTART	.042	.068	.607	-.307	.002
MEDIACLB	.494	.049	.020	-.005	.011
MUSCNCRT	.074	-.025	.069	.160	.427
PHILATEL	-.058	.022	-.143	-.119	.715
SALESDAY	-.050	.302	.110	-.135	-.009
SC_CLUB	.494	.049	.020	-.005	.011
SCOUTS	.052	.379	-.088	.201	-.080
Var %	23.234	16.779	14.861	10.148	9.753
Cum Var %	23.234	40.012	54.874	65.022	74.775

5.9. Capacity Utilization in the Schools

The capacity of a school in enrolling the students is primarily defined by the number of class-rooms available with the school. It is easier to expand the manpower (the teachers and the non-teaching staff) than to expand space, rooms or the physical infrastructure. Once a school starts with some initial

physical infrastructure, it takes it as a given limiting factor and tries to optimize the returns with an increase in the size of the manpower. In the long run, however, capacity expansion is made. In the short run, ever-increasing scale of operation (enrolment of a larger number of students) often leads to crowding on the physical infrastructure. Once overcrowding exceeds a tolerable limit, either the increase in the scale of operation stops or the management goes in for the capacity expansion.

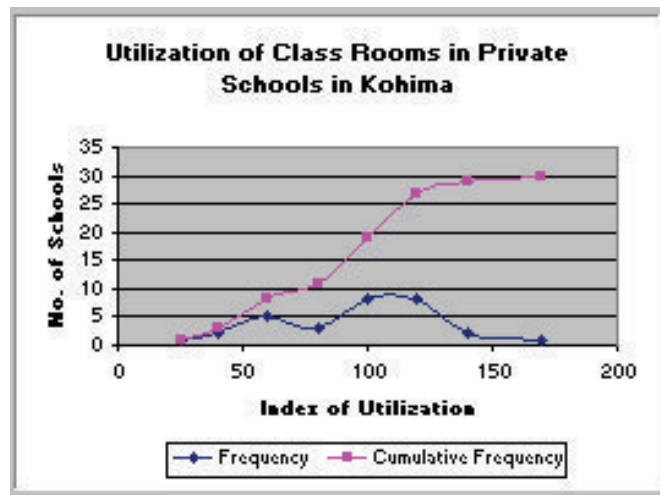


Table 5.9(i). Utilization of Class-Rooms in Private Schools in Kohima

Index of Utilization of Class-Rooms	25	40	60	80	100	120	140	170
No. of Schools with [UP] = x	1	2	5	3	8	8	2	1
No. of Schools with [UP] <= x	1	3	8	11	19	27	29	30

To estimate the extent of (physical) capacity utilization we have assumed that the optimal class size (no. of students sitting together in a room while attending the class teaching of a teacher in a particular period) for the lower and the secondary standards is 50, while the optimal class size for the higher secondary standard is 35. If the enrolment in any class exceeds the relevant size

significantly, the management starts a new section, whose classes are conducted in another room and attended to by another teacher. With this assumption we define: $R_x = (\text{No. of enrolment in a particular category } x) / M(x)$, where $x = 1$ for Lower classes, 2 for Secondary classes and 3 for Higher Secondary classes. $M(x) = 50$ for the Lower and the Secondary classes and $M(x) = 35$ for the Higher Secondary classes. Then, $R = \Sigma[\text{ROUND}(R_x + \eta, 0)]$, where the summation is done over $x = 1, 2, 3$ and $\eta = 0.1$, which is the value of the laxity factor. The $\text{ROUND}(*, 0)$ function rounds off $(R_x + \eta)$ to the nearest integer. Since the value of η is $= 0.1$, $R_x = 1.4$ is rounded off to 2 while $R_x < 1.4$ is rounded off to 1. That means that if the no. of students in a Secondary class (say, class IX) is $= 50 \times (1.4) = 70$, a new section is created and the students are divided into two sections and seated in two rooms. This number for the Higher Secondary classes would be $= 35 \times (1.4) = 49$. In this formula the laxity factor (η) takes care of the ease in crowding of a class due to some students being absent, which, normally may not be more than 10 percent for any period (except in those schools with lax conditions of attendance where absenteeism may exceed 10%). Here R gives the number of class rooms required to accommodate the students enrolled in a school. The ratio of required rooms to available rooms (here UP) gives the index of utilization of class-rooms. This index is presented in the table 5.9(ii). It appears that, overall, infrastructure is

fully (or somewhat over-) utilized. The estimated maximum value of UP = 125 (in the School # 20) and the minimum value of UP = 25 (in the School # 7).

**Table 5.9(ii). Utilization of Class Rooms
in Private Schools, Kohima, Nagaland**

Sl No	No. of Students			Classroom Requirement = RX **			No. of Classrooms		Classroom utilization [UP]
	Low	Sec	HS	Low	Sec	HS	Exist	Reqd = R *	
1	804	589	141	16.08	11.78	4.02	30	32	106
2	883	584	69	17.66	11.68	1.97	34	32	94
3	446	199	0	8.92	3.98	0	12	13	108
4	247	0	0	4.94	0	0	4	5	125
5	887	620	126	17.74	12.4	3.6	36	35	97
6	531	218	0	10.62	4.36	0	18	15	83
7	87	36	0	1.74	0.72	0	12	3	25
8	215	184	0	4.3	3.68	0	13	8	61
9	779	538	0	15.58	10.76	0	24	27	112
10	151	51	0	3.02	1.02	0	10	4	40
11	330	319	0	6.6	6.38	0	15	13	86
12	320	322	0	6.4	6.44	0	14	14	100
13	542	187	0	10.84	3.74	0	13	15	115
14	282	87	0	5.64	1.74	0	11	8	72
15	770	400	0	15.4	8	0	23	24	104
16	564	489	0	11.28	9.78	0	23	21	91
17	118	44	0	2.36	0.88	0	10	3	30
18	249	101	0	4.98	2.02	0	14	7	50
19	656	209	0	13.12	4.18	0	16	17	106
20	1252	643	250	25.04	12.86	7.14	36	45	125
21	163	72	0	3.26	1.44	0	11	5	45
22	390	282	0	7.8	5.64	0	14	14	100
23	290	205	0	5.8	4.1	0	20	10	50
24	1141	725	164	22.82	14.5	4.68	26	43	165
25	870	668	0	17.4	13.36	0	30	31	103
26	349	305	0	6.98	6.1	0	13	13	100
27	401	253	0	8.02	5.06	0	12	13	108
28	255	195	0	5.1	3.9	0	15	9	60
29	170	110	0	3.4	2.2	0	12	6	50
30	330	192	0	6.6	3.84	0	15	11	73
Av	482	304	150	9.65	6.09	3.48	18	19	106

5.10. Utilization of Teaching Force

Construction of an index that measures utilization of the teaching force in schools is much more involved than the construction of a similar index for utilization of the physical infrastructure like class-rooms (that we have already

accomplished). This is so due to many reasons. First, unlike the physical infrastructure, teachers are human beings, more prone to fatigue due to over-work and more susceptible to occurrence of *moral hazards* if not very happy with the work conditions. Secondly, teachers are much more specialized resources than the class-rooms. Any class-room may be substituted for any other class-room if it can accommodate a required number of students. A teacher cannot normally, for long and arbitrarily be substituted for another teacher because (for example) a physics teacher cannot be asked for to teach history and vice versa. Similarly, matriculate teachers cannot normally engage Higher Secondary classes. Thirdly, equality in work-load distribution among the teachers cannot be achieved beyond some reasonable limit. This element of X-efficiency speaks on the allocative efficiency that a school may achieve in the optimal utilization of teaching force. Fourthly, more experienced teachers are normally more skilled since experience and knowledge are embodied capital. Experience thus leads to capital formation. This is not so with the physical infrastructure. Older class-rooms or furniture are seldom better in quality. Thus, while the older teachers usually appreciate, the older class-rooms (or furniture) normally depreciate.

For working out the degree or extent of utilization of teaching force, first we find out the *Mean Class-Size*, which is the average number of students per standard. If a school has say, 1500 students and the highest standard of the

school is Class X (the school teaches students from Class I to Class X), then the Mean Class-Size is $1500/10 = 150$. If the school runs 6 periods (a day) for lower classes and 7 periods (a day) for secondary classes, the *Mean Period* = $(7*6 + 3*7)/10 = 63/10 = 6.3$. Since the Mean Class-Size is 150, the need for *Sections* = $150/50 = 3$. Then the *Requirements* for teacher periods to run 3 sections of 10 standards for 6.3 mean periods = $3*10*6.3 = 189$. Now, suppose that the school has 30 teachers, who, teaching 6 periods per day (= $6*45 = 270$ minutes = $4\frac{1}{2}$ hours a day of teaching hours), may *supply* 180 hours every day. The school thus has a *deficit* of *supply – requirement* = $180 - 189 = (-9)$ periods. This deficit is too small to induce the school to employ a new teacher. Therefore, we would say that the school fully utilizes the teaching force. The *coefficient of utilization* of teaching force in the school is = $189/180 = Requirement/Supply = 1.05$. More generally, let us define the following terms (Given : π_1, π_2, π_3, S and N):

π_1 = The number of periods (per day) given to the students of Lower classes.

π_2 = The number of periods (per day) given to the students of Secondary classes.

π_3 = The number of periods (per day) given to the student of Higher Secondary classes.

S = The highest standard of the school (e.g. 10 if up to class X, 12 if up to class XII).

N = Total number of Students in a school.

$X_1 = N/S = \text{Mean Class Size}$

$X_2 = \pi_1$ if $S < 8$; $X_2 = (7\pi_1 + \pi_2)/8$ if $S = 8$; $X_2 = (7\pi_1 + 2\pi_2)/9$ if $S = 9$;

$X_2 = (7\pi_1 + 3\pi_2)/10$ if $S = 10$; $X_2 = (7\pi_1 + 3\pi_2 + 2\pi_3)$ if $S = 12$. = Mean Period.

$X_3 = 1$ if $X_1 \leq 50$; $X_3 = 2$ if $50 < X_1 \leq 100$; $X_3 = 3$ if $100 < X_1 \leq 150$;

$X_3 = 4$ if $150 < X_1 \leq 200$. = Sections.

$X_4 = R = S * X_2 * X_3 = \text{Highest Standard} * \text{Mean Period} * \text{Sections}$. = Requirements

Y_h = Total no. of teachers in the school * No. of periods (per day) taken by a teacher = $T * h$; $h = H-3$; $H = 4, 5, 6$ or 7 ; normally 6 . = Supply of Periods

$D_i = (Y_i - R) = (\text{Supply} - \text{Requirements}) = \text{Surplus/Deficit of periods.}$
The *coefficient of utilization* of teaching force $= v = \text{Requirement/Supply} = (R/Y_i)$.

It is pertinent to note that Y_i depends on the policy of the school regarding the average number of periods (a day) given to the teachers. Usually, it is worked out on a weekly basis. It is common to assume that teachers work 40 hours a week (of 6 working days), which is $= 40/6 = 6.67$ hours per work-day. If a period spans through 45 minutes $= 0.75$ hours, the total no. of *periods per teacher per day* may be equal to $6.67/0.75 = 8.89$ periods. This is, perhaps, the highest possible limit of the utilization of teaching force, which cannot be achieved in practice. Usually, teachers have two leisure periods every day. This makes the (practicable) upper limit of *periods per teacher per day* $= 6.89$ periods. We have already mentioned that due to rigidities and considerations of several types, there is an in-built room for under-utilization of teaching force. Hence, in practice, the realizable periods per teacher per day is 6 periods. The residual $(6.89 - 6 = 0.89)$ is explicable by the *X-efficiency* factor.

In view of considerations mentioned above, we have computed the Deficit/Surplus of teaching force in the private schools in Kohima. Four estimates have been tabulated, for 4, 5, 6 and 7 periods per teacher per day. Taking 6 periods a day as the standard supply of teaching periods, we find that in ten schools the coefficient of utilization of teaching force is up to 0.7, in 18 schools it is up to 0.9 and in 22 schools it is up to 1.0. Eight schools have the

coefficient of utilization of the teaching force greater than unity. Four schools have the coefficient larger than 1.2 where teachers are grossly over-utilized (schools #2, #3, #11 and #27).

Table 5.10(i). No. of Private Schools with Coeff. of Utilization of Teaching Force (based on 6 periods a day)									
v up to	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3
No. of Schools	4	8	10	14	18	22	26	26	30

Table 5.10(ii). Estimated Requirements of No. of Sections and No. of Periods/ Day									
Sl no	Standard of the School	No. of students	Student/ standard [X₁]	No. of Periods of Teaching Per day				Required	
				Lower [π₁]	Sec. [π₂]	H Sec. [π₃]	Mean [X₂]	Sections [X₃]	Periods [R]
1	12	1534	127.8	6	7	7	6.42	3	231
2	12	1536	128.0	8	8	8	8.00	3	288
3	10	645	64.5	7	7	0	7.00	2	140
4	2	247	123.5	5	0	0	5.00	3	30
5	12	1633	136.1	6	8	8	6.83	3	246
6	10	749	74.9	4	8	0	5.20	2	104
7	10	123	12.3	5	7	0	5.60	1	56
8	10	399	39.9	5	7	0	5.60	1	56
9	10	1317	131.7	7	7	0	7.00	3	210
10	8	202	25.3	5	8	0	5.38	1	43
11	10	649	64.9	7	8	0	7.30	2	146
12	10	642	64.2	6	7	0	6.30	2	126
13	10	729	72.9	6	8	0	6.60	2	132
14	8	369	46.1	5	7	0	5.25	1	42
15	10	1170	117	4	7	0	4.90	3	147
16	10	1053	105.3	6	8	0	6.60	3	198
17	8	162	20.3	6	8	0	6.25	1	50
18	10	350	35	6	6	0	6.00	1	60
19	10	865	86.5	4	7	0	4.90	2	98
20	12	2145	178.8	6	8	8	6.83	4	328
21	9	235	26.1	4	6	0	4.44	1	40
22	10	672	67.2	6	8	0	6.60	2	132
23	10	495	49.5	5	7	0	5.60	1	56
24	12	2030	169.2	4	6	6	4.83	4	232
25	10	1538	153.8	8	8	0	8.00	4	320
26	10	654	65.4	4	8	0	5.20	2	104
27	10	654	65.4	6	8	0	6.60	2	132
28	10	450	45	5	7	0	5.60	1	56
29	10	280	28	4	7	0	4.90	1	49
30	10	522	52.2	6	8	0	6.60	2	132

Table 5.10(iii). Estimated Requirements of No. of Sections and No. of Periods/Day										
Sl no	Total No. of Teachers	Feasible Supply of Total No. of Teacher-Periods per Day @ h periods				Required Periods [X ₄]	Deficit/Surplus of Periods D _i = [Y _i – R]			
		Four [Y ₁]	Five [Y ₂]	Six [Y ₃]	Seven [Y ₄]		Four [D ₁]	Five [D ₂]	Six [D ₃]	Seven [D ₄]
1	48	192	240	288	336	231	-39	9	57	105
2	38	152	190	228	266	288	-136	-98	-60	-22
3	18	72	90	108	126	140	-68	-50	-32	-14
4	6	24	30	36	42	30	-6	0	6	12
5	53	212	265	318	371	246	-34	19	72	125
6	27	108	135	162	189	104	4	31	58	85
7	14	56	70	84	98	56	0	14	28	42
8	18	72	90	108	126	56	16	34	52	70
9	40	160	200	240	280	210	-50	-10	30	70
10	12	48	60	72	84	43	5	17	29	41
11	20	80	100	120	140	146	-66	-46	-26	-6
12	21	84	105	126	147	126	-42	-21	0	21
13	22	88	110	132	154	132	-44	-22	0	22
14	14	56	70	84	98	42	14	28	42	56
15	27	108	135	162	189	147	-39	-12	15	42
16	35	140	175	210	245	198	-58	-23	12	47
17	11	44	55	66	77	50	-6	5	16	27
18	18	72	90	108	126	60	12	30	48	66
19	22	88	110	132	154	98	-10	12	34	56
20	54	216	270	324	378	328	-112	-58	-4	50
21	14	56	70	84	98	40	16	30	44	58
22	20	80	100	120	140	132	-52	-32	-12	8
23	18	72	90	108	126	56	16	34	52	70
24	50	200	250	300	350	232	-32	18	68	118
25	50	200	250	300	350	320	-120	-70	-20	30
26	20	80	100	120	140	104	-24	-4	16	36
27	18	72	90	108	126	132	-60	-42	-24	-6
28	19	76	95	114	133	56	20	39	58	77
29	18	72	90	108	126	49	23	41	59	77
30	21	84	105	126	147	132	-48	-27	-6	15

Table 5.10(iv). Size of Students Population in Private Schools Utilization of Teacher Periods and Deficit/Surplus									
No of Students	Deficit/Surplus of Periods D _i = [Y _i – R]				No of Students	Deficit/Surplus of Periods D _i = [Y _i – R]			
	Four [D ₁]	Five [D ₂]	Six [D ₃]	Seven [D ₄]		Four [D ₁]	Five [D ₂]	Six [D ₃]	Seven [D ₄]
123	0	14	28	42	<i>Five-item Moving Averages</i>				
162	-6	5	16	27					
202	5	17	29	41	193.8	1.8	13.2	24.6	36
235	16	30	44	58	225.2	6.4	18.6	30.8	43

247	-6	0	6	12	262.8	10	23.6	37.2	50.8
280	23	41	59	77	296.2	11.8	25.8	39.8	53.8
350	12	30	48	66	329	11.8	26.6	41.4	56.2
369	14	28	42	56	369.6	17	34.4	51.8	69.2
399	16	34	52	70	412.6	15.6	33	50.4	67.8
450	20	39	58	77	447	3.6	21.6	39.6	57.6
495	16	34	52	70	501.6	-7.6	11.8	31.2	50.6
522	-48	-27	-6	15	550.8	-24.4	-5	14.4	33.8
642	-42	-21	0	21	590.6	-41.6	-22	-2.4	17.2
645	-68	-50	-32	-14	622.4	-49.6	-29.6	-9.6	10.4
649	-66	-46	-26	-6	648.8	-52	-32.6	-13.2	6.2
654	-24	-4	16	36	654.8	-54	-34.8	-15.6	3.6
654	-60	-42	-24	-6	671.6	-49.2	-29.2	-9.2	10.8
672	-52	-32	-12	8	691.6	-35.2	-13.8	7.6	29
729	-44	-22	0	22	733.8	-32.4	-10.6	11.2	33
749	4	31	58	85	813.6	-32	-6.8	18.4	43.6
865	-10	12	34	56	913.2	-29.4	-2.8	23.8	50.4
1053	-58	-23	12	47	1030.8	-30.6	-0.4	29.8	60
1170	-39	-12	15	42	1187.8	-39.2	-4.8	29.6	64
1317	-50	-10	30	70	1322	-64.4	-26.8	10.8	48.4
1534	-39	9	57	105	1419	-76.8	-36.2	4.4	45
1536	-136	-98	-60	-22	1511.6	-75.8	-30	15.8	61.6
1538	-120	-70	-20	30	1654.2	-72.2	-24.4	23.4	71.2
1633	-34	19	72	125	1776.4	-86.8	-37.8	11.2	60.2
2030	-32	18	68	118					
2145	-112	-58	-4	50					

Table 5.10(v). Size of Teaching Force in Private Schools Utilization of Teacher Periods and Deficit/Surplus									
No of Teachers	Deficit/Surplus of Periods				No of Teachers	Deficit/Surplus of Periods			
	D _i = [Y _i – R]					D _i = [Y _i – R]			
	Four [D ₁]	Five [D ₂]	Six [D ₃]	Seven [D ₄]		Four [D ₁]	Five [D ₂]	Six [D ₃]	Seven [D ₄]
6	-6	0	6	12	Five-item Moving Averages				
11	-6	5	16	27					
12	5	17	29	41					
14	0	14	28	42	11.4	1.4	12.8	24.2	35.6
14	14	28	42	56	13	5.8	18.8	31.8	44.8
14	16	30	44	58	14.4	-6.6	7.8	22.2	36.6
14	16	30	44	58	15.6	-4.4	11.2	26.8	42.4
18	-68	-50	-32	-14	16.4	-2	14.4	30.8	47.2
18	16	34	52	70	17.2	-1.6	15.6	32.8	50
18	12	30	48	66	18	-16.8	1.2	19.2	37.2
18	16	34	52	70	18	1.4	19.4	37.4	55.4
18	-60	-42	-24	-6	18.2	2.2	20.4	38.6	56.8
18	23	41	59	77	18.6	-13.4	5.2	23.8	42.4
19	20	39	58	77	19	-27	-8	11	30
20	-66	-46	-26	-6	19.4	-19.8	-0.4	19	38.4
20	-52	-32	-12	8	20	-32.8	-12.8	7.2	27.2
20	-24	-4	16	36	20.4	-46.4	-26	-5.6	14.8
21	-42	-21	0	21	20.8	-42	-21.2	-0.4	20.4
21	-48	-27	-6	15	21.2	-33.6	-12.4	8.8	30
22	-44	-22	0	22	22.6	-28	-5.4	17.2	39.8

22	-10	12	34	56	23.8	-27.4	-3.6	20.2	44
27	4	31	58	85	26.6	-29.4	-2.8	23.8	50.4
27	-39	-12	15	42	29.8	-47.8	-18	11.8	41.6
35	-58	-23	12	47	33.4	-55.8	-22.4	11	44.4
38	-136	-98	-60	-22	37.6	-64.4	-26.8	10.8	48.4
40	-50	-10	30	70	42.2	-63	-20.8	21.4	63.6
48	-39	9	57	105	45.2	-75.4	-30.2	15	60.2
50	-32	18	68	118	48.2	-55	-6.8	41.4	89.6
50	-120	-70	-20	30	51	-67.4	-16.4	34.6	85.6
53	-34	19	72	125					
54	-112	-58	-4	50					

Table 5.10(vi). Coefficient of Utilization of Teaching Force in Private Schools in Kohima														
Sl no	Coef of Utilizn of Teach Force				Sl no	Coef of Utilizn of Teach Force				Sl no	Coef of Utilizn of Teach Force			
	Y ₁	Y ₂	Y ₃ [*]	Y ₄		Y ₁	Y ₂	Y ₃ [*]	Y ₄		Y ₁	Y ₂	Y ₃ [*]	Y ₄
1	1.2	0.96	0.80	0.68	11	1.82	1.46	1.21	1.04	21	0.71	0.57	0.47	0.4
2	1.89	1.51	1.26	1.08	12	1.5	1.2	1.00	0.85	22	1.65	1.32	1.10	0.94
3	1.94	1.55	1.29	1.11	13	1.5	1.2	1.00	0.85	23	0.77	0.62	0.51	0.44
4	1.25	1	0.83	0.71	14	0.75	0.6	0.50	0.42	24	1.16	0.92	0.77	0.66
5	1.16	0.92	0.77	0.66	15	1.36	1.08	0.90	0.77	25	1.6	1.28	1.06	0.91
6	0.96	0.77	0.64	0.55	16	1.41	1.13	0.94	0.8	26	1.3	1.04	0.86	0.74
7	1	0.8	0.66	0.57	17	1.13	0.9	0.75	0.64	27	1.83	1.46	1.22	1.04
8	0.77	0.62	0.51	0.44	18	0.83	0.66	0.55	0.47	28	0.73	0.58	0.49	0.42
9	1.31	1.05	0.87	0.75	19	1.11	0.89	0.74	0.63	29	0.68	0.54	0.45	0.38
10	0.89	0.71	0.59	0.51	20	1.51	1.21	1.01	0.86	30	1.57	1.25	1.04	0.89

5.11. Average Salary of the Teaching and the Non-teaching Staff

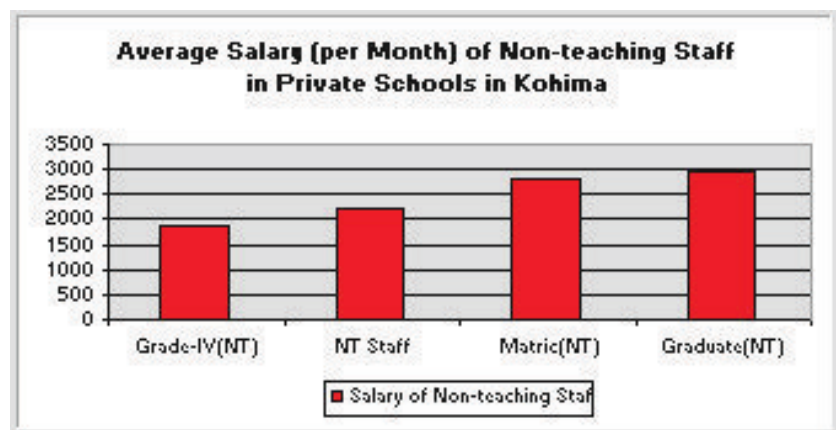
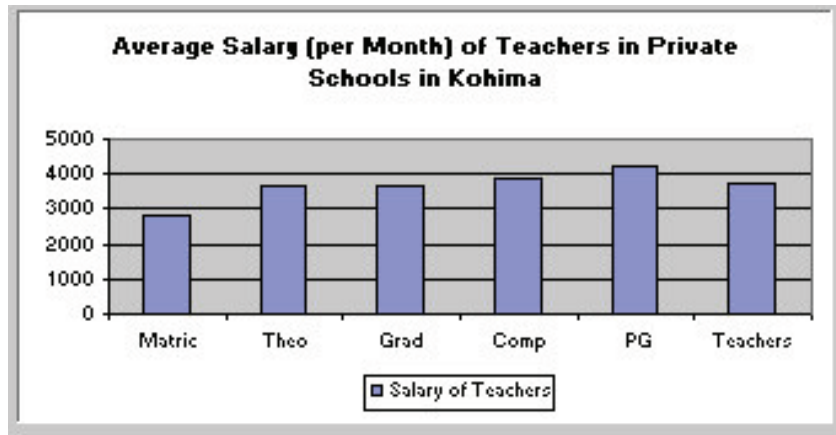
Private schools in Kohima employ (in the year 2000) 766 teachers of whom about 60% are Graduates, 18% Matriculates, 13% Post-Graduates and the rest either theology teachers or computer teachers. Among the non-teaching staff (140 in number), the majority are Grade-IV employees (65%). Matriculate non-teaching staff are 27% while Graduate non-teaching staff make up only 8% of the total. On an average, a Grade-IV non-teaching staff earns Rs. 1870 (per month). On the other hand, the mean salary of PG teachers amounts to Rs. 4241 per month. Computer teachers earn a little more than the general Graduate teachers. Matriculate teachers earn no more than the matriculate non-teaching

staff, while a Graduate teacher earns significantly more than a Graduate non-teaching staff. We have also looked into the matrix of premium that one type of staff earns over the others.

Table 5.11(i). Monthly (Average) Salary of Teachers in Private Schools in Kohima						
Year 2000 No. of Schools = 30	Teachers with Different Qualifications					Total
	Matriculate	Graduate	PG	Theology	Computer	
Total No. of Teachers (Percent to Total)	136 (17.75 %)	463 (60.4 %)	102 (13.32%)	36 (4.70 %)	29 (3.79 %)	766 (100 %)
Total Salary Bill/Month	384038	1693591	432585	130804	112998	2754016
Average Salary/Month	2823.81	3657.86	4241.03	3633.44	3896.48	3595.32

Table 5.11(ii). Monthly (Average) Salary of Non-teaching Staff in Private Schools in Kohima				
Year 2000 No. of Schools = 30	Non-teaching Staff with Different Qualifications			Total
	Grade IV	Matriculate	Graduate	
Total No. of Non-teaching Staff (Percent to Total)	91 (65.00 %)	38 (27.14 %)	11 (7.86 %)	140 (100 %)
Total Salary Bill/Month	170170	107488	32280	309938
Average Salary/Month	1870.00	2828.63	2934.55	2213.84

Table 5.11(iii). Premium of the One Type of Staff over the Others in matters of Salary per Month in Private Schools in Kohima											
Type of Staff	Salary/ Month	G-IV NT	Av NT	Matric NT	Matric Teach	Graduate NT	Theol Teach	Graduate T	Av Teach	Comp Teach	PG Teach
Premium of the One Type of Staff over the Others in matters of Salary per Month											
Grade-IV NT Staff	1870	0									
Average NT Staff	2213.84	343.84	0								
Matriculate NT Staff	2828.63	958.63	614.79	0							
Matriculate Teacher	2823.81	953.81	609.97	-4.82	0						
Graduate NT Staff	2934.55	1064.55	720.71	105.92	110.74	0					
Theology Teacher	3633.44	1763.44	1419.6	804.81	809.63	698.89	0				
Graduate Teacher	3657.86	1787.86	1444.02	829.23	834.05	723.31	24.42	0			
Average Teachers	3721.64	1851.64	1507.8	893.01	897.83	787.09	88.2	63.78	0		
Computer Teachers	3896.48	2026.48	1682.64	1067.85	1072.67	961.93	263.04	238.62	174.84	0	
PG Teachers	4241.03	2371.03	2027.19	1412.4	1417.22	1306.48	607.59	583.17	519.39	344.55	0



5.12. Performance of the Schools and its Determinants

Performance of a school may be assessed on two main criteria, first relating to the internal performance and the second relating to the performance in the School Board Examinations. Internal promotion, non-detention, retention (as an opposite to drop out and transfer from the school to some other school at a reason whatsoever) and appearance at the Board Examinations may be some good indicators of internal performance. On the other hand, success at the Board Examinations and securing I division may be the major indicators of performance of the other type. In view of this we have constructed ten

indicators of performance, the first six (X_1 through X_6) relating to the internal performance and the next four (Y_1 through Y_4) relating to the performance at the Board Examination.

X_1 = Percentage of students promoted to the next higher class (Average 1996-2000).

X_2 = Percentage of students not detained (Average 1996-2000).

X_3 = Percentage of students who did not drop out (Average 1996-2000).

X_4 = Percentage of students who did not seek transfer to other schools for whatever reason (Average 1996-2000).

X_5 = Percentage of Class X students who appeared in HSLC Exam. (Average 1996-2000).

X_6 = Percentage of Class XII students who appeared in Higher Sec. Exam. (Average 1996-2000).

Y_1 = Percentage Passed in I Division in HSLC Exam. (Average 1996-2000)

Y_2 = Percentage Passed in HSLC Exam. (any division). (Average 1996-2000)

Y_3 = Percentage Passed in I Division in HS Exam. (Average 1996-2000)

Y_4 = Percentage Passed in HS Exam. (any division). (Average 1996-2000)

Factor Analysis: On these ten indicators of performance, we have carried out Factor Analysis. In extracting the factors, the method of Principal Components has been used. The Promax method has been used for rotation, since we believe that the factors would not be orthogonal among themselves. In case they are orthogonal among themselves, the correlation matrix of factors would indicate the same. Three factors have been extracted. They explain (approximately) 83% of the total variance in the indicators. The first factor (Factor-I) loads heavily on X_1 through X_4 and hence it may be identified with the internal performance. Factor-II heavily loads on X_6 , Y_3 and Y_4 and hence is identifiable with the performance at HS examination. Factor-III loads heavily on X_5 , Y_1 and Y_2 . It may be identified with the performance at the HSLC examination. These factors have positive (significant) correlation with each other suggesting

that ‘*internal performance*’ and the ‘*Board Examinations performance*’ go together.

Table 5.12(i). Indicators of Performance of Private Schools in Kohima

sl	X1	X2	X3	X4	X5	X6	Y1	Y2	Y3	Y4
1	0.9102	0.9036	0.9943	0.9465	0.0530	0.0204	0.13	90.5275	0.0130	46.8961
2	0.9792	0.9792	1	0.9956	0.0669	0.0682	0.3638	90.1909	0.3567	90.0312
3	0.9105	0.9136	0.9959	0.9674	0	0	0	0	0	0
4	0.9381	0.9571	0.9952	0.9929	0	0	0	0	0	0
5	0.8728	0.9438	1	0.9620	0.0725	0.0116	0.3251	93.7992	0.0779	100
6	0.8423	0.8454	0.9917	0.9529	0.0302	0	0.0115	71.8276	0	0
7	0.9280	0.9380	0.9900	0.9600	0.0400	0	0	66.6000	0	0
8	0.7941	0.8128	0.9754	0.8828	0.0315	0	0	63.2500	0	0
9	0.9249	0.9333	0.9916	0.9127	0.0580	0	0.0816	79.0368	0	0
10	0.9295	0.9295	0.9923	0.9692	0	0	0	0	0	0
11	0.9471	0.9503	0.9989	0.9848	0.1026	0	0.1237	77.7951	0	0
12	0.9683	0.9683	1	0.9786	0.0496	0	0.183	96.1895	0	0
13	0.9478	0.9478	0.9977	0.9780	0.0062	0	0.3684	100	0	0
14	0.8986	0.9084	0.9958	0.9678	0	0	0	0	0	0
15	0.8922	0.9074	0.9948	0.9863	0.0399	0	0.1455	94.0610	0	0
16	0.8285	0.8848	0.9874	0.9851	0.0497	0	0.0263	66.9158	0	0
17	0.8725	0.8843	0.9902	0.9118	0	0	0	0	0	0
18	0.9399	0.9428	0.9985	0.9644	0	0	0	0	0	0
19	0.9497	0.9497	0.9871	0.9722	0	0	0	0	0	0
20	0.9752	0.9794	0.9996	0.9917	0.0465	0.029	0.4454	99.6155	0.3098	99.771
21	0.9115	0.9115	1	0.9759	0	0	0	0	0	0
22	0.9197	0.9197	0.9913	0.9506	0.0467	0	0.1799	99.4245	0	0
23	0.9466	0.9460	0.9937	0.9735	0.0344	0	0.1385	92.0000	0	0
24	0.9691	0.9691	1	0.9897	0.0346	0	0.3046	100	0	0
25	0.9825	0.9825	0.9999	0.9954	0.0655	0	0.4489	99.3507	0	0
26	0.8855	0.9108	0.9917	0.9821	0.0506	0	0.0244	70.0427	0	0
27	0.9520	0.9520	0.9859	0.9703	0.0195	0	0.2800	98.0000	0	0
28	0.8432	0.8517	0.9915	0.9636	0.0331	0	0.0513	80.2564	0	0
29	0.8172	0.8238	0.9681	0.9456	0.0769	0	0	65.4878	0	0
30	0.9461	0.9422	0.9902	0.9734	0.0422	0	0.0556	86.0370	0	0

Table 5.12(ii). Factor Analysis of Performance of Private Schools in Kohima : Pattern Matrix

Indicators of Performance	Factor-I	Factor-II	Factor-III
Non-detention : X2	.957		
Promotion to the next class : X1	.955		
Non-Drop-Out : X3	.838		
Non-Transfer : X4	.797		
Appearance at HS Exam : X6		.984	
I Division in HS Exam : Y3		.981	
Pass at HS Exam : Y4		.929	
Pass at HSLC Exam : Y2			.992
Appearance at HSLC Exam : X5			.894
I Division in HSLC Exam : Y1	.453		.533
Eigenvalue	4.673	2.199	1.414
Percent Variance Explained	46.728	21.986	14.142
Cumulative % Variance Explained	46.728	68.715	82.857

Table 5.12(iii). Factor Correlation Matrix

Factor	Factor-I	Factor-II	Factor-III
Factor-I	1.000	.382	.245
Factor-II	.382	1.000	.405
Factor-III	.245	.405	1.000

Table 5.12(iv).Component Score Coefficient Matrix

Indicator	Factor-I	Factor-II	Factor-III	Indicator	Factor-I	Factor-II	Factor-III
X1	.279	-.018	-.009	X6	-.006	.343	-.020
X2	.280	.001	.010	Y1	.141	.075	.261
X3	.244	.030	-.063	Y2	.016	-.035	.471
X4	.233	-.022	.021	Y3	.011	.342	-.022
X5	-.049	.020	.423	Y4	-.012	.325	.033

Table 5.12(v). Factor Scores of the Performance of Private Schools in Kohima

Sl. No.	Factor-I	Factor-II	Factor-III	Sl. No.	Factor-I	Factor-II	Factor-III
1	-.31028	.75039	.60079	16	-.84079	-.38099	.17544
2	1.38251	3.87591	1.09948	17	-1.12999	-.31209	-1.50516
3	-.04719	-.34910	-1.50947	18	.36174	-.34541	-1.53347
4	.58766	-.38233	-1.47828	19	.14851	-.40220	-1.42832
5	.20914	1.49448	1.30985	20	1.43605	2.83464	1.12392
6	-1.13685	-.36717	-.16484	21	.16140	-.33980	-1.53925
7	-.10252	-.40283	-.07032	22	-.13495	-.32064	.71132
8	-2.80150	-.35527	-.17875	23	.44559	-.36242	.36328
9	-.46841	-.31205	.43902	24	1.23298	-.28090	.71045
10	.05570	-.37166	-1.47680	25	1.52014	-.19578	1.43131
11	.61305	-.29719	1.17030	26	-.24951	-.38365	.17907
12	.98101	-.31842	.67113	27	.38713	-.33773	.52053
13	.90989	-.26116	.39892	28	-.96547	-.36252	.05922
14	-.14319	-.34564	-1.50771	29	-2.36168	-.41650	.64830
15	.05151	-.34479	.48440	30	.20832	-.40719	.29565

Table 5.12(vi). Relationship between Extra-curricular Facilities and Performance at the Examination

P2 = f (*,*)		Coefficient	Std. Error	Beta	t value	Sig.
R ² = 0.212	(Constant)	-1.170	.466		-2.513	.018
F = 3.63	ECUR (1)	.388	.240	.277	1.619	.117
	ECUR (2)	.294	.144	.350	2.044	.051

P₂ = Performance of the School at the Higher Secondary Examinations.

Table 5.12(vii). Determinants of Internal Performance (P₁) of Private Schools in Kohima

Model P ₁ = f (*****)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.314; F = 2.19	(Constant)	-1.446	.728		-1.986	.059
Age on Year 2000	AGE	2.192E-02	.018	.226	1.185	.248
Student Classroom Ratio	SC_RATIO	-8.594E-03	.028	-.135	-.307	.762
Student Teacher Ratio	ST_RATIO	6.123E-02	.048	.548	1.277	.214
Measures of Extra Curricular Facilities	ECUR (1)	-.293	.256	-.210	-1.145	.264
	ECUR (2)	-2.847E-02	.150	-.034	-.190	.851

Table 5.12(viii). Determinants of Performance at HSLC Exam. (P₃) of Private Schools in Kohima

Model P ₃ = f (*****)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.422; F = 2.45	(Constant)	-2.077	.668		-3.110	.005
Age on Year 2000	AGE	4.276E-02	.017	.441	2.521	.019
Student Classroom Ratio	SC_RATIO	2.018E-02	.026	.316	.785	.440
Student Teacher Ratio	ST_RATIO	-6.690E-03	.044	-.060	-.152	.880
Measures of Extra Curricular Facilities	ECUR (1)	.225	.235	.161	.957	.348
	ECUR (2)	.131	.137	.156	.951	.351

Table 5.12(ix). Determinants of Performance at HS Exams. (P₂) of Private Schools in Kohima

Model P ₂ = f (*****)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.485; F = 4.53	(Constant)	-2.438	.630		-3.868	.001
Age on Year 2000	AGE	4.056E-02	.016	.418	2.534	.018
Student Classroom Ratio	SC_RATIO	-3.512E-02	.024	-.550	-1.448	.161
Student Teacher Ratio	ST_RATIO	8.125E-02	.042	.727	1.957	.062
Measures of Extra Curricular Facilities	ECUR (1)	.228	.222	.163	1.029	.314
	ECUR (2)	.191	.130	.228	1.475	.153

Determinants of Performance of Private Schools: We have tried to investigate if the factors of performance could be explained by: (1) Age of the school, (2) Student-Classroom ratio, (3) Student-Teacher ratio and (4) the two measures of extra-curricular facilities in the school. The regression analysis of P₁, P₂ and P₃ on the variables mentioned above indicated that in explaining P₁ none of these variables is significant. In explaining P₃ (performance at HSLC Exams), the age of a school is significant. That is to say that older schools perform better at the HSLC exams. In explaining P₂ (performance at HS

Exams) the age of a school and the student-teacher ratio are significant. Two other variables, namely student-classroom ratio and ECUR(2), a measure of extracurricular facilities, also are significant at 20% level of significance. On the whole, the five variables in the list are at most the *weak determinants* of performance of private schools in Kohima. Sometimes, multi-collinearity among the explanatory variables blurs the significance of individual regression coefficients by increasing their standard errors of estimate. In the present case, however, multi-collinearity is not the culprit, since most of the explanatory variables are only poorly correlated among themselves. As it may be seen in the table (# 5.12(X)) of inter-correlation matrix, STR (student-teacher ratio) and SCR (student-classroom ratio) are highly correlated. Other variables are only poorly correlated among themselves. We have also tried to estimate the parameters by the method of Generalized Least squares, using variance of the residuals of the ordinary least squares (run to explain P, the factors of performance, in terms of the five determinants mentioned above), but not with much success. In the tables below (# 5.12(xi) through 5.12(xiii)) we have presented the estimated parameters relating to various measures of performance obtained by the Generalized Least Squares. A comparison of the estimated values of parameters by OLS and GLS methods indicates that GLS has only slightly improved the estimates. This finding indicates that the weak estimates of parameters are, possibly, not due to heteroskedasticity of the residual vector. It

is more likely, therefore, that the five variables of concern are inherently weak at explaining the variability in performance, P_3 . In case of P_2 the GLS estimates are worse than OLS estimates, possibly because only a few of the schools offer Higher Secondary education. However, in case of P_1 , GLS has a spectacular success. The estimated coefficients associated with age of the school, student-teacher ratio and ECUR(1) are highly significant. The coefficient associated with student-classroom ratio could have been significant if multi-collinearity between SCR and STR were not very strong. The value of R^2 also is very large (0.91).

Table 5.12(x). Inter-Correlation Matrix among Determinants of Performance of Private Schools in Kohima

** = Significant at 1 % level (2-tailed)	AGE	SCR	STR	ECUR(1)	ECUR(2)
AGE of the School in the Year 2000	1.000	0.299	0.268	0.281	0.109
Student-Class-room Ratio (SCR)	0.299	1.000	0.910**	-0.153	-0.032
Student-teacher Ratio (STR)	0.268	0.910**	1.000	-0.110	0.091
ECUR(1)	0.281	-0.153	-0.110	1.000	0.065
ECUR(2)	0.109	-0.032	0.091	0.065	1.000

Table 5.12(xi). Determinants of Internal Performance (P_1) of Private Schools in Kohima

Model $P_1 = f$ (*****)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.912$; $F = 49.95$	(Constant)	-3.932	.439		-8.947	.000
Age on Year 2000	AGE	2.606E-02	.006	.444	4.518	.000
Student Classroom Ratio	SC_RATIO	-1.346E-02	.010	-.386	-1.392	.177
Student Teacher Ratio	ST_RATIO	7.356E-02	.019	1.296	3.815	.001
Measures of Extra-Curricular Facilities	ECUR (1)	-.451	.090	-.463	-5.039	.000
	ECUR (2)	-6.757E-02	.053	-.131	-1.281	.212

Based on Generalized Least Squares method of estimation.

Table 5.12(xii). Determinants of Performance at HSLC Exam. (P_3) of Private Schools in Kohima

Model $P_3 = f$ (*****)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.540$; $F = 5.64$	(Constant)	-9.238	2.259		-4.089	.000
Age on Year 2000	AGE	5.316E-02	.016	.504	3.245	.003
Student Classroom Ratio	SC_RATIO	1.141E-02	.029	.190	.395	.696
Student Teacher Ratio	ST_RATIO	1.069E-02	.048	.103	.221	.827
Measures of Extra-Curricular Facilities	ECUR (1)	.308	.221	.204	1.390	.177
	ECUR (2)	.181	.134	.190	1.350	.190

Based on Generalized Least Squares method of estimation.

We may conclude, therefore, that the explanatory variables do explain internal performance, but they are weak at explaining performance at the HSLC or Higher Secondary examinations. In these findings (estimation by GLS) a pattern is discernible. The explanatory variables perform very well in explaining P_1 internal performance), satisfactorily in explaining P_3 (performance at HSLC Exams), and badly in explaining P_2 (performance at Higher Secondary Examinations).

Table 5.12(xiii). Determinants of Performance at HS Exam. (P_2) of Private Schools in Kohima

Model $P_2 = f$ (*****)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.366$; $F = 2.77$	(Constant)	1.072	.754		1.423	.168
Age on Year 2000	AGE	9.437E-03	.013	.211	.708	.486
Student Classroom Ratio	SC_RATIO	3.152E-03	.013	.208	.236	.815
Student Teacher Ratio	ST_RATIO	-1.848E-02	.021	-.749	-.881	.387
Measures of Extra-Curricular Facilities	ECUR (1)	-.109	.113	-.224	-.965	.344
	ECUR (2)	-4.292E-02	.068	-.127	-.630	.534

Based on Generalized Least Squares method of estimation.

It is not unlikely that the schools practice a policy of exhibiting good internal performance to attract the clients (parents). After all, for long, parents judge the school on internal performance. Usually, parents have a short-term perspective. A good internal performance retains the clientele. It may also successfully cover up the occurrence of moral hazard. After all, parents cannot normally monitor the efficiency of a school in catering the promised services to their children admitted to that school, which makes the school prone to indulge in defective servicing. Large student-teacher and student-classroom ratios are

only the indicators of the same. If defective servicing leads to poor performance, the parents would be concerned and the school might lose the clientele. To manage the show, the school must show up a good performance. Internal performance is largely controlled by the school. Hence, the school may have a tendency to mark up its internal performance to give an impression to the parents that it is servicing well to their children. Facilities of extracurricular activities only reinforce this tendency.

K. Rio (2003) "Private Schooling Industry : A Survey of Kohima Town of Nagaland" : Doctoral Dissertation, Department of Economics, North Eastern Hill University, Shillong (India)

CHAPTER 6

THE STRUCTURE OF PRIVATE SCHOOLING MARKET IN KOHIMA

6.1. Introduction

Our main concern in this work is to study the economics of the Private schooling industry. Having seen how this industry has grown over time, how it utilizes the physical infrastructure and manpower, how it pays them their remuneration, what quantum of output it turns out and with what quality, now we turn to look into its cost, revenue and profit.

6.2. Sources of Revenue of Private Schools in Kohima

Primarily, the sources of revenue of a private school are: (a) Admission fees and (b) Tuition fees collected from the students enrolled in the school. These two are the common and dominant sources of revenue. The prospects and the popularity of exposure to computers to the children have imparted a new impetus to the avenues of earning. Some schools, therefore, have computer exposure programmes and they charge fees for the same. Additionally, some schools receive aid (grants) from the Government as well as individuals. Tuition fees generate 50% (approx) of the total revenue followed by Admission fees (43%), making up 93% of the total revenue of private schools. On an average, computer fees contribute 6.8% to the total revenue. However, computer fees are not a source of revenue to all schools. Only 18 schools

provide for computer exposure. In these schools, computer fees contribute Rs. 60.26 lakh (8.26%) to the total revenue. Grants and aid from Government and individuals are available only to a few (11) schools. The revenue from grants & aid make up a meager 0.9 percent of the total revenue in these schools (on an average). Grants & aid from Government make up less than one third of the total revenue from Grants & aid. The details of revenue from different sources (school-wise) are presented in the table.

Table 6.2(i). Revenue of Private Schools in Kohima (Year 2000)

Sources of Revenue	Tuition Fee	Admission Fee	Computer Fee	Govt. Grants	Individual Aid	Total
No. of schools = 30						
Revenue (Rs. 000)	43964.88	38268.07	6026.06	141.50	330.00	88730.51
Revenue (%)	49.549	43.128	6.791	0.159	0.372	100.000

**Table 6.2(ii). Revenue of Private Schools
(offering Computer Exposure) in Kohima (Year 2000)**

Sources of Revenue	Tuition Fee	Admission Fee	Computer Fee	Govt. Grants	Individual Aid	Total
No. of schools = 18						
Revenue (Rs. 000)	34380.36	32108.39	6026.06	133.50	330.00	72978.31
Revenue (%)	47.11	44	8.26	0.18	0.45	100.00

**Table 6.2(iii). Revenue of Private Schools
(receiving Grants & Aid) in Kohima (Year 2000)**

Sources of Revenue	Tuition Fee	Admission Fee	Computer Fee	Govt. Grants	Individual Aid	Total
No. of schools = 11						
Revenue (Rs. 000)	23884.20	24003.16	4144.54	141.50	330.00	52503.40
Revenue (%)	45.49	45.72	7.89	0.27	0.63	100.00

6.3. Items of Expenditure of Private Schools in Kohima

Salary to teachers is the dominant item of expenditure incurred by the schools. Private schools employ 766 teachers (in the year 2000) of whom 463 are Graduates, 136 matriculates and 102 PG degree holders. Many schools employ theology as well as computer teachers. Their numbers are 36 and 29

respectively. The annual salary bill of these teachers amounts to Rs. 3.3 crores of which Rs. 2.03 crores (61.50%) are paid to Graduate teachers, Rs 46.08 lakhs (13.94%) to Matriculate teachers, Rs 51.91 lakhs (15.71%) to PG teachers, Rs. 15.7 lakhs (4.75%) to theology teachers and Rs. 13.56 lakhs (4.10%) to computer teachers. These private schools employ 140 non-teaching staff whose salary bill (annual) is Rs. 37.19 lakhs. Grade-IV staff are in majority (91 in number) whose salary bill amounts to Rs. 20.42 lakhs (54.91% of the total salary bill of the non-teaching staff). The salary bill of matriculate non-teaching staff is Rs. 12.9 lakhs (34.68%) while the salary bill of graduate non-teaching staff amounts to Rs. 3.87 lakhs (10.41%). The **total salary bill** (teaching and non-teaching staff put together) amounts to Rs. 377.67 lakhs, shared by teachers (90% approx) and the non-teaching staff (10% approx).

Another important item of expenditure is a collection of **overhead expenses**, which include expenses on infrastructure, scholarships and awards to students and the miscellany including school functions. The total amount of overhead expenses (in the year 2000) was of the order of Rs. 86.47 lakhs, of which about 71.22% were spent of infrastructure, 14.4% on scholarships and awards and 14.36% on miscellaneous heads including school functions.

The third major head of expenditure is the **house rent** paid to the owner of the building/premises which houses the school. Only some schools (5 in

number) pay rent to the owners of the building. Additionally, one of the schools pays Rs 4000 (annually) as land rent. The total amount of rent paid by the schools (annually) is Rs. 13.03 lakhs (including the land rent of Rs. 4000 mentioned above). The schools that pay rent (explicitly) spend 12.32% (of the total expenses) on rent, 77.08% on salary of teaching and non-teaching staff and 10.59% on overheads.

6.4. Profit and Loss incurred by Private schools in Kohima

Having accounted for the revenue and expenditure of the private schools in Kohima, we may proceed to work out profit/loss incurred to them. However, we must note that the majority of schools do not have to pay rent, while some of them spend a sizeable amount on house rent. Under this situation, unless we work out the *imputed value of rent* for each school, consider them as hidden cost and add to their total expenses, computation of profit and loss will be biased. The total cost of running the school will be significantly under-estimated. Additionally, some schools impart computer awareness to their students and earn a significant amount as computer fees. Expenditure on computer at an annualized basis has to be included in the total expenditure lest costs are under-estimated. Furthermore, schools maintain a school library and expenses on building up the library must be included in the total expenditure.

6.5. Imputation of House Rent

We have observed that the schools that pay rent incur an expenditure on rent, which is 12.54 percent of the total expenditure. The simplest method to work out the value of imputed rent is, therefore, to obtain $IR = 0.14338 * EXPEND$, where IR is the imputed rent and EXPEND is the total expenditure incurred by the schools that do not pay any rent. This formula is based on the assumption that every school pays 12.54% of its expenses on house rent. The coefficient (0.14338) is obtained by solving the equation $IR / (IR + EXPEND) = 0.1254$. By a simplification of this equation we obtain the equation $IR = \{0.1254 / (1 - 0.1254)\} * EXPEND$. However, the imputed rent by this simple method may not be much reliable due to several reasons. First of all, the cost structure may vary from school to school. We have seen that some schools have over-utilized class rooms while some others under-utilize them. In some schools teachers are more in proportion than others. Overhead expenses also are not proportional to the total expenditure. Therefore, we devise a different formula to work out the imputed value of rent. We assume that, on an average, rent would be proportional to the number of rooms in the school building. Taking a clue from the schools that actually pay rent and the number of rooms these schools have in their school building, we have devised an empirical formula in which imputed rent is a function of the number of rooms

the school is housed in. Furthermore, different schools are housed in different types of buildings. Some schools are housed in single-storeyed pucca buildings, occupying larger space (code 1), while some others are housed in multi-storeyed pucca buildings (code 2) that occupy smaller space. Yet other schools are housed in kutchha buildings (naturally single-storeyed). Since house rent is dependent on the type of the building as well as the space occupied by it, we have incorporated this information in the formula. Accordingly, our formula is expressed as:

$$\mathbf{IR = Imputed\ Rent\ [IRENT] = Max\{11000*(NR/ BT),\ RENT\}}$$

In the formula given above, NR stands for the total number of rooms in the school building, BT stands for the building type (1 for pucca-single-storeyed, 2 for pucca-multi-storeyed and 3 for kutchha) and RENT stands for the actual amount of rent paid, if any. This formula is the simplest representation of those considerations that take care of the rate of substitution between the cost of land (plot) required for constructing a given number of rooms in a single-storeyed pucca building and the cost of a multi-storeyed pucca building erected on a smaller plot of land, but having the same number of rooms. We are aware of the fact that the cost of a building depends on many factors. The cost of the land plot, the cost of materials used, roof material and roof design, design of the building, factor of commonness of the walls, ceiling height, cost of construction of stair cases, type of the fixture and the finishing of the interior and the

exterior of the building, cost of landscaping, size of the open space with respect to the built-up area, size of the floor/carpet area, size of rooms, etc. determine the cost of building and its rental value. Further, the cost of land and the opportunity cost of a building depend on the location of a building in the town. Ideally, one may incorporate all these factors in computing the imputed value of rent. The age of a building also matters since buildings depreciate over time. We have not gone into these tedious details and used the formula stated above.

If we compute the values of imputed rent by a simpler formula $IR = (11000 * NR/BT)$, we find that the share of house rent in the total expenditure is 11.69 percent. On the other hand, if we compute $IR = \text{Max} (11000 * NR/BT, RENT)$, the share of house rent in the total expenditure is 11.99 percent. We have seen that for those schools that actually pay the rent, the percentage expenditure on rent is 12.54 percent. The difference is too small to be significant for any practical purpose. Hence we prefer to use the latter formula, $[IR = \text{Max} (11000 * NR/BT, RENT)]$, to compute the imputed value of rent.

6.6. Imputed value of Expenditure on Library and Computers

Most of the schools have a small number of books in their libraries. School #2 is an exception. It has 1.85 lakh books in its library. The school is old in age (established in the year 1972) and has 1536 students on its roll. Another school (# 25) has 8000 books in its library. It was established in 1964 and has 1538 students on its roll. Two other schools (# 9 and # 20) have about

3500 books (each one) in their libraries. To work out the imputed value of expenditure on library books for a particular school, we have first divided the number of books in the library of the school (concerned) by its age (on the year 2000), which yields the average annualized addition of books to the library. This is so because the books in the library accumulate over the whole life span of the school. Then we have worked out the mean value of the annualized addition of books to the libraries over all the 30 schools. This mean value is 251.77 books per year. This average is grossly affected by the school #2. Otherwise, excluding school # 2, this average is only 32.15 and excluding school # 25 also, this average dwindles down to 25.36. In this sense, school #2 is a gigantic outlier. Therefore, in computing the imputed value of library books especially for school #2, we have replaced the annualized addition of books by the value 251.77. Thus we have truncated the value of the annualized addition of books in case of school #2. To compute the imputed expenditure on books we have assumed that on an average a book costs Rs. 100. For School #2, the imputed expenditure on books comes to Rs. 25177.

To work out the imputed expenditure on computers we have assumed that a computer costs Rs. 37000 and its life span is 3 years. Therefore, the annualized expenditure per computer works out at Rs. 12333. We use this value uniformly to obtain the annualized expenditure on computers (no. of computers in a school times Rs. 12333). We are aware that different schools must have a

stock of computers of different vintages (some worthy of being written off) since computer models change very fast. During a span of 14 years (1986 – 2000) the models based on Intel AT-80286, 80386, 80486 and Pentium-I through Pentium-III (six models) were introduced into the market. With such a fast rate of change, it is difficult to judge (unless one especially works on it) the vintage mix and the discounted value of the stock of computers that the schools have. Therefore, we have used the simple formula stated above to impute the annualized expenditure on computers incurred by different schools.

6.7. Composition of Expenditure incurred by Private Schools

If we incorporate the imputed expenses on rent library books and computers, the composition of expenditure incurred by the private schools in Kohima works out to be as: Salary (71.89%), other overhead expenses (12.06%), House Rent *actual or imputed* (11.99%) and Computers and Library books (4.07%). This composition is quite expected. Private schooling is a labour intensive industry. It does not require much capital investment except in housing the school and some necessary furniture and fixture. Most of the schools have a small library. Up to Class X there is not much need to invest in laboratories either. For higher secondary classes (for Science students) some expenditure on laboratory is incurred. In total the private schools have 159 computers with an estimated investment of Rs. 58.83 lakhs approximately. Assuming that the average life of a computer is 3 years, the annualized

expenses on computer is Rs, 19.61 lakhs per year. It adds to the total expenditure by approximately 3.83 percent.

6.8. Estimation of Profit (Loss)

The private schooling industry (comprising 30 private schools) in Kohima earned the revenue of Rs. 88.26 million (Rs. 88.73 million if grants & aid received by the schools are included) and spent Rs. 51.14 million in the year 2000. Thus, the industry earned a profit of Rs. 37.11 million (Rs. 37.48 million if grants & aid are included), a little over 42 percent of the total revenue (income). Except four schools that have very small size of enrolment and mostly due to which they have incurred a loss, other schools earned profits.

Table 6.8(i) Gross Indicators regarding Private Schooling Industry in Kohima, Nagaland			
Items/Attributes/Indicator	Measure	Items/Attributes/Indicator	Measure
No. of Private Schools	30	Revenue from Tution Fees	43964880
No.of Students	24049	Revenue from Admission Fees	38268065
No. of Matriculate Teachers	136	Revenue from Computer Fees	6026060
No. of Graduate Teachers	463	Government Aid and Grant	141500
No. of P-G Teachers	102	Private Aid	330000
No. of Theology Teachers	36	Total Aid & Grants	471500
No. of Computer Teachers	29	Gross Annual Revenue	88259005
No. of Grade IV Staff	91	Gross Annual Income	88730505
No. of Matriculate Staff	38	Profits	37114545
No. of Graduate Staff	11	Gross Profit Rate on Expenses	72.57 %
No. of Rooms	752	Share of Teachers in Income	37.25 %
No. of Class Rooms	536	Share of Staff in Income	4.19 %
Salary to Teachers	33048192	Share of Other Expenses in Income	1.77 %
Salary to Non-teaching Staff	3719256	Share of Students' Scholarships, etc	1.41 %
Total Salary	36767448	Share of Miscellaneous Expenses*	1.40 %
Scholarships and awards	1247100	Share of Infrastructure expenses	6.94 %
Expenses on Infrastructure	6157914	Share of Rent in Income	6.91 %
Miscellaneous Expenses *	1241500	Share of Capital in Income	6.94 %
Expenses on Rent **	6130498	Share of Labour in income	41.44 %
Total Expenses	51144460	Share of Entrepreneur (Profits)	41.83 %

Note: All measures are at the annual level (No. in Number, Amounts in Rs.) and refer to the Year 2000.

- Includes expenses on School Functions. ** Rent explicitly paid (Rs. 13.03) + Imputed (Rs. 48.75) lakh.

Table 6.8(ii). Distribution of Private schools Making profit/Loss in Kohima

	Loss-making				Profit-making			
%P/L	(-70) – (-50)	(-50) – (-30)	(-30) – (-10)	(-10) - 0	0 - 10	10 - 30	30 - 50	50 - 70
No.	3	1	0	0	2	6	13	5
Cu No.	3	4	4	4	6	12	25	30

Note: % P/L means Profit/Loss as percentage to Total Revenue earned in the Year 2000

Table 6.8(iii). Salary to the Teaching Staff in Private Schools in Kohima (Year 2000)

Salary to Teachers	Matriculate teachers	Graduate teachers	PG teachers	Theology teachers	Computer teachers	Teaching Staff
No. of schools = 30						
Salary Bill (Rs. 000)	4608.46	20323.09	5191.02	1569.65	1355.98	33048.19
Salary Bill (%)	13.94	61.50	15.71	4.75	4.10	100.00
No. of Teaching Staff	136	463	102	36	29	766

Table 6.8(iv). Salary to the Non-teaching Staff in Private Schools in Kohima (Year 2000)

Salary to NT Staff	Matriculate Non-teaching Staff	Graduate Non-teaching Staff	Grade-IV Staff	Non-teaching Staff
No. of schools = 30				
Salary Bill (Rs. 000)	1289.86	387.36	2042.04	3719.26
Salary Bill (%)	34.68	10.41	54.90	100.00
No. of NT Staff	38	11	91	140

Table 6.8(v). Overhead Expenses in Private Schools in Kohima (Year 2000)

Overhead Expenses	Infra-structure	School Functions	Awards & Scholarship	Miscellaneous	Overhead Expenses
Overhead Expenditure (Rs. 000)	3678.50	911.50	1247.10	330.00	6167.10
% to total Overhead Expenses	59.65	14.78	20.22	5.35	100.00

Table 6.8(vi). Proportion of Observed Expenses on House Rent in Private Schools in Kohima (Year 2000)

No. of Schools = 5	Rent	Salary	Overheads	Comp&Books	Total
Expenditure (Rs.000)	1299.00	7274.39	1003.00	785.74	10362.12
% Expenditure	12.54	70.20	9.68	7.58	100.00

Table 6.8(vii). Proportion of Imputed House Rent in Private Schools in Kohima (Year 2000)

No. of Schools = 30	Salary	Overheads	Rent	Computer & Books	Total
Expenditure (Rs.000)	36767.45	6167.10	6130.50	2079.41	51144.46
% Expenditure	71.89	12.06	11.99	4.07	100.00

Table 6.8(viii). No. of Books in the School Libraries of Private Schools in Kohima

No. of Books in Library	None	Up to 500	Up to 1000	Up to 4000	8000 or more
No. of Schools	6	21	26	28	2

Table 6.8(ix). No. of Computers in the Private Schools in Kohima

No. of Computers	None	Up to 5	Up to 10	Up to 20	More than 30
No. of Schools	11	21	25	29	1

Computer Awareness Programme in Private Schools as a Source of Profit:

We have noted that there are (in total) 159 computers in the private schools that are used to make students aware of the use of computers. The programme generates a net revenue (revenue from computer fees net of salaries to the computer teachers) of Rs. 46.70 lakh per year. The (net) average revenue from computer works out to be Rs. 29.37 thousand per year, which, in any case is no less than a three fourth of the cost of a computer.

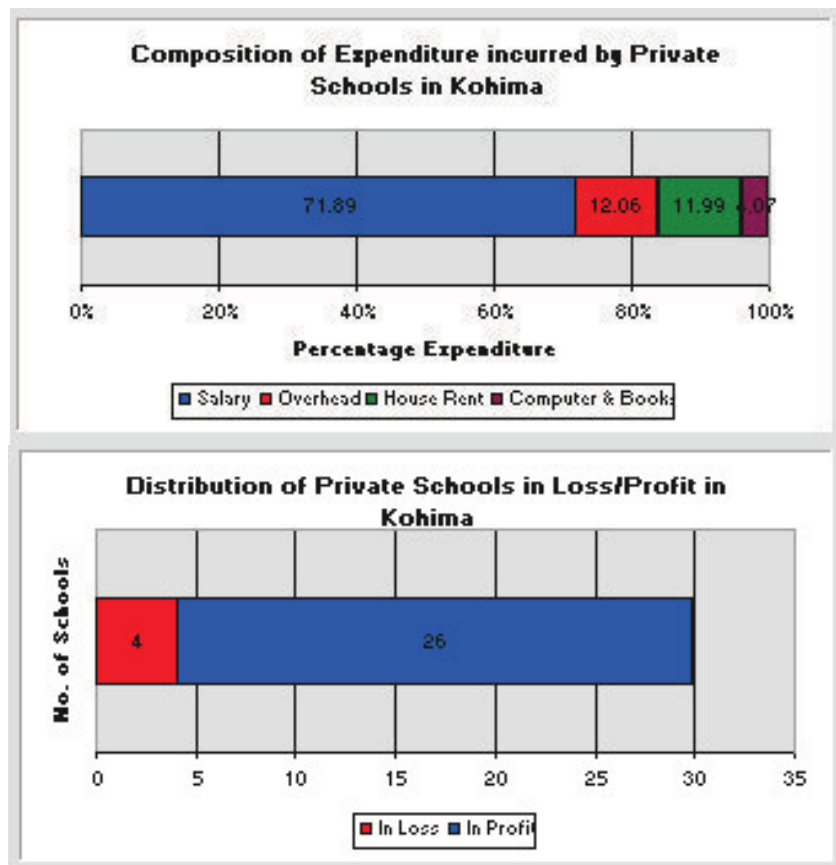
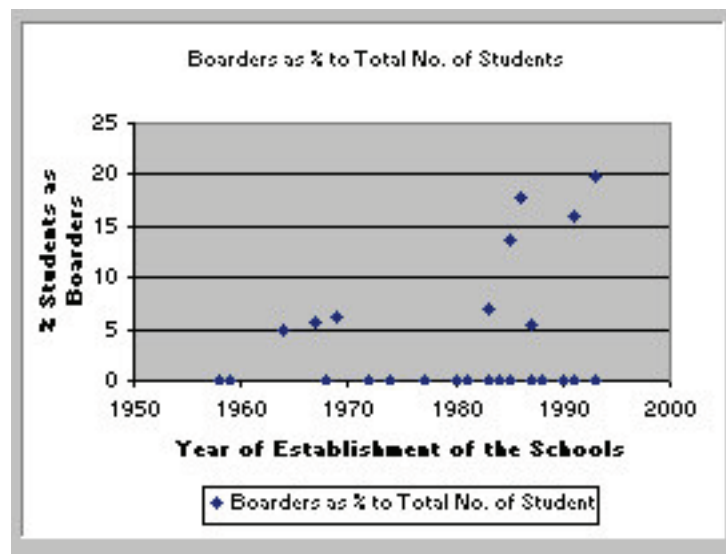


Table 6.8(x). Marginal Revenue from Computers

Model: NETRC= f (*)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.195	(Constant)	87659.913	43138.292		2.032	.052
F 6.78	COMPUTER	12831.991	4929.956	.441	2.603	.015

6.9. Hostel Facilities to Students

Some schools (nine in all) provide hostel facilities to students. The total number of boarders in these hotels is about 500, a little over 2 percent of the total number of students enrolled in the private schools in Kohima. On an average, boarding charges per student/year (for 10 months, two months being holidays) is Rs. 11800. We do not have any information on the expenses incurred by the schools in this regard. Therefore, we are not in a position to estimate the quantum of profit generated by hostels.



6.10. Details on Sources of Revenue and Items of Expenditure

In the foregoing section, we have given a gist of the sources of revenue and items of expenditure pertaining to the industry as a whole. In what follows, firm-wise (that is, for 30 individual private schools) details have been provided.

Table 6.10(i). Revenue from Tuition Fees in Private Schools in Kohima									
Sl no.	Total no. of Students in the School	Standard of the School	Lower		Secondary		Higher Secondary		Annual Revenue (Tuition Fees in Rupees)
			NS	Fee/M	NS	Fee/M	NS	Fee/M	
1	1534	12	804	150	589	150	141	200	2845800
2	1536	12	883	150	584	150	69	250	2847600
3	645	10	446	150	199	150	0	0	1161000
4	247	2	247	150	0	150	0	0	444600
5	1633	12	887	150	620	150	126	250	3090600
6	749	10	531	120	218	120	0	0	1078560
7	123	10	87	150	36	150	0	0	221400
8	399	10	215	150	184	150	0	0	718200
9	1317	10	779	150	538	150	0	0	2370600
10	202	8	151	120	51	150	0	0	309240
11	649	10	330	150	319	180	0	0	1283040
12	642	10	320	150	322	150	0	0	1155600
13	729	10	542	150	187	150	0	0	1312200
14	369	8	282	150	87	150	0	0	664200
15	1170	10	770	150	400	150	0	0	2106000
16	1053	10	564	150	489	150	0	0	1895400
17	162	8	118	150	44	150	0	0	291600
18	350	10	249	150	101	150	0	0	630000
19	865	10	656	150	209	150	0	0	1557000
20	2145	12	1252	150	643	150	250	250	4161000
21	235	9	163	100	72	150	0	0	325200
22	672	10	390	150	282	150	0	0	1209600
23	495	10	290	150	205	150	0	0	891000
24	2030	12	1141	150	725	150	164	250	3850800
25	1538	10	870	150	668	150	0	0	2768400
26	654	10	349	130	305	150	0	0	1093440
27	654	10	401	150	253	150	0	0	1177200
28	450	10	255	130	195	150	0	0	748800
29	280	10	170	150	110	150	0	0	504000
30	522	10	330	200	192	200	0	0	1252800

NS = No. of Students; Fee/M = Tuition Fees per Month (in Rs.)

Table 6.10(ii). Revenue from Admission Fees in Private Schools in Kohima									
Sl no.	Total no. of Students in the School	Standard of the School	Lower		Secondary		Higher Secondary		Annual Revenue (Admission Fees in Rupees)
			NS	Fee/Y	NS	Fee/Y	NS	Fee/Y	
1	1534	12	804	1000	589	1000	141	3500	1886500
2	1536	12	883	1000	584	1000	69	6000	1881000
3	645	10	446	1300	199	1500	0	0	878300
4	247	2	247	1100	0	1100	0	0	271700
5	1633	12	887	1500	620	1500	126	4800	2865300
6	749	10	531	515	218	530	0	0	389005

7	123	10	87	750	36	750	0	0	92250
8	399	10	215	1100	184	1210	0	0	459140
9	1317	10	779	1000	538	1000	0	0	1317000
10	202	8	151	580	51	580	0	0	117160
11	649	10	330	1200	319	1440	0	0	855360
12	642	10	320	1250	322	1400	0	0	850800
13	729	10	542	2500	187	2800	0	0	1878600
14	369	8	282	1020	87	1250	0	0	396390
15	1170	10	770	1300	400	1550	0	0	1621000
16	1053	10	564	1425	489	1875	0	0	1720575
17	162	8	118	600	44	600	0	0	97200
18	350	10	249	1055	101	1300	0	0	393995
19	865	10	656	1200	209	1355	0	0	1070395
20	2145	12	1252	2450	643	3340	250	5800	6665020
21	235	9	163	680	72	680	0	0	159800
22	672	10	390	1850	282	3000	0	0	1567500
23	495	10	290	1100	205	1300	0	0	585500
24	2030	12	1141	2075	725	3000	164	4500	5280575
25	1538	10	870	1100	668	1450	0	0	1925600
26	654	10	349	900	305	900	0	0	588600
27	654	10	401	800	253	800	0	0	523200
28	450	10	255	1750	195	1870	0	0	810900
29	280	10	170	1600	110	1750	0	0	464500
30	522	10	330	1200	192	1350	0	0	655200

NS = No. of Students; Fee/Y = Admission Fees per Year (in Rs.)

Table 6.10(iii). Revenue From Computer Fees and Gross Revenue in Private Schools in Kohima

Sl No	No. of Stud-ents	Stand-ard	Computer Fees (Rs.)			Item-wise Annual revenue (Rs)			Gross Annual Revenue [C + T + A] = [GAR]
			Per Month	Annual	Annualiz- d	Com-puter Fees [C]	Tuition Fees [T]	Adm-ission Fees [A]	
1	1534	12	0	200	200	306800	2845800	1886500	5039100
2	1536	12	0	150	150	230400	2847600	1881000	4959000
3	645	10	0	0	0	0	1161000	878300	2039300
4	247	2	0	0	0	0	444600	271700	716300
5	1633	12	30	0	360	587880	3090600	2865300	6543780
6	749	10	35	0	420	314580	1078560	389005	1782145
7	123	10	0	0	0	0	221400	92250	313650
8	399	10	0	0	0	0	718200	459140	1177340
9	1317	10	0	350	350	460950	2370600	1317000	4148550
10	202	8	0	0	0	0	309240	117160	426400
11	649	10	0	0	0	0	1283040	855360	2138400
12	642	10	30	30	390	250380	1155600	850800	2256780
13	729	10	0	150	150	109350	1312200	1878600	3300150
14	369	8	0	0	0	0	664200	396390	1060590
15	1170	10	0	350	350	409500	2106000	1621000	4136500

16	1053	10	0	0	0	0	1895400	1720575	3615975
17	162	8	0	0	0	0	291600	97200	388800
18	350	10	40	0	480	168000	630000	393995	1191995
19	865	10	30	0	360	311400	1557000	1070395	2938795
20	2145	12	40	0	480	1029600	4161000	6665020	11855620
21	235	9	0	0	0	0	325200	159800	485000
22	672	10	50	0	600	403200	1209600	1567500	3180300
23	495	10	30	0	360	178200	891000	585500	1654700
24	2030	12	0	250	250	507500	3850800	5280575	9638875
25	1538	10	0	200	200	307600	2768400	1925600	5001600
26	654	10	0	0	0	0	1093440	588600	1682040
27	654	10	0	0	0	0	1177200	523200	1700400
28	450	10	30	0	360	162000	748800	810900	1721700
29	280	10	30	0	360	100800	504000	464500	1069300
30	522	10	30	0	360	187920	1252800	655200	2095920

Table 6.10(iv). Expenditure on Salary of Teachers in Private Schools in Kohima

Sl No.	Matriculate Teachers		Graduate Teachers		Post-Graduate Teachers		Theology Teachers		Computer Teachers		All Teachers Salary [TS]
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	
1	10	3500	19	4300	13	3500	3	4300	3	4300	2256000
2	8	3000	18	4500	10	5500	1	4500	1	4500	2028000
3	6	3500	12	3700	0	0	0	0	0	0	784800
4	1	2750	5	3000	0	0	0	0	0	0	213000
5	11	3200	32	4000	8	4800	1	4000	1	4000	2515200
6	4	2700	19	3000	3	3600	0	0	1	3600	986400
7	2	1200	12	2200	0	0	0	0	0	0	345600
8	7	2300	10	3000	0	0	1	3000	0	0	589200
9	10	3000	21	4500	2	5300	4	4500	3	4500	1999200
10	3	2500	7	3000	0	0	2	2800	0	0	409200
11	2	3000	13	3800	5	4000	0	0	0	0	904800
12	3	2800	15	3200	2	3500	0	0	1	3200	799200
13	4	4810	17	4570	0	0	0	0	1	4570	1218000
14	3	2400	8	3000	3	3100	0	0	0	0	486000
15	6	2600	16	3600	3	3635	1	3600	1	3600	1095660
16	2	3450	26	3750	6	3930	1	3550	0	0	1578360
17	4	2050	6	3000	1	3500	0	0	0	0	356400
18	2	1700	14	2200	2	2600	0	0	0	0	472800
19	0	0	10	3863	6	4127	2	4500	4	3662	1044480
20	8	2800	36	4300	6	6600	2	4700	2	4500	2822400
21	1	2300	12	3300	0	0	1	2800	0	0	536400
22	4	2500	8	3500	4	4000	2	3000	2	4000	816000
23	6	2000	9	3000	2	3800	0	0	1	3500	601200
24	3	3100	38	3800	7	4800	0	0	2	3800	2338800
25	6	3000	30	3500	4	3800	8	3000	2	3300	2025600
26	4	2572	13	3587	1	3638	2	3587	0	0	812772
27	7	2500	9	3500	2	3800	0	0	0	0	679200
28	0	0	9	3500	5	4000	3	3500	2	3500	828000
29	5	2400	6	3000	5	3500	1	3200	1	3200	646800
30	4	2640	13	3580	2	3650	1	3580	1	3580	858720

Table 6.10(v). Expenditure on Salary of Non-Teaching Staff in Private Schools in Kohima

Sl No.	Matriculate NT Staff		Graduate NT Staff		Grade-IV NT Staff		Salary NT Staff [NTS]	Salary Teachers [TS]	Salary [TS + NTS]
	No.	Salary	No.	Salary	No.	Salary			
1	3	2150	1	3400	3	2150	195600	2256000	2451600
2	4	2900	0	0	8	2700	398400	2028000	2426400
3	1	2900	0	0	2	1000	58800	784800	843600
4	0	0	0	0	1	1000	12000	213000	225000
5	1	1800	0	0	8	1800	194400	2515200	2709600
6	2	2500	2	3000	0	0	132000	986400	1118400
7	0	0	0	0	2	700	16800	345600	362400
8	0	0	0	0	1	2100	25200	589200	614400
9	1	2900	0	0	3	2700	132000	1999200	2131200
10	0	0	0	0	4	1300	62400	409200	471600
11	1	2500	1	2800	3	1800	128400	904800	1033200
12	2	2500	3	3000	3	2400	254400	799200	1053600
13	1	2625	0	0	3	1500	85500	1218000	1303500
14	0	0	0	0	2	1600	38400	486000	524400
15	1	3200	1	3200	3	1000	112800	1095660	1208460
16	1	3400	0	0	3	2650	136200	1578360	1714560
17	0	0	0	0	0	0	0	356400	356400
18	1	1800	0	0	1	1500	39600	472800	512400
19	1	3259	0	0	3	1000	75108	1044480	1119588
20	3	5618	0	0	6	3450	450648	2822400	3273048
21	0	0	0	0	3	1900	68400	536400	604800
22	0	0	0	0	2	2000	48000	816000	864000
23	1	2000	0	0	3	1250	69000	601200	670200
24	2	1700	1	2800	3	800	103200	2338800	2442000
25	11	2800	0	0	2	1700	410400	2025600	2436000
26	0	0	0	0	3	1740	62640	812772	875412
27	1	2000	0	0	7	1800	175200	679200	854400
28	0	0	0	0	4	1200	57600	828000	885600
29	0	0	0	0	3	1800	64800	646800	711600
30	0	0	2	2540	2	2100	111360	858720	970080

Table 6.10(vi). Expenditure on Overheads and Gross Expenditure in Private Schools in Kohima

Sl No.	Details of Overhead Expenses				Overhead Expenses [OH]	Salaries [TS+NTS]	Explicit Expenses [OH+TS+NTS] = [XEXP]
	Infra-structure	Building Rent	Awards etc	Miscellaneous*			
1	150000	0	100000	30000	280000	2451600	2731600
2	300000	600000	153000	93000	1146000	2426400	3572400
3	2500	0	20000	10000	32500	843600	876100
4	40000	0	1800	40000	81800	225000	306800
5	100000	0	121800	110000	331800	2709600	3041400
6	300000	0	8000	50000	358000	1118400	1476400
7	50000	0	8000	30000	88000	362400	450400
8	100000	0	15000	47500	162500	614400	776900
9	150000	300000	23000	12000	485000	2131200	2616200
10	6000	0	50000	55000	111000	471600	582600
11	40000	0	22000	25000	87000	1033200	1120200
12	100000	0	18000	30000	148000	1053600	1201600

13	100000	0	13000	30000	143000	1303500	1446500
14	30000	0	2000	2000	34000	524400	558400
15	20000	0	15000	15000	50000	1208460	1258460
16	600000	0	30000	70000	700000	1714560	2414560
17	50000	0	0	10000	60000	356400	416400
18	150000	0	2000	17000	169000	512400	681400
19	100000	300000	70000	30000	500000	1119588	1619588
20	100000	0	105000	30000	235000	3273048	3508048
21	20000	0	3500	15000	38500	604800	643300
22	50000	0	22000	16000	88000	864000	952000
23	100000	0	15000	25000	140000	670200	810200
24	30000	0	40000	260000	330000	2442000	2772000
25	300000	0	335000	115000	750000	2436000	3186000
26	90000	4000	10000	17000	121000	875412	996412
27	500000	0	20000	20000	540000	854400	1394400
28	25000	15000	15000	10000	65000	885600	950600
29	15000	84000	0	7000	106000	711600	817600
30	60000	0	9000	20000	89000	970080	1059080

Note: * Includes expenses on school functions.

Table 6.10(vii). Expenses on School Functions

Sl no	Expenses	Sl no	Expenses	Sl no	Expenses	Sl no	Expenses	Sl no	Expenses	Sl no	Expenses
1	30000	6	50000	11	25000	16	20000	21	10000	26	17000
2	55000	7	30000	12	10000	17	10000	22	6000	27	15000
3	10000	8	7500	13	15000	18	7000	23	10000	28	10000
4	40000	9	7000	14	2000	19	10000	24	250000	29	5000
5	100000	10	50000	15	15000	20	10000	25	75000	30	10000

Note: In some schools expenses on School Functions appear to be disproportionately large (eg. # 24).

Table 6.10(viii). Imputation of Rental Expenses in Private Schools in Kohima

Sl. No.	Various Types of Rooms in the School Building						Total no. of rooms in the School Building [NR]	Imputed Value per Year (Rs.)	Actual Rent Paid per Year (Rs.)
	Building Type [BT]	No. Class Rooms [NC]	Office Room [NO]	Conference Hall [CH]	Head's Room [HR]	Other Rooms [OR]		[IR]	[RENT]
1	1	30	3	1	1	7	42	462000	0
2	1	34	5	1	1	4	45	600000	600000
3	3	12	1	1	1	2	17	62333	0
4	1	4	0	1	1	2	8	88000	0
5	2	36	4	0	2	5	47	258500	0
6	2	18	4	0	1	5	28	154000	0
7	3	12	4	1	1	2	20	73333	0
8	3	13	1	1	1	0	16	58666	0
9	1	24	2	1	1	3	31	341000	300000
10	2	10	2	1	1	2	16	88000	0
11	2	15	3	1	1	0	20	110000	0
12	2	14	4	1	3	1	23	126500	0
13	1	13	3	1	1	2	20	220000	0
14	1	11	1	1	1	1	15	165000	0
15	3	23	4	1	2	1	31	113666	0

16	2	23	5	0	1	1	30	165000	0
17	2	10	2	0	1	1	14	77000	0
18	1	14	2	0	1	4	21	231000	0
19	1	16	1	1	1	2	21	300000	300000
20	2	36	10	1	2	2	51	280500	0
21	2	11	3	0	1	1	16	88000	0
22	2	14	1	0	1	2	18	99000	0
23	1	20	3	0	1	3	27	297000	0
24	1	26	2	0	1	2	31	341000	0
25	1	30	4	1	1	4	40	440000	0
26	2	13	3	0	1	4	21	115500	4000
27	1	12	1	0	1	0	14	154000	0
28	2	15	5	0	2	3	25	137500	15000
29	1	12	2	1	1	0	16	176000	84000
30	1	15	4	1	1	7	28	308000	0

Note : IR = Imputed Rent [IRENT] = Max{ 11000*(NR/ BT), RENT }

Table 6.10(ix). Imputed Annualized Expenditure on Library books and Computers in Private Schools in Kohima						
	School Library/Books			Computers		Books + Computers
Sl. No.	Existing Books (No.)	Addition of Books (No.)	Annual Imputed Value (Rs.)	Number	Annual Imputed Value (Rs.)	Annualized imputed Value of Computers + Books = [CL]
1	355	8.66	865.85	11	135666.7	136532.5
2	185380	251.77	25177	32	394666.7	419843.7
3	100	11.11	1111.11	0	0	1111.11
4	0	0	0	0	0	0
5	584	18.25	1825	3	37000	38825
6	200	7.14	714.29	4	49333.33	50047.62
7	120	5.22	521.74	0	0	521.74
8	165	8.25	825	1	12333.33	13158.33
9	3470	111.94	11193.55	10	123333.3	134526.9
10	0	0	0	0	0	0
11	300	17.65	1764.71	0	0	1764.71
12	1000	76.92	7692.31	5	61666.67	69358.98
13	1000	83.33	8333.33	5	61666.67	70000
14	0	0	0	0	0	0
15	750	44.12	4411.76	10	123333.3	127745.1
16	0	0	0	0	0	0
17	150	21.43	2142.86	0	0	2142.86
18	200	16.67	1666.67	2	24666.67	26333.34
19	500	71.43	7142.86	10	123333.3	130476.2
20	3500	83.33	8333.33	11	135666.7	144000
21	120	8.57	857.14	0	0	857.14
22	500	38.46	3846.15	4	49333.33	53179.48
23	300	9.09	909.09	4	49333.33	50242.42
24	100	3.85	384.62	15	185000	185384.6
25	8000	222.22	22222.22	18	222000	244222.2
26	130	5	500	0	0	500
27	0	0	0	0	0	0
28	200	22.22	2222.22	5	61666.67	63888.89
29	0	0	0	3	37000	37000
30	600	37.50	3750	6	74000	77750

**Table 6.10(x). Gross Expenditure and Revenue
in Private Schools in Kohima**

Sl No	Grants & Aid			Gross Annual Revenue [GAR]	Explicit Expen- Diture [XEXP]	Imputed Rent of School Buildng [IR]	GROSS INCOME (Annual) [GAR + GA + IA] = [GINC]	GROSS EXPENSES (Annual) [XEXP + IR +CL - RENT] = [GEXP]*
	GOVT Aids [GA]	INDV Aids [IA]	TOTAL Aids [GA+IA]					
1	30000	0	30000	5039100	2731600	462000	5069100	3330133
2	0	0	0	4959000	3572400	600000	4959000	3992244
3	0	0	0	2039300	876100	62333	2039300	939544.1
4	0	0	0	716300	306800	88000	716300	394800
5	5500	10000	15500	6543780	3041400	258500	6559280	3338725
6	0	20000	20000	1782145	1476400	154000	1802145	1680448
7	0	0	0	313650	450400	73333	313650	524254.7
8	0	0	0	1177340	776900	58666	1177340	848724.3
9	18000	0	18000	4148550	2616200	341000	4166550	2791727
10	0	0	0	426400	582600	88000	426400	670600
11	8000	0	8000	2138400	1120200	110000	2146400	1231965
12	18000	0	18000	2256780	1201600	126500	2274780	1397459
13	5000	0	5000	3300150	1446500	220000	3305150	1736500
14	0	0	0	1060590	558400	165000	1060590	723400
15	15000	250000	265000	4136500	1258460	113666	4401500	1499871
16	0	0	0	3615975	2414560	165000	3615975	2579560
17	0	0	0	388800	416400	77000	388800	495542.9
18	12000	0	12000	1191995	681400	231000	1203995	938733.3
19	0	0	0	2938795	1619588	300000	2938795	1750064
20	15000	0	15000	11855620	3508048	280500	11870620	3932548
21	0	0	0	485000	643300	88000	485000	732157.1
22	0	0	0	3180300	952000	99000	3180300	1104179
23	0	0	0	1654700	810200	297000	1654700	1157442
24	15000	50000	65000	9638875	2772000	341000	9703875	3298385
25	0	0	0	5001600	3186000	440000	5001600	3870222
26	0	0	0	1682040	996412	115500	1682040	1108412
27	0	0	0	1700400	1394400	154000	1700400	1548400
28	0	0	0	1721700	950600	137500	1721700	1136989
29	0	0	0	1069300	817600	176000	1069300	946600
30	0	0	0	2095920	1059080	308000	2095920	1444830

Note: * CL = Annualized (imputed) Expenses on Computers and Addition of Books in the Library.

**Table 6.10(xi). Gross Expenditure, Revenue and
Surplus/Deficit in Private Schools in Kohima**

Sl No	Gross Annual Revenue [GAR]	Gross Annual Expenses [GEXP]	Gross Annu Income [GINC]	Surplus / Deficit		Profit Rates		Profit (1) / Loss (-1) Status of the School
				Surplus1 [GAR GEXP]	Surplus 2 [GINC GEXP]	Profit Rat 1 [GAR/ GEXP] Percent	Profit Rat 2 [GINC/ GEXP] Percent	
1	5039100	3330133	5069100	1708967	1738967	151.32	152.22	1
2	4959000	3992244	4959000	966756	966756	124.22	124.22	1

3	2039300	939544.1	2039300	1099756	1099756	217.05	217.05	1
4	716300	394800	716300	321500	321500	181.43	181.43	1
5	6543780	3338725	6559280	3205055	3220555	196	196.46	1
6	1782145	1680448	1802145	101697	121697	106.05	107.24	1
7	313650	524254.7	313650	-210605	-210605	59.83	59.83	(-1)
8	1177340	848724.3	1177340	328615.7	328615.7	138.72	138.72	1
9	4148550	2791727	4166550	1356823	1374823	148.6	149.25	1
10	426400	670600	426400	-244200	-244200	63.58	63.58	(-1)
11	2138400	1231965	2146400	906435	914435	173.58	174.23	1
12	2256780	1397459	2274780	859321	877321	161.49	162.78	1
13	3300150	1736500	3305150	1563650	1568650	190.05	190.33	1
14	1060590	723400	1060590	337190	337190	146.61	146.61	1
15	4136500	1499871	4401500	2636629	2901629	275.79	293.46	1
16	3615975	2579560	3615975	1036415	1036415	140.18	140.18	1
17	388800	495542.9	388800	-106743	-106743	78.46	78.46	(-1)
18	1191995	938733.3	1203995	253261.7	265261.7	126.98	128.26	1
19	2938795	1750064	2938795	1188731	1188731	167.93	167.93	1
20	11855620	3932548	11870620	7923072	7938072	301.47	301.86	1
21	485000	732157.1	485000	-247157	-247157	66.24	66.24	(-1)
22	3180300	1104179	3180300	2076121	2076121	288.02	288.02	1
23	1654700	1157442	1654700	497258	497258	142.96	142.96	1
24	9638875	3298385	9703875	6340490	6405490	292.23	294.2	1
25	5001600	3870222	5001600	1131378	1131378	129.23	129.23	1
26	1682040	1108412	1682040	573628	573628	151.75	151.75	1
27	1700400	1548400	1700400	152000	152000	109.82	109.82	1
28	1721700	1136989	1721700	584711	584711	151.43	151.43	1
29	1069300	946600	1069300	122700	122700	112.96	112.96	1
30	2095920	1444830	2095920	651090	651090	145.06	145.06	1

**Table 6.10(xii). Some Important Ratios regarding Expenditure
in Private Schools in Kohima**

Sl No.	Number of Students In the School	Items of Expenditure (Annual)				Expenditure per Student (On an Average per Year)			
		Teachers Salary	NTStaff Salary	Net Over-head	Imputed Rent or Rent	Teachers Salary	NTStaff Salary	Net Over-head	Imputed Rent or Rent

1	1534	2256000	195600	280000	462000	1470.66	127.5	182.52	301.17
2	1536	2028000	398400	1146000	600000	1320.31	259.37	746.09	390.62
3	645	784800	58800	32500	62333	1216.74	91.16	50.38	96.64
4	247	213000	12000	81800	88000	862.34	48.58	331.17	356.27
5	1633	2515200	194400	331800	258500	1540.23	119.04	203.18	158.29
6	749	986400	132000	358000	154000	1316.95	176.23	477.97	205.6
7	123	345600	16800	88000	73333	2809.75	136.58	715.44	596.2
8	399	589200	25200	162500	58666	1476.69	63.15	407.26	147.03
9	1317	1999200	132000	485000	341000	1517.99	100.22	368.26	258.92
10	202	409200	62400	111000	88000	2025.74	308.91	549.5	435.64
11	649	904800	128400	87000	110000	1394.14	197.84	134.05	169.49
12	642	799200	254400	148000	126500	1244.85	396.26	230.52	197.04
13	729	1218000	85500	143000	220000	1670.78	117.28	196.15	301.78
14	369	486000	38400	34000	165000	1317.07	104.06	92.14	447.15
15	1170	1095660	112800	50000	113666	936.46	96.41	42.73	97.15
16	1053	1578360	136200	700000	165000	1498.91	129.34	664.76	156.69
17	162	356400	0	60000	77000	2200	0	370.37	475.3

18	350	472800	39600	169000	231000	1350.85	113.14	482.85	660
19	865	1044480	75108	500000	300000	1207.49	86.83	578.03	346.82
20	2145	2822400	450648	235000	280500	1315.8	210.09	109.55	130.76
21	235	536400	68400	38500	88000	2282.55	291.06	163.82	374.46
22	672	816000	48000	88000	99000	1214.28	71.42	130.95	147.32
23	495	601200	69000	140000	297000	1214.54	139.39	282.82	600
24	2030	2338800	103200	330000	341000	1152.11	50.83	162.56	167.98
25	1538	2025600	410400	750000	440000	1317.03	266.84	487.64	286.08
26	654	812772	62640	121000	115500	1242.77	95.77	185.01	176.6
27	654	679200	175200	540000	154000	1038.53	267.88	825.68	235.47
28	450	828000	57600	65000	137500	1840	128	144.44	305.55
29	280	646800	64800	106000	176000	2310	231.42	378.57	628.57
30	522	858720	111360	89000	308000	1645.05	213.33	170.49	590.03

Table 6.10(xiii). Factors of Profit/Loss in Private Schools in Kohima

Sl No.	Factors plausibly responsible for Profit / Loss incurred by the School									Reason for Loss *
	No. of Stud.	Teachers Salary	NTStaff Salary	Net Over-hea	Imputed Rent or Rent	Profit/ Loss Status	Standard of the School	Grant & Aid Status	Type of School	
1	1534	1470.66	127.5	182.52	301.17	1	12	30000	1	
2	1536	1320.31	259.37	746.09	390.62	1	12	0	2	
3	645	1216.74	91.16	50.38	96.64	1	10	0	3	
4	247	862.34	48.58	331.17	356.27	1	2	0	2	
5	1633	1540.23	119.04	203.18	158.29	1	12	15500	4	
6	749	1316.95	176.23	477.97	205.6	1	10	20000	5	
7	123	2809.75	136.58	715.44	596.2	(-1)	10	0	6	Scale
8	399	1476.69	63.15	407.26	147.03	1	10	0	4	
9	1317	1517.99	100.22	368.26	258.92	1	10	18000	2	
10	202	2025.74	308.91	549.5	435.64	(-1)	8	0	3	Scale
11	649	1394.14	197.84	134.05	169.49	1	10	8000	3	
12	642	1244.85	396.26	230.52	197.04	1	10	18000	3	
13	729	1670.78	117.28	196.15	301.78	1	10	5000	3	
14	369	1317.07	104.06	92.14	447.15	1	8	0	4	
15	1170	936.46	96.41	42.73	97.15	1	10	265000	3	
16	1053	1498.91	129.34	664.76	156.69	1	10	0	4	
17	162	2200	0	370.37	475.3	(-1)	8	0	4	Scale
18	350	1350.85	113.14	482.85	660	1	10	12000	3	
19	865	1207.49	86.83	578.03	346.82	1	10	0	2	
20	2145	1315.8	210.09	109.55	130.76	1	12	15000	3	
21	235	2282.55	291.06	163.82	374.46	(-1)	9	0	3	Scale
22	672	1214.28	71.42	130.95	147.32	1	10	0	3	
23	495	1214.54	139.39	282.82	600	1	10	0	6	
24	2030	1152.11	50.83	162.56	167.98	1	12	65000	6	
25	1538	1317.03	266.84	487.64	286.08	1	10	0	2	
26	654	1242.77	95.77	185.01	176.6	1	10	0	6	
27	654	1038.53	267.88	825.68	235.47	1	10	0	7	
28	450	1840	128	144.44	305.55	1	10	0	3	
29	280	2310	231.42	378.57	628.57	1	10	0	3	
30	522	1645.05	213.33	170.49	590.03	1	10	0	4	

Note : It appears that the scale of operation (enrolment) is too small to be optimal and in some cases the net overhead expenses are very large in proportion.

Table 6.10(xiv). Revenue due to Computer Exposure to Students in Private Schools in Kohima, Nagaland								
Sl No	No. of Students	No. of Computers	Computer/Per Student	No. Computer teachers	Monthly Salary	Salary Bill/year	Total revenue	Net * revenue
1	1534	11	0.71	3	4300	154800	306800	152000
2	1536	32	2.08	1	4500	54000	230400	176400
3	645	0	0	0	0	0	0	0
4	247	0	0	0	0	0	0	0
5	1633	3	0.18	1	4000	48000	587880	539880
6	749	4	0.53	1	3600	43200	314580	271380
7	123	0	0	0	0	0	0	0
8	399	1	0.25	0	0	0	0	0
9	1317	10	0.75	3	4500	162000	460950	298950
10	202	0	0	0	0	0	0	0
11	649	0	0	0	0	0	0	0
12	642	5	0.77	1	3200	38400	250380	211980
13	729	5	0.68	1	4570	54840	109350	54510
14	369	0	0	0	0	0	0	0
15	1170	10	0.85	1	3600	43200	409500	366300
16	1053	0	0	0	0	0	0	0
17	162	0	0	0	0	0	0	0
18	350	2	0.57	0	0	0	168000	168000
19	865	10	1.15	4	3662	175776	311400	135624
20	2145	11	0.51	2	4500	108000	1029600	921600
21	235	0	0	0	0	0	0	0
22	672	4	0.59	2	4000	96000	403200	307200
23	495	4	0.8	1	3500	42000	178200	136200
24	2030	15	0.73	2	3800	91200	507500	416300
25	1538	18	1.17	2	3300	79200	307600	228400
26	654	0	0	0	0	0	0	0
27	654	0	0	0	0	0	0	0
28	450	5	1.11	2	3500	84000	162000	78000
29	280	3	1.07	1	3200	38400	100800	62400
30	522	6	1.14	1	3580	42960	187920	144960

Note : * = Total Revenue minus Salary Bill

Table 6.10(xv). Boarding in the Private Schools of Kohima, Nagaland						
Serial No.	No. of Students	No. of Boarders	Monthly Boarding Charges	Annual Boarding Revenue *	Boarder % To Total Students	Year of Establishment
1	1534	0	0	0	0	1959
2	1536	0	0	0	0	1972
3	645	0	0	0	0	1991
4	247	0	0	0	0	1981
5	1633	0	0	0	0	1968
6	749	0	0	0	0	1972
7	123	0	0	0	0	1977
8	399	0	0	0	0	1980
9	1317	80	850	680000	6.07	1969
10	202	40	850	340000	19.8	1993
11	649	0	0	0	0	1983
12	642	34	1800	612000	5.29	1987

13	729	0	0	0	0	1988
14	369	0	0	0	0	1985
15	1170	80	1250	1000000	6.83	1983
16	1053	0	0	0	0	1990
17	162	0	0	0	0	1993
18	350	0	0	0	0	1988
19	865	0	0	0	0	1993
20	2145	0	0	0	0	1958
21	235	42	850	357000	17.87	1986
22	672	0	0	0	0	1987
23	495	28	1000	280000	5.65	1967
24	2030	0	0	0	0	1974
25	1538	77	1200	924000	5	1964
26	654	0	0	0	0	1974
27	654	0	0	0	0	1988
28	450	72	1700	1224000	16	1991
29	280	38	1000	380000	13.57	1985
30	522	0	0	0	0	1984
Total	24049	491	10500	5797000	2.04	-----

Note : On an average, annual Boarding Charges (10 Months only) is Rs. 11806.52

6.11. Explanation of Profit Rate in Private Schooling Industry in Kohima

We have seen that in the year 2000, the private schooling industry in Kohima imparted educational services to 24049 students, employed 766 teaching and 140 non-teaching staff, generated the revenue of Rs. 88.26 million, spent Rs. 51.14 million and earned a profit of Rs. 37.11 million. It is now pertinent to investigate into the determinants of the rate of profit as well as to inquire if this industry operates according to the laws of the market. A real life market is seldom perfectly competitive since it has to operate under the conditions that are extra-ideal. Yet, the nature of imperfection may at times be very acute and at other times it may be mild. Mild imperfection goes in favour of the consumers while acute imperfection goes in favour of the producers.

There could be several indicators of market imperfection. One of these indicators is the proportion of total output of an industry produced by the

largest (or first few large) firms. In case of the private school industry that we are concerned here, it would mean the proportion of the total number of students enrolled by the largest (or first few large) schools. Another indicator of imperfection is the gap between the price charged and the marginal revenue at the equilibrium output level that equates it to the marginal cost. Yet another indicator of imperfection may be the existence of barriers to the entry of new firms in the industry, which may be of several types. There could exist a tacit or explicit coalition among the firms to fix the price of output much above the cost of production and such an instance may introduce severe imperfection in the market. In this case, the entire industry may work like a gigantic firm (a cartel). There could exist a leader firm having advantages (diminishing returns to scale) over other firms and it may fix a price at which other firms supply their output.

Degree of Imperfection in the Private Schooling Market in Kohima: We make an attempt here to measure the degree of imperfection in the Private Schooling Market in Kohima. We use two popular measures of the degree of imperfection, (a) Concentration index (ratio) and, (b) Herfindahl-Hirschman index (**Byrns** and **Stone**, pp. 546-547). We envisage that the degree of imperfection may explain the Profit index, a simple percentage of revenue over cost, that is, the Profit Index (P_i) = (Revenue earned by the i^{th} school / Cost incurred by the i^{th} school)*100 for each school. The two indices of imperfection are defined as follows:

a). **Concentration Index** $[C] = \Sigma(100.N_i/N): i = 1, 2, \dots, n.$

b). **Herfindahl-Hirschman Index** $[H] = \Sigma(100.N_i/N)^2 = \Sigma(S_i)^2; i = 1, 2, \dots, n.$

It may be observed that the first four schools (together) serve 30.5 percent of the total number of students in the industry and first eight schools (together) serve 53.7 percent of the clientele. The values of cumulative Herfindahl indices for first four and the first eight schools are 237.81 and 372.95 respectively, which as percentages to the overall Herfindahl index (for the industry = 492.61) are 48.27 and 75.70 respectively. These indices explain variations in the profit index significantly.

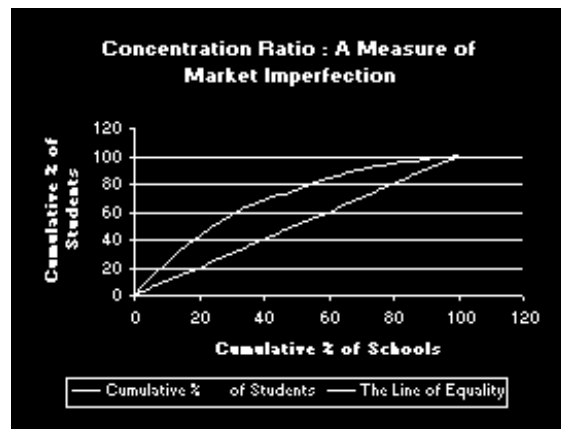


Table 6.11(i). Measures of Market Imperfection in Private Schooling Industry, Kohima.

Sl. No.	Herfindahl Index [H]	Concentration Index [C]	Profit Index (1) [P ₁]	Sl. No.	Herfindahl Index [H]	Concentration Index [C]	Profit Index (1) [P ₁]
1	40.68709	6.378644	151.32	16	19.17179	4.37856	140.18
2	40.79326	6.38696	124.22	17	0.45377	0.673625	78.46
3	7.193254	2.682024	217.05	18	2.118078	1.455362	126.98
4	1.054872	1.02707	181.43	19	12.93714	3.596823	167.93
5	46.10822	6.790303	196	20	79.55373	8.91929	301.47
6	9.699952	3.114475	106.05	21	0.954864	0.977172	66.24
7	0.261587	0.511456	59.83	22	7.808084	2.794295	288.02
8	2.752655	1.659113	138.72	23	4.236589	2.058298	142.96
9	29.99007	5.476319	148.6	24	71.25216	8.441099	292.23
10	0.705519	0.839952	63.58	25	40.89956	6.395276	129.23

11	7.282749	2.698657	173.58	26	7.395396	2.719448	151.75
12	7.126495	2.66955	161.49	27	7.395396	2.719448	109.82
13	9.188847	3.031311	190.05	28	3.501313	1.87118	151.43
14	2.354283	1.534367	146.61	29	1.35557	1.16429	112.96
15	23.66888	4.865067	275.79	30	4.711367	2.170568	145.06

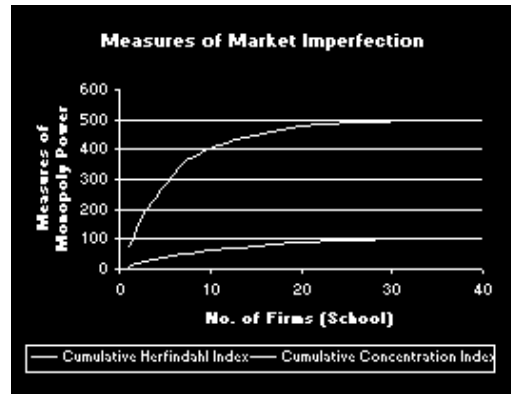


Table 6.11(ii). Cumulative Concentration and Herfindahl Indices

Firm	Cum[H]	Cum[C]	Firm	Cum[H]	Cum[C]	Firm	Cum[H]	Cum[C]
1	79.55373	8.91929	11	414.7618	64.74282	21	480.6013	90.15759
2	150.8059	17.36039	12	423.9507	67.77413	22	483.3540	91.81671
3	196.9141	24.15069	13	431.7588	70.56842	23	485.7083	93.35107
4	237.8137	30.54597	14	439.1542	73.28787	24	487.8264	94.80644
5	278.6069	36.93293	15	446.5496	76.00732	25	489.1819	95.97073
6	319.294	43.31157	16	453.8323	78.70598	26	490.2368	96.99780
7	349.2841	48.78789	17	461.0256	81.38800	27	491.1917	97.97497
8	372.953	53.65296	18	468.1521	84.05755	28	491.8972	98.81492
9	392.1248	58.03152	19	472.8634	86.22812	29	492.3510	99.48854
10	405.0619	61.62834	20	477.9999	88.28642	30	492.6125	100.0000

Table 6.11(iii). Profit Index (P_1) explained by Indices of Market Imperfection

Model: Profit Index = f(*)	Measure Of Market Imperfection	Coefficient	Std. Err.	Beta	t value	Sig.
Herfindahl: $R^2 = 0.326$ $F = 13.52$	(Constant)	129.399	12.550		10.311	.000
	Herfindahl Index	1.740	.473	.571	3.676	.001
Concentration $R^2 = 0.352$ $F = 15.21$	(Constant)	103.469	16.987		6.091	.000
	Concentration Index	16.350	4.192	.593	3.900	.001

Table 6.11(iv). Gender Ratios of Students and Teachers and Profitability (P_1)

Model: Profit Rate = f(*,*)	N=29	Coefficient	Std. Err.	Beta	t value	Sig.
$R^2 = 0.542$	(Constant)	-2.241	32.821		-.068	.946
$F = 14.77$	Ms/Mt	1.852	.473	.542	3.915	.001
	Fs/Ft	3.608	1.261	.396	2.861	.008

Table 6.11(v). Gender Ratios of Students and Teachers and Profitability (P₁)

Model: Profit Rate = f(*,*)	N=29	Coefficient	Std. Err.	Beta	t value	Sig.
R ² = 0.225	(Constant)	52.967	39.554		1.339	.192
F = 3.77	Ms/Ft	3.258	1.207	.527	2.700	.012
	Fs/Mt	.324	.191	.331	1.699	.101

Ms/Ft = (Male Students/Female Teacher); Fs/Mt = (Female Student/Male Teacher)

Table 6.11(vi). Class-Room Utilization Index and Profitability (P₁)

Model: Profit Rate = f(*,*)	N=30	Coefficient	Std. Err.	Beta	t value	Sig.
R ² = 0.543	(Constant)	30.922	23.466		1.318	.198
F = 33.29	Class-room Utilization	1.475	0.256	.737	5.770	.000

Table 6.11(vii). Teaching Force Utilization Index* and Profitability (P₁)

Model: Profit Rate = f(*,*)	N=30	Coefficient	Std. Err.	Beta	t value	Sig.
R ² = 0.147	(Constant)	78.129	38.057		2.053	.050
F = 4.81	Teacher Utilization	96.619	44.058	.383	2.193	.037

Table 6.11(viii). Student-Teacher Ratio and Profitability (P₁)

Model: Profit Rate = f(*,*)	N=30	Coefficient	Std. Err.	Beta	t value	Sig.
R ² = 0.528	(Constant)	4.005	28.698		.140	.890
F = 31.37	Student-Teacher Ratio	5.248	.937	.727	5.601	.000

6.12. Production Function in the Private Schooling Industry in Kohima

Having looked into some aspects of the economics of Private schooling industry in Kohima, it is natural to inquire whether one may investigate as to how the inputs (teachers, non-teaching staff, house-building and infrastructure) are transformed into the output (services to the students enrolled in the schools). In search of the technological relationship between the inputs and the output, however, we face very difficult problems. First of all, these schools provide services to the students of different standards, starting from the lower

classes up to the higher secondary classes. May we simply add up (equal weight) the numbers (of students in different standards) or we should use some sort of weight to standardize the numbers? If weights are to be used, how do we obtain them? Secondly, inputs are not standardized. There are matriculate teachers and graduate teachers and so on. Then, the non-teaching staff are there. All of them together make up what we call the 'labour input'. Some schools pay rent explicitly and for others we had to compute the imputed value of rent. The schools spend (annually) on infrastructure and capital stock is built up over the years. What rate of discount may be used to obtain the value of the annualized contribution of capital to the output?

Additionally, we must remember that a production function is the relationship between the inputs and the output of an efficient firm (production unit). In the instance of sub-optimal operation we cannot legitimately define a production function. Are private schools in Kohima functioning at the frontiers of the technological feasibility of output and are they utilizing inputs most efficiently? These are indeed very difficult questions to answer, especially while we do not have enough information (data) at our disposal.

Under all these constraints, however, we would search for a production function in the private schooling industry in Kohima. We will estimate the standardized output and the standardized inputs. Then, we would investigate if some type of production function fits the data. In doing so, we would use three

specifications of production function; (a) Cobb-Douglas, (b) CES and (c) Translog. The CES and the Translog specifications include the Cobb-Douglas specification as a special case.

Standardization of Labour : Different types of teachers are paid salaries at different rates. Assuming that the services of the teachers and the non-teaching staff are paid according to their contribution to the output, we may use the average rate of their salaries as weights and aggregate the weighted numbers (of the teaching as well as the non-teaching staff) to obtain the (weighted) manpower used in the school to produce the output.

Estimation of Services of Capital : The sum total of imputed rent and expenses on infrastructure may be used as the proxy variable and it may be weighted by the index of capacity utilization to the estimated contribution of capital to the output.

Standardization of Output: The average fees charged to the students of different standards may be used as weights and the weighted sum of students at different standards may be obtained to measure the output of a schools.

Use of Index Values to the Estimation of Production Function: The estimated values (of output, labour and capital) so obtained may be transformed into the indices such that the sum total of each one is equal to 100. This would give us the relative values. We assume that they vary linearly with the measure that they represent.

Table 6.12(i). Estimated No. of Standardized Students (N^s) Population in different Private Schools in Kohima								
Sl No.	No. of Students	Students in different Classes			Average Fee Per Year			* N ^s
		Lower	Sec.	HS	Lower	Sec.	HS	
1	1534	804	589	141	3000	3000	6100	1654
2	1536	883	584	69	2950	2950	9150	1554
3	645	446	199	0	3100	3300	0	608
4	247	247	0	0	2900	0	0	227
5	1633	887	620	126	3660	3660	8160	1726
6	749	531	218	0	2375	2390	0	705
7	123	87	36	0	2550	2550	0	116
8	399	215	184	0	2900	3010	0	381
9	1317	779	538	0	3150	3150	0	1252
10	202	151	51	0	2020	2380	0	189
11	649	330	319	0	3000	3600	0	622
12	642	320	322	0	3440	3590	0	615
13	729	542	187	0	4450	4750	0	684
14	369	282	87	0	2820	3050	0	346
15	1170	770	400	0	3450	3700	0	1106
16	1053	564	489	0	3225	3675	0	1006
17	162	118	44	0	2400	2400	0	152
18	350	249	101	0	3335	3580	0	329
19	865	656	209	0	3360	3515	0	811
20	2145	1252	643	250	4730	5620	9280	2371
21	235	163	72	0	1880	2480	0	221
22	672	390	282	0	4250	5400	0	640
23	495	290	205	0	3260	3460	0	471
24	2030	1141	725	164	4125	5050	7750	2152
25	1538	870	668	0	3100	3450	0	1466
26	654	349	305	0	2460	2700	0	625
27	654	401	253	0	2600	2600	0	621
28	450	255	195	0	3670	4030	0	429
29	280	170	110	0	3760	3910	0	266
30	522	330	192	0	3960	4110	0	495
Total	24049	14472	8827	750	95880	101060	40440	23840
Mean	802	482	305	150	3196	3485	8088	795
Weight	-	-	-	-	0.917118	1.000000	2.320918	-

Table 6.12(ii). Teaching and Non-teaching Staff in Private School Industry in Kohima								
Sl No	Teaching Staff					Non-teaching Staff		
	Matric	Graduate	PG	Theology	Computer	Matric	Graduate	GradeIV
1	10	19	13	3	3	3	1	3
2	8	18	10	1	1	4	0	8
3	6	12	0	0	0	1	0	2
4	1	5	0	0	0	0	0	1
5	11	32	8	1	1	1	0	8
6	4	19	3	0	1	2	2	0
7	2	12	0	0	0	0	0	2
8	7	10	0	1	0	0	0	1

9	10	21	2	4	3	1	0	3
10	3	7	0	2	0	0	0	4
11	2	13	5	0	0	1	1	3
12	3	15	2	0	1	2	3	3
13	4	17	0	0	1	1	0	3
14	3	8	3	0	0	0	0	2
15	6	16	3	1	1	1	1	3
16	2	26	6	1	0	1	0	3
17	4	6	1	0	0	0	0	0
18	2	14	2	0	0	1	0	1
19	0	10	6	2	4	1	0	3
20	8	36	6	2	2	3	0	6
21	1	12	0	1	0	0	0	3
22	4	8	4	2	2	0	0	2
23	6	9	2	0	1	1	0	3
24	3	38	7	0	2	2	1	3
25	6	30	4	8	2	11	0	2
26	4	13	1	2	0	0	0	3
27	7	9	2	0	0	1	0	7
28	0	9	5	3	2	0	0	4
29	5	6	5	1	1	0	0	3
30	4	13	2	1	1	0	2	2
Total	136	463	102	36	29	38	11	91
Salary	4608.46	20323.09	5191.02	1569.65	1355.98	1289.86	387.36	2042.04
Weight	0.1253	0.5527	0.1412	0.0427	0.0369	0.0351	0.0105	0.0555

Table 6.12(iii). Estimated (Standardized)								
Labour, Capital and Output in Private Schooling Industry in Kohima								
Sl no.	Standardized Labour		Standardized Capital		Output (Students)		Standardized Output (N ^S)	
	Value	Index	Value	Index	Number	Index	Number	Index
1	14.11	4.76	6.12	7.1	1534	6.38	1654	6.94
2	13.03	4.39	9	9.26	1536	6.39	1554	6.52
3	7.53	2.54	0.65	0.77	645	2.68	608	2.55
4	2.94	0.99	1.28	1.75	247	1.03	227	0.95
5	20.76	7	3.59	3.81	1633	6.79	1726	7.24
6	11.56	3.9	4.54	4.12	749	3.11	705	2.96
7	6.99	2.36	1.23	0.34	123	0.51	116	0.49
8	6.5	2.19	1.59	1.06	399	1.66	381	1.6
9	13.63	4.6	4.91	6.02	1317	5.48	1252	5.25
10	4.55	1.54	0.94	0.41	202	0.84	189	0.79
11	8.35	2.82	1.5	1.41	649	2.7	622	2.61
12	9.25	3.12	2.27	2.48	642	2.67	615	2.58
13	10.14	3.42	3.2	4.03	729	3.03	684	2.87
14	5.33	1.8	1.95	1.54	369	1.53	346	1.45
15	10.31	3.48	1.34	1.52	1170	4.87	1106	4.64
16	15.71	5.3	7.65	7.62	1053	4.38	1006	4.22
17	3.96	1.34	1.27	0.42	162	0.67	152	0.64
18	8.36	2.82	3.81	2.09	350	1.46	329	1.38
19	6.81	2.3	4	4.64	865	3.6	811	3.4
20	22.35	7.54	3.81	5.21	2145	8.92	2371	9.95
21	6.97	2.35	1.08	0.53	235	0.98	221	0.93
22	5.76	1.94	1.49	1.63	672	2.79	640	2.68
23	6.25	2.11	3.97	2.17	495	2.06	471	1.98
24	22.69	7.65	3.71	6.7	2030	8.44	2152	9.03

25	18.81	6.34	7.4	8.34	1538	6.4	1466	6.15
26	8.08	2.73	2.06	2.25	654	2.72	625	2.62
27	6.56	2.21	6.54	7.73	654	2.72	621	2.6
28	6.1	2.06	1.63	1.07	450	1.87	429	1.8
29	4.9	1.65	1.91	1.05	280	1.16	266	1.12
30	8.18	2.76	3.68	2.94	522	2.17	495	2.07
Total	296.47	100.00	98.12	100.00	24049	100.00	23840	100.00

Estimation of Production Function and Interpretation: We observe that standardized values of output (No. of Students, N^S) are not much different from the non-standardized values. Thus, standardization of output will have negligible effect on the estimated parameters. We have excluded two schools (#20 and # 24) in our estimation procedure as they behave like outliers. The estimated parameters are presented in the tables below.

First, let us look into the estimated parameters of the Cobb-Douglas production function. The sum total of the parameters [associated with $\log(L)$ and $\log(K)$] is greater than unity indicating to mildly increasing returns to scale. This indication is stronger in case of the standardized output. Yet, in view of their joint standard errors of their estimate (0.19), the sum total of coefficients ($\alpha+\beta$) is not significantly different from unity. So we cannot reject the hypothesis that constant returns to scale prevail. The labour-elasticity of output is about 1.5 times larger than the capital-elasticity. We have seen earlier that class-rooms are already fully utilized. Increase in enrolment is mostly teacher-based. The parameters of the CES production function indicate to a mild tendency to increasing returns to scale (η is larger than unity). The estimated

parameter is however, not significantly different from unity. The value of the distribution parameter associated with labour is around 0.7, surely about 1.5 times of the parameter (about 0.3) associated with capital. The parameter of substitution (β) is negative, though not significantly different from zero. The value of $\sigma = 1/(1+\beta)$ may lie between 0.33 and infinity indicating that curvature of the iso-quant is very mild.

The parameters of Translog production function are (mostly) insignificantly different from zero, except those associated with capital and its squared value. It appears that small no. of observations and high degree of multi-collinearity among the explanatory variables have taken their toll.

Table 6.12(iv). Estimated Parameters of C-D Production Function (28 Schools)

Model : $\log(N) = f(L, K)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.820$	(Constant)	-.134	.153		-.874	.391
$F = 57.09; n = 28$	Log(L)	.701	.175	.457	4.010	.000
	Log(K)	.392	.084	.534	4.682	.000

Table 6.12(v). Estimated Parameters of C-D Production Function (28 Schools)

Model : $\log(N^S) = f(L, K)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.822$	(Constant)	-.214	.157		-1.363	.185
$F = 57.62; n = 28$	Log(L)	.745	.179	.472	4.159	.000
	Log(K)	.392	.086	.520	4.578	.000

Two points appear to be significant in this exercise. First, that the industry has a tendency to exhibit increasing returns to scale, though such a hypothesis can hardly be maintained against the alternative hypothesis that the constant returns to scale prevail. Second, that the labour-elasticity of output is significantly larger than the capital-elasticity of output. One may also conclude that the

industry can substitute capital for labour and the possibilities to increase output simply by an increase in labour are not far from reality.

Table 6.12(vi). Estimated Parameters of CES Production Function (28 Schools)

$N = \alpha \{ \delta L^{-\beta} + (1-\delta) K^{-\beta} \}^{-\eta/\beta}$; $R^2 = 0.832$; $n = 28$ Method of Estimation : Sequential Quadratic Programming			Asymptotic. Confidence Interval (95%)	
Parameter	Estimate	Asymptotic Std. Er.r	Lower	Higher
α	.912628480	.182457555	.536054594	1.289202366
δ	.770519408	.085275075	.594520303	.946518514
β	-.514612819	1.198634345	-2.98847252	1.959246882
η	1.063644618	.123709722	.808320302	1.318968935

Table 6.12(vii). Estimated Parameters of CES Production Function (28 Schools)

$N^S = \alpha \{ \delta L^{-\beta} + (1-\delta) K^{-\beta} \}^{-\eta/\beta}$; $R^2 = 0.822$; $n = 28$ Method : Sequential Quadratic Prog. Constraint: $\beta/-1$.			Asymptotic. Confidence Interval (95%)	
Parameter	Estimate	Asymptotic Std. Er.r	Lower	Higher
α	.791510579	.175400049	.429502670	1.153518489
δ	.798825106	.091387772	.610210014	.987440197
β	-1.000000000	1.423737289	-3.93844934	1.938449342
η	1.147752883	.135741232	.867596750	1.427909015

Table 6.12(viii). Estimated Parameters of Translog Production Function (28 Schools)

Model : $\log(N) = f(L, K)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.852$	(Constant)	-8.804E-02	.236		-.373	.713
$F = 25.37$; $n = 28$	Log(L)	.777	.486	.507	1.598	.124
	Log(K)	.460	.214	.627	2.149	.043
	Log(L)Log(K)	.118	.287	.221	.411	.685
	$(\text{Log(L)})^2$	-5.082E-02	.309	-.071	-.165	.871
	$(\text{Log(K)})^2$	-.160	.086	-.354	-1.851	.078

Table 6.12(ix). Estimated Parameters of Translog Production Function (28 Schools)

Model : $\log(N^S) = f(L, K)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.851$	(Constant)	-.149	.243		-.612	.547
$F = 25.17$; $n = 28$	Log(L)	.775	.502	.491	1.544	.137
	Log(K)	.458	.221	.606	2.070	.050
	Log(L)Log(K)	.120	.297	.218	.404	.690
	$(\text{Log(L)})^2$	-2.877E-02	.319	-.039	-.090	.929
	$(\text{Log(K)})^2$	-.159	.089	-.343	-1.786	.088

6.13. Equilibrium in the Private Schooling Market

It may be interesting to investigate if the private schooling market in Kohima has a tendency to seek for profit maximization. Are economic measures like average (and marginal) cost & revenue meaningful in explaining the output and pricing policies of the schools at individual level as well as at the industry level? Are the private schools profit maximizers or output maximizers, or these two alternative objectives reinforce each other ?

Among the private schools there are two large schools (# 20 and # 24) that turn out to be gross outliers, not only regarding to their size but also the economic measures that they exhibit. Further, there is a school (# 4), very small in size, which enrolls students only up to standard II (a Tiny Tot or Nursery School). We will keep this fact in mind since inclusion (or exclusion) of these schools in the analysis may significantly affect the estimated values of parameters of the model that we use.

Estimation of Cost Functions: Generally it is assumed that the total cost function is cubic in output since this specification allows it to take a U-shape. Further, it has been suggested (**Intriligator**, pp. 281-284) that instead of estimating the total cost function, one may estimate the average cost function to avoid the problems of heteroskedasticity in estimation. From the *estimated*

average cost function, one may obtain the *marginal cost function* directly. More explicitly (denoting C as Cost and N as output),

$C = a_0 + a_1N + a_2N^2 + a_3N^3 + u$: the total cost function (of a firm).

$AC = C/N = a_1 + a_0N^{-1} + a_2N + a_3N^2 + \eta$: the average cost function (of a firm) to estimate.

$MC = (\delta C / \delta N) = a_1 + 2 * a_2N + 3 * a_3N^2$: the marginal cost function (of a firm).

Estimation of Revenue Functions: Generally it is assumed that the total revenue function is quadratic in output since this specification allows the marginal revenue function to respond to changes in output. However, the revenue function is much more exposed to the global forces working at the industry level, since individual firms may not be able to price their output so freely. On the other hand, cost functions are localized (specific) to an individual firm. Due to this fact, the total revenue function may be linear and the marginal revenue function may not respond to the level of output produced by the firm. As in case of cost functions, instead of estimating the total revenue function, one may estimate the average revenue function to avoid the problems of heteroskedasticity in estimation. From the *estimated average revenue function*, one may obtain the *marginal revenue function* directly. More explicitly (denoting R as revenue and N as output),

$R = b_0 + b_1N + b_2N^2 + v$: the total (quadratic) revenue function (of a firm).

$AR = R/N = b_1 + b_0N^{-1} + b_2N + \varepsilon$: the average revenue function (of a firm) to estimate.

$MR = (\delta R / \delta N) = b_1 + 2 * b_2N$: the (linear) marginal revenue function (of a firm).

In case of linear revenue function, we have:

$R = b_0 + b_1N + v$: the total (linear) revenue function (of a firm).

$AR = R/N = b_1 + b_0 N^{-1} + \varepsilon$: the average revenue function (of a firm) to estimate.
 $MR = (\delta R / \delta N) = b_1$: the (constant) marginal revenue function (of a firm).

All Schools: First we estimate the cost and the revenue functions on the basis of all (30) private schools in Kohima. We find : (a) the revenue functions have a positive slope, (b) the average cost function is (more or less L-shaped), and (c) the marginal cost function is inverted U-shaped. They suggest increasing returns to scale and non-feasibility of a normal equilibrium in the market. In such a situation pricing may be artificial or administered (by a cartel operation or leadership).

It is not much unusual to obtain an L-shaped average cost function. In the literature on estimation of cost functions (Intriligator, 1978, p. 282) it has been found that the average cost functions are L-shaped for a variety of industries, including manufacturing, mining, distribution, transportation and trade. The critical level of output that defines the minimal efficient scale of operation is reached at the knee (or the elbow) of the average cost curve after which the average cost is more or less fixed. Various explanations have been suggested for the L-shaped nature of the average cost curve. Some explanations are based on econometric reasoning, involving certain biases present in the estimation or in the measurement of costs or output. Certain costs are unobservable (e.g. the cost of capital, self-employed labour and under-utilized factors of production,

etc). These are the sources of bias in estimation of cost functions. Other explanations are based on economic reasoning. For example, a profit maximizing enterprise would, assuming the cost curve applies to a particular unit (say, the school), build new schools (until the minimum average cost level is attained) rather than move up the rising portion of the average cost curve for its existing units (schools).

We find that the knee (elbow) of the average cost curve is at the output level (size of enrolment) of 500 students. This is the critical minimum size of operation for profit making. However, the marginal and the average costs are approximately equal in the output range of 700 - 1300 students (enrolment size). Beyond this size, marginal costs start decreasing. The mean optimal size of operation (enrolment) is about 1000 students.

Table 6.13(i). Revenue Functions (All 30 Schools)

Model : AVR = f(* *)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.281$	(Constant)	3878.792	200.746		19.322	.000
$F = 10.94$; $n = 30$	N^{-1}	-237828.808	71901.225	-.530	-3.308	.003

Model : AVR = f(* *)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.363$	(Constant)	3094.561	462.924		6.685	.000
$F = 7.69$	N^{-1}	-99358.629	101376.791	-.221	-.980	.336
$n = 30$	N	.607	.326	.421	1.863	.073

Table 6.13(ii). Cost Function (All 30 Schools)

Model : AVC = f(* **)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.552$	(Constant)	830.152	719.396		1.154	.259
$F = 10.70$	N^{-1}	389406.966	107209.172	1.092	3.632	.001
$n = 30$	N	1.345	1.116	1.173	1.205	.239
	N^2	-4.455E-04	.000	-.845	-1.041	.307

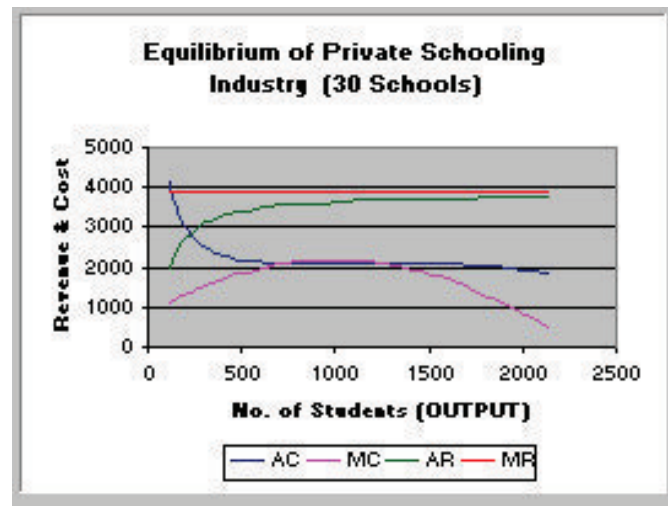
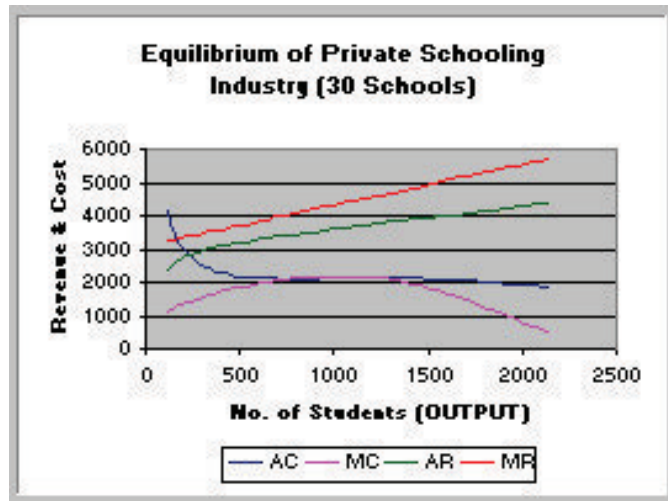


Table 6.13(iii). Estimated Average and Marginal Revenue and Cost (All 30 Schools)

Sl No	N	AC(P)	MC(P)	AR1(P)	MR1(P)	AR2(P)	MR2(P)
1	1534	2098.07	1808.09	3723.754	3878.792	3960.737	4956.837
2	1536	2097.7	1805.25	3723.956	3878.792	3962.035	4959.265
3	645	2115.75	2008.56	3510.066	3878.792	3331.951	3877.591
4	247	2711.62	1412.95	2915.923	3878.792	2842.197	3394.419
5	1633	2076.1	1654.89	3733.153	3878.792	4024.745	5077.023
6	749	2107.16	2094.34	3561.264	3878.792	3416.456	4003.847
7	123	4154.7	1140.78	1945.225	3878.792	2361.413	3243.883
8	399	2271.65	1690.45	3282.73	3878.792	3087.685	3578.947
9	1317	2123.78	2052.14	3698.209	3878.792	3818.373	4693.399
10	202	3011.32	1318.94	2701.422	3878.792	2725.275	3339.789
11	649	2115.1	2012.4	3512.338	3878.792	3335.328	3882.447
12	642	2116.26	2005.66	3508.343	3878.792	3329.411	3873.949
13	729	2107.7	2080.09	3552.553	3878.792	3400.679	3979.567
14	369	2320.92	1640.58	3234.27	3878.792	3049.233	3542.527

15	1170	2126.17	2145.86	3675.52	3878.792	3719.684	4514.941
16	1053	2121.72	2179.14	3652.934	3878.792	3639.243	4372.903
17	162	3440.02	1230.82	2410.713	3878.792	2579.55	3291.229
18	350	2358.75	1607.75	3199.281	3878.792	3023.085	3519.461
19	865	2109.98	2155.88	3603.846	3878.792	3504.643	4144.671
20	2145	1845.74	444.03	3767.916	3878.792	4349.988	5698.591
21	235	2778.56	1388.41	2866.755	3878.792	2814.374	3379.851
22	672	2111.95	2033.61	3524.88	3878.792	3354.526	3910.369
23	495	2173.21	1833.86	3398.33	3878.792	3194.24	3695.491
24	2030	1915.32	777.09	3761.635	3878.792	4277.574	5558.981
25	1538	2097.32	1802.41	3724.157	3878.792	3963.333	4961.693
26	654	2114.33	2017.13	3515.14	3878.792	3339.533	3888.517
27	654	2114.33	2017.13	3515.14	3878.792	3339.533	3888.517
28	450	2210.32	1769.71	3350.284	3878.792	3146.858	3640.861
29	280	2562.43	1478.45	3029.404	3878.792	2909.634	3434.481
30	522	2156.58	1869.75	3423.182	3878.792	3221.008	3728.269

Dropping out the two large (Outlier) Schools: We have already mentioned regarding the two large schools that may pose problems in estimation of the cost and the revenue functions. Now we drop them out and proceed to the estimation of the cost and the revenue functions. The results are spectacularly different from what we obtained earlier (all 30 schools). Now the average cost curve is (flattened) U-shaped and the marginal cost curve is first falling and then rising. The marginal cost curve intersects the average cost curve at (around) 900 (size of enrolment) and the marginal revenue curve at (around) 1600 (size of enrolment), yielding an equilibrium price (aggregate annual fees per student) ranging between Rs. 3500-3600 and the average (annual) cost around Rs. 2150. We have noted earlier that the total revenue (annual) of the private schooling industry (all 30 schools) is Rs. 88.26 million and the total cost (annual) is Rs. 51.14. The total output (enrolment) is 24000 (approx.). From these values we obtain average revenue of Rs 3670 and the average cost of Rs.

2126 (per student per year). These (latter) averages are very close to the estimates obtained from marginal analysis described above.

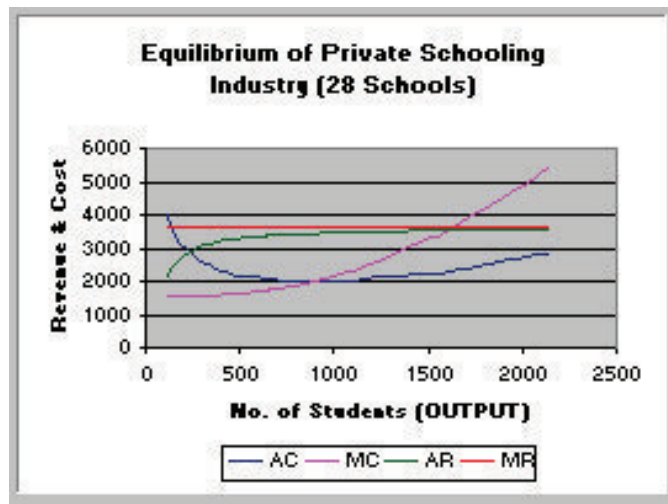
Table 6.13(iv). Revenue Functions (Dropping 2 large Schools out)

Model : AVR = f(* *)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.245$	(Constant)	3652.201	180.481		20.236	.000
$F = 8.46$; $n = 28$	N^{-1}	-181810.849	62512.394	-.495	-2.908	.007

Model : AVR = f(* *)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.249$	(Constant)	3814.340	481.911		7.915	.000
$F = 4.154$	N^{-1}	-208971.579	98050.724	-.569	-2.131	.043
$n = 28$	N	-.142	.389	-.097	-.364	.719

Table 6.13(v). Cost Function (Dropping 2 large Schools out)

Model : AVC = f(* **)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.551$	(Constant)	1634.761	1023.535		1.597	.123
$F = 9.80$	N^{-1}	297738.113	136006.164	.835	2.189	.039
$n = 28$	N	-.289	1.842	-.204	-.157	.877
	N^2	3.668E-04	.001	.468	.437	.666



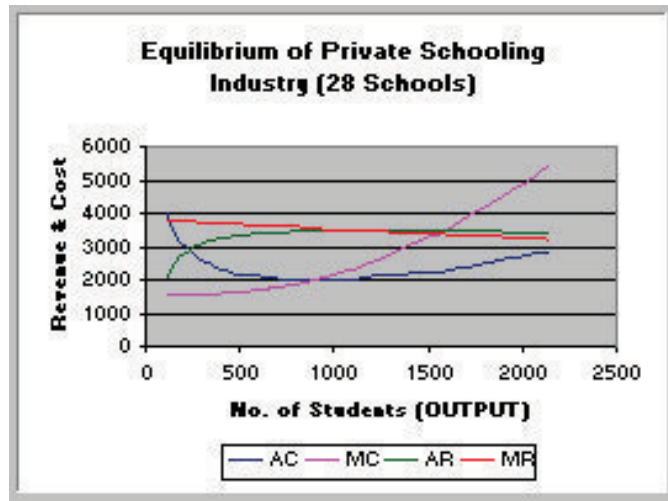


Table 6.13(vi). Estimated Average and Marginal Revenue and Cost (Leaving 2 large Schools)

Sl No	N	AC(P)	MC(P)	AR1(P)	MR1(P)	AR2(P)	MR2(P)
1	1534	2249.05	3337.52	3533.68	3652.201	3460.918	3378.684
2	1536	2250.48	3343.12	3533.834	3652.201	3460.812	3378.116
3	645	2062.73	1719.75	3370.323	3652.201	3399.029	3631.16
4	247	2791.24	1559.13	2916.124	3652.201	2933.329	3744.192
5	1633	2323.7	3625.31	3540.865	3652.201	3455.159	3350.568
6	749	2021.78	1819.17	3409.462	3652.201	3429.29	3601.624
7	123	4025.43	1580.32	2174.064	3652.201	2097.969	3779.408
8	399	2324.16	1579.32	3196.534	3652.201	3234.109	3701.024
9	1317	2116.77	2782.17	3514.151	3652.201	3469.197	3440.312
10	202	3065.35	1562.91	2752.147	3652.201	2751.227	3756.972
11	649	2060.63	1723.13	3372.061	3652.201	3400.46	3630.024
12	642	2064.34	1717.23	3369.006	3652.201	3397.94	3632.012
13	729	2027.62	1798.2	3402.803	3652.201	3424.468	3607.304
14	369	2385.04	1571.31	3159.488	3652.201	3195.776	3709.544
15	1170	2053.52	2464.84	3496.807	3652.201	3470.074	3482.06
16	1053	2020.18	2246.26	3479.541	3652.201	3466.795	3515.288
17	162	3435.5	1570	2529.911	3652.201	2501.455	3768.332
18	350	2429.31	1567.26	3132.741	3652.201	3167.723	3714.94
19	865	2003.65	1958.14	3442.015	3652.201	3450.281	3568.68
Left out 20	2145	2841.86	5457.92	3567.44	3652.201	3413.212	3205.16
21	235	2854.13	1559.7	2878.537	3652.201	2891.826	3747.6
22	672	2049.43	1743.27	3381.649	3652.201	3408.224	3623.492
23	495	2183.2	1618.28	3284.906	3652.201	3322.09	3673.76
Left out 24	2030	2706.82	4996.06	3562.639	3652.201	3423.975	3237.82
25	1538	2251.9	3348.73	3533.988	3652.201	3460.706	3377.548
26	654	2058.07	1727.41	3374.202	3652.201	3402.213	3628.604
27	654	2058.07	1727.41	3374.202	3652.201	3402.213	3628.604
28	450	2240.74	1597.49	3248.176	3652.201	3286.245	3686.54
29	280	2646.02	1559.19	3002.876	3652.201	3028.369	3734.82
30	522	2154.36	1632.89	3303.904	3652.201	3340.103	3666.092

Dropping out the two large (Outlier) Schools and a small Nursery School :

Lastly we drop out the tiny tot (nursery) school that imparts education only up to standard-II. We observe that the estimated cost curves have become steeper (in both the sides around the cusp). The marginal revenue curve also has a steeper rate of decline. Due to these changes in the shapes of the cost and the revenue curves, the equilibrium output level (enrolment size) has shrunk into the range of 1400-1500 (depending on whether we take the constant or the linearly declining marginal revenue function). The equilibrium price (fees) also has declined to lie in the range of Rs. 3600-3400 (around Rs. 3500 approximately). Usually a decline in the equilibrium output should be accompanied by an increase in the equilibrium price. However, a closer examination of school # 4 (Nursery school) reveals that it has the average revenue of Rs. 2900 and the average cost of Rs. 1600 only. Its exclusion from estimation has therefore a more depressing effect on the revenue function than the cost function.

Table 6.13(vii). Revenue Functions (Dropping 3 Schools out)

Model : AVR = f(* *)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.230	(Constant)	3627.703	183.600		19.759	.000
F = 7.45; n = 27	N ⁻¹	-176766.362	64762.416	-.479	-2.729	.011
Model : AVR = f(* *)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.235	(Constant)	3811.504	490.985		7.763	.000
F = 3.682	N ⁻¹	-207169.878	99905.806	-.562	-2.074	.049
n = 27	N	-.161	.397	-.110	-.405	.689

Table 6.13(viii). Cost Function (Dropping 3 Schools out)

Model : AVC = f(* * *)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.676	(Constant)	2300.703	886.552		2.595	.016
F = 16.031	N ⁻¹	240375.251	115999.352	.681	2.072	.050
n = 27	N	-1.500	1.596	-1.069	-.940	.357
	N ²	8.942E-04	.001	1.160	1.232	.231

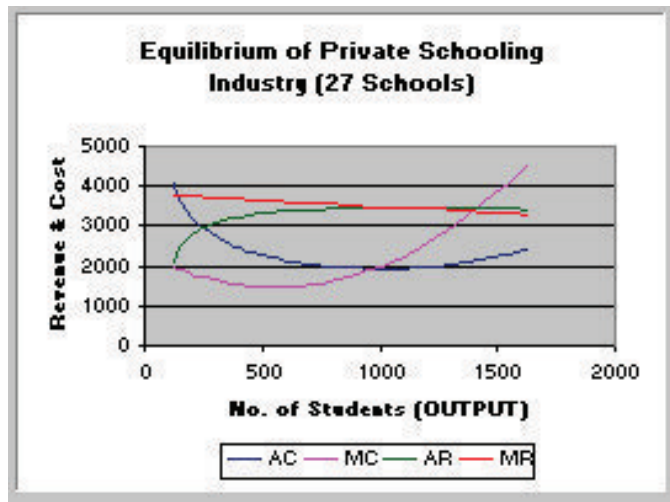
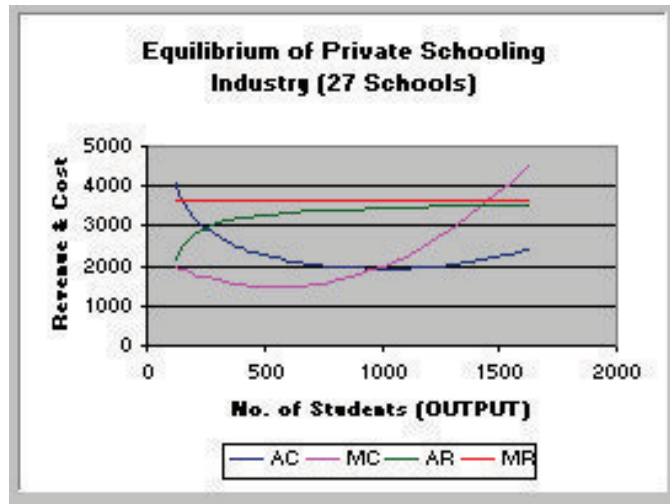


Table 6.13(ix). Estimated Average and Marginal Revenue and Cost (Leaving 3 Schools)

SI No	N	AC(P)	MC(P)	AR1(P)	MR1(P)	AR2(P)	MR2(P)
1	1534	2260.97	4011.28	3512.47	3627.7	3429.97	3317.56
2	1536	2263.25	4021.75	3512.62	3627.7	3429.82	3316.91
3	645	2078.06	1481.73	3353.65	3627.7	3386.67	3603.81
Left out 4	247	2958	1723.37	2912.05	3627.7	2933.07	3731.97
5	1633	2383.35	4555.36	3519.46	3627.7	3422.25	3285.68
6	749	1999.97	1558.64	3391.7	3627.7	3414.56	3570.33
7	123	4084.04	1972.29	2190.58	3627.7	2107.43	3771.9
8	399	2447.11	1530.78	3184.68	3627.7	3228.17	3683.03
9	1317	2059.03	3002.64	3493.48	3627.7	3442.59	3387.43
10	202	3224.22	1804.16	2752.62	3627.7	2753.45	3746.46
11	649	2074.39	1483.62	3355.34	3627.7	3388.01	3602.53
12	642	2080.84	1480.37	3352.37	3627.7	3385.65	3604.78
13	729	2012.34	1539.35	3385.22	3627.7	3410.19	3576.77
14	369	2520.48	1558.97	3148.66	3627.7	3190.78	3692.69

15	1170	1975.52	2462.91	3476.62	3627.7	3446.44	3434.76
16	1053	1941.24	2116.19	3459.83	3627.7	3445.57	3472.44
17	162	3565.01	1885.11	2536.55	3627.7	2506.65	3759.34
18	350	2572.12	1579.32	3122.66	3627.7	3163.35	3698.8
19	865	1950.38	1712.89	3423.35	3627.7	3433.01	3532.97
Left out 20	2145	3310	8208.41	3545.29	3627.7	3370.26	3120.81
21	235	3020.52	1743.85	2875.51	3627.7	2892.17	3735.83
22	672	2054.39	1496.12	3364.66	3627.7	3395.24	3595.12
23	495	2263.04	1473.01	3270.6	3627.7	3313.44	3652.11
Left out 24	2030	3059.5	7265.43	3540.63	3627.7	3383.27	3157.84
25	1538	2265.55	4032.24	3512.77	3627.7	3429.68	3316.27
26	654	2069.88	1486.09	3357.42	3627.7	3389.65	3600.92
27	654	2069.88	1486.09	3357.42	3627.7	3389.65	3600.92
28	450	2341.06	1493.93	3234.89	3627.7	3278.82	3666.6
29	280	2809.37	1671.02	2996.39	3627.7	3026.62	3721.34
30	522	2221.98	1465.67	3289.07	3627.7	3330.75	3643.42

A word of caution, however, is necessary. We have estimated revenue and cost functions statistically and, therefore, all the estimated parameters are averages (in some sense) that have their standard errors of estimate. All the derivatives obtained from these estimated parameters are probabilistic and they suggest only a range in which they are most likely to lie. Starting from the accuracy of data, specification of the model to estimate, the assumptions about the residual term, the method of estimation and the choice of the loss function to minimize are a few of the major factors that introduce uncertainty in statistical analysis. This is over and above the uncertainty in economic theory that may not always be very relevant to the reality that we attempt to analyze and understand. We have assumed that the schools are profit maximizers. We have also assumed that the same (identical) revenue and cost functions are operative in all the schools, which amounts to assume that all the schools have identical production function and demand function. The reality is, however, that

the schools do not follow any standard blue print and each of them has its own constraints, prospects and even the objective and goal. They innovate to improve their own lot, meet their own objectives, and adopt different strategies to perform best within their constraints. Our findings should be taken in the light of all these considerations.

6.14. Cumulative Cost and Revenue Functions

So far we have analyzed the revenue and the cost of the individual schools as if they are replicates of each other. The findings of our analysis may hint at the economics of an average school. However, we make an attempt now to make a cumulative series of the schools ordered according to the size (of enrolment). We leave out the two largest schools that are rather outliers.

The cumulative marginal revenue and cost curves intersect each other at the equilibrium cumulative output level of 18000 students (enrolment) at the price (fees) of Rs. 2500. However, at this cumulative output, the average revenue is about Rs. 3300 and the average cost is about Rs. 2200, making up an average profit of Rs. 1100. The normal profit is about Rs. 350 (approx. 32%) and the profit due to imperfection of the market is about Rs. 750 (approx. 68%) per student/year. The rate of profit at the equilibrium (cumulative) enrolment is about $11/22$ or 50% over and above the average cost. Three schools (namely #5, # 20 and # 24) have enrolment size larger than the equilibrium size. Together they enroll 5800 students.

The cumulative optimal (equilibrium) enrolment size of 18000 students is attained by the school # 25. It is to be noted that the school # 25 has 1538 students on its roll. The closest to it is the School # 2 with the enrolment size of 1536 students. The difference between the enrolment sizes of these two schools is only 2 students and that is why we would not assert about their relative precedence. For all practical purposes, they are of equal size.

It is worthwhile to know more about these two schools (# 2 and # 25) vis-à-vis the other three schools (# 5, # 20 and # 24) that have yet larger enrolment.

1. Size of Enrolment: The School #20 has the largest enrolment, followed by the schools #24, #5, (#25 & # 2) in that order.

2. Maturity: The youngest of the five schools is the School # 24, established in 1974.

3. Highest Standard of Teaching and the Status of Co-education: Higher Secondary (Co-ed), except the School # 25, which is up to Standard X (a Girls' School).

4. Class-Room Utilization Index: The School # 24 is crowded (index value = 165) followed by # 20 (125), # 25 (103), #5 (97) and #2 (94). The index is highly correlated with the number of students per class-room. The school # 24 has the largest number of students per class (78) followed by schools # 20 (60), # 25 (51), # 5 (45) and # 2 (45) in that order.

5. *Growth Rate of Enrolment during 1996-2000*: The growth rate is the highest for the school # 24 (4%) followed by schools # 20 (2.01%), #2 (0.94%), #25 (0.46%) and #5 (-1.05%). In case of School # 5, enrolment rate has declined.

6. *Performance at HSLC Exams (P_3)*: The school # 25 (index value 1.431) performed best, followed by schools # 5 (1.31), #20 (1.124), #2 (1.099) and #24 (0.71).

7. *Performance at HS Exams (P_2)*: The school # 2 (index value 3.876) performed the best followed by schools # 20 (2.835), #5 (1.494) and # 24 (-0.281). This index is not applicable to the school # 25 as it does not have HS programme.

8. *Internal Performance (P_1)*: The school # 25 has the best performance (index value 1.52) followed by the schools # 20 (1.436), # 2 (1.383), # 24 (1.233) and # 5 (0.209).

9. *Number of Books in the School Library*: The school # 2 has an absolute supremacy in this regard (185 thousand books), followed by the schools # 25 (8 thousand) and # 20 (3.5 thousand). The schools # 5 and # 24 have merely 580 books and 100 books (respectively) in their school libraries.

10. *The Fees Structure*: In matters of Tuition Fees, there is no difference among these five schools. However, in matters of Admission Fees they sharply differ from one another. The school # 20 charges much higher admission fees (lower and secondary standard) followed by the schools # 24, # 5, #25 and # 2 in that

order. In case of the Higher Secondary classes, schools # 20 and # 2 charge higher admission fees than schools # 5 and #24. Regarding Computer fees, the school # 20 tops the list followed by schools # 5, # 24, #25 and # 2. It may be noted that only a few schools run HS and Computer awareness programmes.

Table 6.14(i). Admission Fees and Computer fees in Private schools in Kohima

Admission Fees (Lower)	1000	1100	1500	2450	2075
Admission Fees (Sec)	1000	1450	1500	3340	3000
Admission Fees (HS)	6000	NA	4800	5800	4500
Computer Fees	150	200	360	480	250

11. Amount of Profits Earned (per Student/year): The school # 20 (Rs. 3693) tops in this matter followed by the schools # 24 (Rs. 3123), #5 (1962), #25 (736) and # 2 (630).

It is interesting to note that a school (# 24), which spends Rs. 2.5 lakhs (the largest amount spent by any private school in Kohima) on the celebration of school functions, enrolls over 2000 students, charges a handsome admission fee, receives Govt. as well as private aid and earns a profit of 3100 per student/year, has only 100 books in the school library and the most crowded class-rooms (78 students per class room), performs badly at HSLC and HS exams, and yet shows up a 4% annual growth rate of enrolment.

Table 6.14(ii). Major Attributes of the Two Optimal Private Schools in Kohima, Nagaland

Attributes		School 2	School 25	School # 5	School # 20	School # 24
1	Year of Establishment	1972	1964	1968	1958	1974
2	Size of Enrolment (No. of Students on Roll) in 2000	1536	1538	1633	2145	2030
3	Highest Standard	HS	SEC	HS	HS	HS

4	Status of Co-education	Yes	Girls'	Yes	Yes	Yes
5	Growth rate of Enrolment 1996-2000	0.94	0.46	-1.05	2.01	4.0
6	Total no. of Teachers	38	50	53	54	50
7	No. of Male Teachers	20	4	13	24	13
8	No. of Female Teachers	18	46	40	30	37
9	Student-Teacher Ratio	40.42	30.76	30.81	39.72	40.60
10	No. of Female Students/Total no. of Students * 100	42.52	100	43.61	46.76	48.28
11	Number of Class Rooms in the School	34	30	36	36	26
12	Total number of Rooms in the School	45	40	47	51	31
13	No. of Students per Class-Room	45.17	51.26	45.36	59.58	78.07
14	Class-room Utilization Index	94	103	97	125	165
15	Teacher Utilization Index	1.26	1.06	0.77	1.01	0.77
16	Measure of Performance - HSL Exams (P ₃)	1.099	1.431	1.310	1.124	.710
17	Measure of Performance Internal (P ₁)	1.383	1.520	0.209	1.436	1.233
18	Measure of Performance - Higher Sec. Exams. (P ₂)	3.876	NA	1.494	2.835	-.281
19	No. of Computers	32	18	3	11	15
20	No. of Books in the Library (per 1000)	185.38	8.00	0.58	3.50	0.10
21	Annual Revenue (In Rs. Lakhs)	49.59	50.02	65.44	118.56	96.39
22	Annual Expenses (In Rs. Lakhs)	39.92	38.70	33.39	39.33	32.98
23	Profit Rate (Revenue/Expenditure)*100	124.22	129.23	196.00	301.47	292.23
24	No. of Boarders (in Hostels)	NA	77	NA	NA	NA
25	Revenue per Student (Rs. per Year)	3229	3252	4007	5527	4748
26	Cost per Student (Rs. per Year)	2599	2516	2045	1834	1625
27	Profit per Student (Rs. per Year)	630	736	1962	3693	3123
28	Govt Grants/Aid (Rs. 000)	0	0	5.5	15.00	15.00
29	Private Aid (Rs. 000)	0	0	10.00	0	50.00
Fees Structure (Rs. per Student/Year)						
1	Admission Fees (Lower)	1000	1100	1500	2450	2075
2	Admission Fees (Sec)	1000	1450	1500	3340	3000
3	Admission Fees (HS)	6000	NA	4800	5800	4500
4	Tuition Fees (Lower)	1800	1800	1800	1800	1800
5	Tuition Fees (Sec)	1800	1800	1800	1800	1800
6	Tuition Fees (HS)	3000	NA	3000	3000	3000
7	Computer Fees	150	200	360	480	250

EQUILIBRIUM OF PRIVATE SCHOOLING INDUSTRY

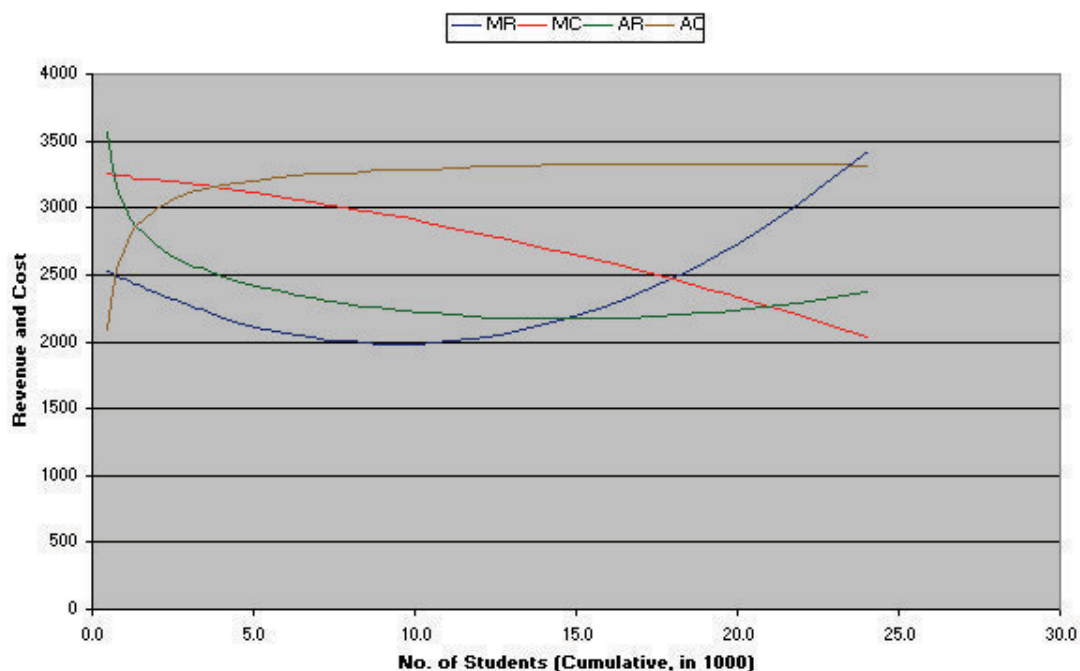


Table 6.14(iii). Cumulative Revenue Functions (Leaving 2 large Schools)

Model : $CSR = f(* *)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.999$	(Constant)	-573279.599	183865.064		-3.118	.005
$F = 23972; n = 28$	N	3262.518	101.058	.969	32.284	.000
	N^2	1.217E-02	.013	.067	.918	.368
	N^3	-3.671E-07	.000	-.038	-.794	.435

Table 6.14(iv). Cumulative Cost Function (Leaving 2 large Schools)

Model : $CSC = f(* *)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.999$	(Constant)	488337.973	138849.770		3.517	.002
$F = 16928.0$	N	2592.383	76.316	1.213	33.969	.000
$n = 28$	N^2	-6.442E-02	.010	-.563	-6.436	.000
	N^3	2.264E-06	.000	.365	6.487	.000

Table 6.14(v). Cumulative Revenue and Cost (estimated) according to Increasing Size of Private Schools in the Private Schooling Industry in Kohima

School Number	No. of Students	Marginal Cost	Marginal Revenue	Average Cost	Average Revenue
7	123	2576.643	3259.508	6554.722	-1396.8
17	285	2556.227	3255.492	4287.675	1254.448
10	487	2531.268	3250.403	3564.297	2091.19
21	722	2502.93	3244.371	3223.424	2477.094
4	969	2473.953	3237.899	3036.051	2682.342
29	1249	2442.107	3230.4	2906.443	2818.149
18	1599	2403.798	3220.783	2800.574	2922.508
14	1968	2365.21	3210.353	2722.522	2993.738
8	2367	2325.567	3198.737	2658.908	3047.061
28	2817	2283.451	3185.215	2602.246	3090.368

23	3312	2240.301	3169.827	2551.322	3125.692
30	3834	2198.403	3153.014	2506.068	3154.239
12	4476	2151.949	3131.514	2458.525	3181.538
3	5121	2110.916	3109	2417.252	3203.244
11	5770	2075.332	3085.421	2380.725	3221.136
26	6424	2045.263	3060.722	2348.039	3236.279
27	7078	2021.003	3035.081	2318.882	3249.239
22	7750	2002.128	3007.754	2292.176	3260.779
13	8479	1988.588	2976.984	2266.589	3271.664
6	9228	1982.196	2944.152	2243.698	3281.395
19	10093	1984.296	2904.697	2221.287	3291.107
16	11146	2000.571	2854.443	2199.528	3301.073
15	12316	2036.319	2795.743	2182.158	3310.114
9	13633	2098.805	2726.06	2170.877	3318.087
1	15167	2201.291	2640.082	2168.479	3324.782
2	16703	2335.938	2548.799	2177.423	3328.972
25	18241	2502.872	2452.192	2197.583	3330.846

5	19874	2715.288	2343.916	2231.132	3330.444
24	21904	3029.849	2201.131	2290.131	3326.677
20	24049	3423.055	2040.397	2373.17	3318.918

Table 6.14(vi). Cumulative Revenue and Cost (estimated)
Size of Private Schools in the Private Schooling Industry in Kohima

Sl No	Stud-ents	Marginal Cost	Marginal Revenue	Average Cost	Average Revenue	MR/MC	AR/AC
1	1534	2201.291	2640.082	2168.479	3324.782	1.199	1.533
2	1536	2335.938	2548.799	2177.423	3328.972	1.091	1.529
3	645	2110.916	3109.000	2417.252	3203.244	1.473	1.325
4	247	2473.953	3237.899	3036.051	2682.342	1.309	0.883
5	1633	2715.288	2343.916	2231.132	3330.444	0.863	1.493
6	749	1982.196	2944.152	2243.698	3281.395	1.485	1.462
7	123	2576.643	3259.508	6554.722	-1396.800	1.265	-0.213
8	399	2325.567	3198.737	2658.908	3047.061	1.375	1.146
9	1317	2098.805	2726.060	2170.877	3318.087	1.299	1.528
10	202	2531.268	3250.403	3564.297	2091.190	1.284	0.587
11	649	2075.332	3085.421	2380.725	3221.136	1.487	1.353
12	642	2151.949	3131.514	2458.525	3181.538	1.455	1.294
13	729	1988.588	2976.984	2266.589	3271.664	1.497	1.443
14	369	2365.210	3210.353	2722.522	2993.738	1.357	1.1
15	1170	2036.319	2795.743	2182.158	3310.114	1.373	1.517
16	1053	2000.571	2854.443	2199.528	3301.073	1.427	1.501
17	162	2556.227	3255.492	4287.675	1254.448	1.274	0.293
18	350	2403.798	3220.783	2800.574	2922.508	1.34	1.044
19	865	1984.296	2904.697	2221.287	3291.107	1.464	1.482
20	2145	3423.055	2040.397	2373.170	3318.918	0.596	1.399
21	235	2502.930	3244.371	3223.424	2477.094	1.296	0.768
22	672	2002.128	3007.754	2292.176	3260.779	1.502	1.423
23	495	2240.301	3169.827	2551.322	3125.692	1.415	1.225
24	2030	3029.849	2201.131	2290.131	3326.677	0.726	1.453
25	1538	2502.872	2452.192	2197.583	3330.846	0.98	1.516
26	654	2045.263	3060.722	2348.039	3236.279	1.496	1.378
27	654	2021.003	3035.081	2318.882	3249.239	1.502	1.401

28	450	2283.451	3185.215	2602.246	3090.368	1.395	1.188
29	280	2442.107	3230.400	2906.443	2818.149	1.323	0.97
30	522	2198.403	3153.014	2506.068	3154.239	1.434	1.259

6.15. Identification of the Leader School

We have seen that the two private schools (#25 and #2) closely vie to emerge as the *optimal representative school*. We cannot decide between their precedence over each other since they are of equal size (# 25 with 1538 students and # 2 with 1536 students). Furthermore, school #5 is only slightly larger than school #25 and it may be a close competitor for the same. It appears that most of the schools do not follow the two largest schools (# 20 and # 24) in fixing fees and the salary structure.

A number of methods may be devised to identify the leader school that most of other schools in the industry look towards to determine their fees structure and the salary structure. We may use some sort of ‘distance’ to measure the leader-follower relationship. Distance might be defined in several ways among which the RMS (Root-Mean-Square) has a popular appeal. Absolute distance may be another measure. We use the RMS here. Hence, we define the measure,

$$M_{\lambda} = \{\sum_i (X_i - X_{\lambda})^2 / n_i\}^{0.5};$$

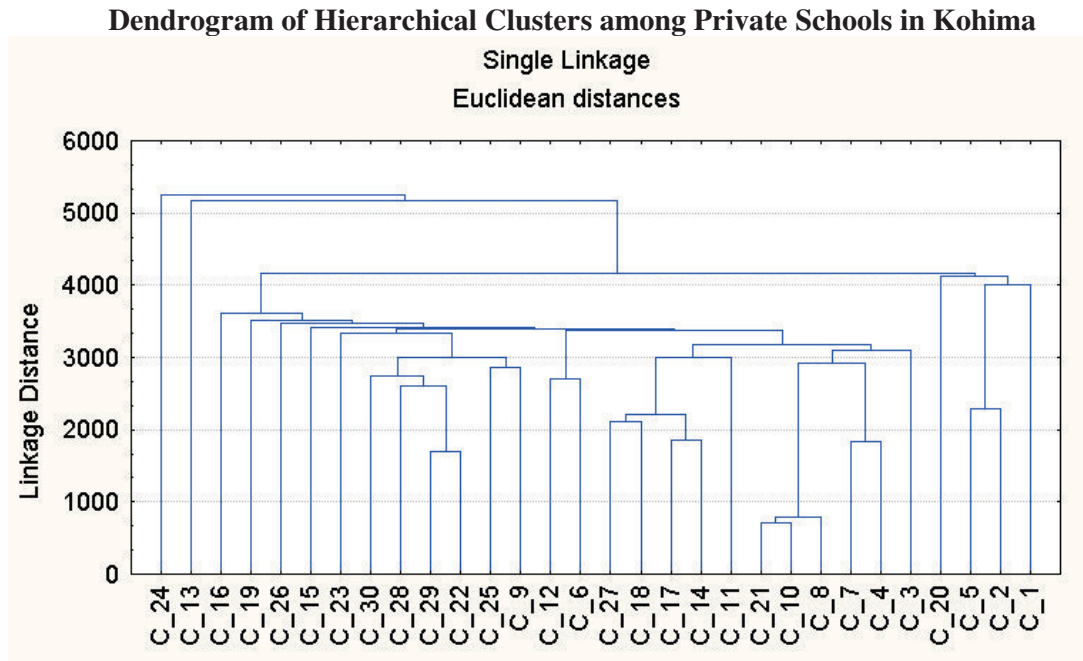
where, $\lambda \subseteq L$ (the index set associated with the set of members, S_L , that vie for leadership) and $i \subseteq I$ (the index set associated with the set of members, S_I , that do not vie to emerge as leaders, but aspire to follow some leader). The two sets

of aspirant leaders and aspirant followers are *complementary* to each other and make up the set of all private schools ($S = S_L \cup S_I$ and $S_L \cap S_I = \emptyset$) in the private schooling industry in Kohima. Here X stands for the criterion vector, M for the measure of RMS distance and n_i is the total number of elements in the set I . A successful leader would obtain the smallest value of M .

According to this measure, the school #25 has the smallest values of M_λ for all the criteria except computer fees (for which school #5 obtains the smallest value of M_λ). No other school has the next smallest values of M_λ so uniformly.

The two largest schools (# 20 and # 24) operate under the increasing returns to scale, mostly by admitting more students. They are also likely to have strong government and private patronage. They charge very high admission fees. It appears that they are not cooperating with other schools and thrive on economies of scale, monopoly power and patronage. It may be that there is some rivalry among them and the Leader school (# 25).

Table 6.15(i). Root-Mean-Square of Deviations (M_λ) of Annual Fees and Salaries in Private Schools in Kohima.						
School (λ)	Admission Fees (Annual)		Computer Fee (Annualized)	Salary of Teachers (Annual)		
	Lower	Secondary		Matriculate	Graduate	PG
#2	458.61	679.66	239.37	21720	27600	34800
#5	556.17	629.55	106.12	24000	21600	26400
#20	1369.28	2112.00	156.70	24120	25200	48000
#24	1020.44	1788.73	156.13	22800	19200	26400
#25	436.03	616.76	195.80	21720	15600	18000



This conclusion is also supported by the results obtained from Cluster Analysis (criteria used: Admission Fees of Lower, Secondary and Higher Secondary standards, annual Computer Fees, and monthly salaries of five categories of teachers and three categories of non-teaching staff). It is interesting to look into the distance matrix obtained from Cluster Analysis and the *dendrogram* depicting how different schools join the cluster. The *followers' mean distance* (F-Mean) for school #25 is the minimum. Further, the L-mean distance of school #25 is very close to the maximum. These findings indicate that the School # 25 emerges as the leader. Further, they indicate that aspirant leader firms are largely non-cooperative among themselves.

Table 6.15(ii). Distance Matrix obtained from Cluster Analysis (Distances between 6 Aspirant Leaders and 24 Followers have been presented)						
School #	School #1	School #2	School #5	School #20	School #24	School #25
Aspirant Leader Schools						
1	0	4800.781	4008.815	6965.883	5420.62	5321.419
2	4800.781	0	2298.717	4123.958	6483.489	6693.654
5	4008.815	2298.717	0	5179.973	5255.732	5197.894
20	6965.883	4123.958	5179.973	0	7640.18	7935.151
24	5420.62	6483.489	5255.732	7640.18	0	6619.337
25	5321.419	6693.654	5197.894	7935.151	6619.337	0
L-Mean	5303.50366	4880.12	4388.226	6369.029	6283.872	6353.491
Aspirant Follower Schools						
3	8698.563	10530.55	8959.889	11777.88	8374.552	5933.169
4	9016.513	10972.92	9143.965	12878.95	8595.675	6567.724
6	6243.358	8943.658	7518.958	10464.62	5693.277	4763.09
7	9467.313	11306.52	9540.682	13246.24	9028.877	6982.299
8	8005.567	10016.82	8282.131	11927.04	9200.393	5845.306
9	5320.479	6006.663	5157.528	7141.08	7732.763	2860.944
10	8076.373	10130.91	8385.846	12262.52	9257.642	5910.778
11	7131.521	9397.133	8019.551	10426.76	6343.637	5292.457
12	5852.658	8555.705	7217.576	9657.956	5408.348	4344.088
13	7909.015	9838.269	8296.182	10796.83	7537.649	5773.173
14	8299.271	9724.988	7954.401	11476.4	7370.076	5378.327
15	4174.712	7464.631	6174.125	8462.503	6329.324	3407.305
16	6793.464	7848.799	6609.292	8488.414	8004.844	3614.298
17	8613.217	9984.738	8202.566	11935.97	7582.257	5733.672
18	8364.593	9733.546	8106.32	11049.31	7508.215	5084.577
19	6311.509	7156.965	6082.404	8100.212	8023.726	3516.397
21	8010.605	10029.82	8339.328	12112.53	9262.339	5881.267
22	6083.379	7471.613	5579.436	8855.756	6536.293	3440.203
23	6923.012	8151.479	6578.184	9530.395	5930.871	3343.74
26	7003.396	8422.676	6724.505	10369.91	8166.865	4435.726
27	7923.699	9075.379	7611.15	10476.97	7183.184	4619.794
28	6715.653	7891.356	6202.371	9518.914	7430.654	4247.882
29	5901.11	7495.105	5564.396	9305.344	6870.242	2994.261
30	4485.532	7584.161	5924.475	9505.805	6545.619	3882.074
F-Mean	7138.521	8905.6	7340.636	10407.01	7496.555	4743.856

Note: Distance: Euclidean; L-Mean = Among Aspirant Leader's; F-Mean = Among Aspirant Followers.

Therefore, we may conclude that the *school # 25 is the Leader School* that provides guidelines to other (follower) schools in matters of decision on the admission fees and the salary of teachers. Since most of the schools have uniform tuition fee structure, we have not used this criterion. If we did, our

conclusion would remain unaltered. We have already noted that the *School # 25* is also the optimal school.

Table 6.15(iii). Measures of Mean Cluster Distance Concentration Indices and Profit rate: Private Schools in Kohima									
Sl n	Distance	Herfind	Concentr	Profit	Sl n	Distance	Herfind	Concentr	Profit
1	110.155	825.945	637.864	319.305	16	94.948	389.186	437.856	295.798
2	132.589	828.1	638.696	262.121	17	94.702	9.212	67.363	165.561
3	102.843	146.023	268.202	458.004	18	88.808	42.997	145.536	267.945
4	100.364	21.414	102.707	382.841	19	102.048	262.623	359.682	354.355
5	110.308	935.994	679.03	413.586	20	156.797	1614.935	891.929	636.142
6	98.515	196.908	311.448	223.78	21	96.579	19.384	97.717	139.775
7	105.746	5.31	51.146	126.249	22	90.487	158.504	279.43	607.76
8	96.905	55.879	165.911	292.718	23	85.765	86.003	205.83	301.665
9	103.232	608.796	547.632	313.566	24	117.669	1446.414	844.11	616.644
10	97.136	14.322	83.995	134.162	25	81.079	830.258	639.528	272.692
11	95.914	147.839	269.866	366.277	26	89.157	150.126	271.945	320.213
12	92.301	144.667	266.955	340.765	27	87.785	150.126	271.945	231.735
13	117.054	186.533	303.131	401.031	28	95.505	71.076	187.118	319.537
14	88.556	47.792	153.437	309.367	29	82.351	27.518	116.429	238.361
15	94.65	480.477	486.507	581.953	30	90.053	95.641	217.057	306.096

Table 6.15(iv). Correlations among Indices of Concentration, Profit rate and Mean Cluster Distance				
	CONCENTR	DISTANCE	HERFIND	PROFIT
CONCENTR	1.000	0.631	0.968	0.593
DISTANCE	0.631	1.000	0.709	0.414*
HERFIND	0.968	0.709	1.000	0.571
PROFIT	0.593	0.414	0.571	1.000

Note: * - Significant at the 5% level (2-tailed). Others are significant at 1% (or even less) level.

Additionally, we want to put an interesting finding on our record. As the table of correlation coefficients indicates, the index of relative distance (DISTANCE, measured by the Euclidean metric and standardized by its own norm such that $\text{Mean}[\text{DISTANCE}] = 100$) of a school with other schools (in cluster formation) is significantly correlated with the normed indices of concentration (CONCENTR and HERFIND) and the normed index of the of profit/revenue ratio (PROFIT) earned. It means that higher is the monopoly

power of a school (measured by Herfindahl index or Concentration index) more distant it is in decision-making and higher is its rate of profit.

6.16. The Market Structure

Our analysis indicates to an interesting structure that characterizes the Private Schooling market in Kohima. On the one hand, there is a cartel type coalition among some (25 or so in number) private schools led by the optimal school # 25. The members of this coalition exhibit a remarkable uniformity in matters of fee, salary and enrolment policy. On the other hand, there are a small number of schools, quite large, enjoying several advantages, including economies of scale, government as well as private patronage and reputation and goodwill of the people. These latter schools are in all likelihood not in coalition among themselves. They have their own policies regarding fee & salary structure and enrolment of students. Thus, the Private Schooling Market in Kohima is an example of an oligopolistic market.

Due to their advantages over other schools, the two (or 3) largest schools set relatively much higher admission fees (with a premium over other schools), enroll large number of students in spite of over-crowding in the class-rooms, thereby generating the economies of scale, and earn larger profit (per student/year). Overall, they pay higher salaries to their staff. Other schools largely follow the salary & fees structure of the leader school, charging less

admission fees, but also paying less to their staff. The latter schools earn less profit per student/year.

Kinked Curve Model of equilibrium of Oligopolistic Private Schools: It would be interesting to inquire as to how the private schools in Kohima determine prices (fees) and output (enrolment) under the conditions the envisaged oligopolistic conditions. An attempt may be made to estimate the kinked curves for their revenue and cost. The kinked revenue curve model of oligopoly is well known. However, we envisage that there could be kinks in the cost curve as well. Some schools (especially, # 20, # 22 and # 24) exhibit conspicuous cost advantages as well as revenue advantages over others. School # 22 is a small school. It cannot emerge as a leader. However, it may help in estimation of revenue and cost functions in the kinked curve model.

Table 6.16(i). Estimated Parameters of Kinked Average Revenue Function

Model: $AR = f(***)$		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.783$	(Constant)	3600.243	442.142		8.143	.000
$F = 9.89$	N^{-1}	-173024.442	89420.679	-.388	-1.935	.064
	Dummy	1228.086	868.558	.464	1.414	.170
	N	-0.04535	.354	-.032	-.128	.899
	Dummy * N	0.241	.560	.160	.430	.671

We are running short of data to fruitfully estimate the kinked curve model of oligopoly in the private schooling market in Kohima. Had there been enough time series and cross-section data on revenue, cost and enrolment in different private schools in Kohima, estimation of revenue and cost functions would not only have been facilitated, the estimated functions would have been

more reliable. Nevertheless, we have made an attempt on estimation of the model. The estimated parameters are presented in the tables nos. 6.16(i) through 6.16(iii).

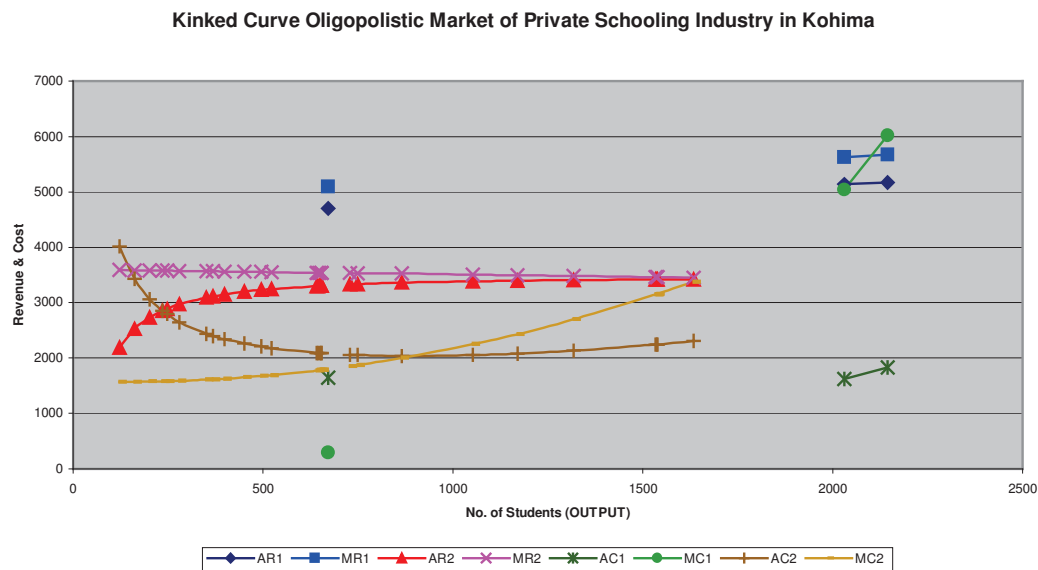


Table 6.16(ii). Estimated Parameters of Kinked Average Cost Function

Model: AR= f (* * *)		Coefficient	Std. Err	Beta	t value	Sig.
$R^2 = 0.771$	(Constant)	1587.439	1028.411		1.544	.136
$F = 5.612$	N^{-1}	300480.992	136513.415	.843	2.201	.038
	Dummy	1021.338	5793.064	.482	.176	.862
	N	-.111	1.859	-.097	-.060	.953
	Dummy * N	-2.755	11.291	-2.294	-.244	.809
	N^2	2.690E-04	.001	.510	.317	.754
	Dummy * N^2	8.686E-04	.004	1.489	.211	.835

Table 6.16(iii). Estimated Revenue & Cost for Kinked Function Model of Private Schooling Market in Kohima (Average and Marginal)

		Observed			Estimated : Dummy = D = 0				Estimated : Dummy = D = 1			
Sl	N	AR	AC	D	AR(2)	MR(2)	AC(2)	MC(2)	AR(1)	MR(1)	AC(1)	MC(1)
---	-----	-----	-----	--	-----	-----	-----	-----	-----	-----	-----	-----
1	1534	3285	2171	0	3418	3461	2245	3146	-	-	-	-
2	1536	3229	2599	0	3418	3461	2246	3150	-	-	-	-
3	645	3162	1457	0	3303	3542	2093	1780	-	-	-	-
4	247	2900	1598	0	2889	3578	2793	1582	-	-	-	-

5	1633	4007	2045	0	3420	3452	2307	3377	-	-	-	-
6	749	2379	2244	0	3335	3532	2056	1874	-	-	-	-
7	123	2550	4262	0	2188	3589	4021	1572	-	-	-	-
8	399	2951	2127	0	3149	3564	2339	1627	-	-	-	-
9	1317	3150	2120	0	3409	3481	2135	2695	-	-	-	-
10	202	2111	3320	0	2735	3582	3063	1576	-	-	-	-
11	649	3295	1898	0	3304	3541	2091	1783	-	-	-	-
12	642	3515	2177	0	3302	3542	2095	1778	-	-	-	-
13	729	4527	2382	0	3330	3534	2061	1854	-	-	-	-
14	369	2874	1960	0	3115	3567	2397	1615	-	-	-	-
15	1170	3535	1282	0	3399	3494	2082	2432	-	-	-	-
16	1053	3434	2450	0	3388	3505	2054	2248	-	-	-	-
17	162	2400	3059	0	2525	3586	3431	1573	-	-	-	-
18	350	3406	2682	0	3090	3569	2440	1609	-	-	-	-
19	865	3397	2023	0	3361	3522	2040	1999	-	-	-	-
20	2145	5527	1833	1	-	-	-	-	5166	5668	1833	6016
21	235	2064	3116	0	2853	3579	2855	1580	-	-	-	-
22	672	4733	1643	1	-	-	-	-	4702	5091	1643	298
23	495	3343	2338	0	3228	3555	2205	1675	-	-	-	-
24	2030	4748	1625	1	-	-	-	-	5139	5623	1625	5037
25	1538	3252	2516	0	3418	3461	2248	3155	-	-	-	-
26	654	2572	1695	0	3306	3541	2089	1787	-	-	-	-
27	654	2600	2368	0	3306	3541	2089	1787	-	-	-	-
28	450	3826	2527	0	3195	3559	2259	1651	-	-	-	-
29	280	3819	3381	0	2970	3575	2650	1589	-	-	-	-
30	522	4015	2768	0	3245	3553	2178	1691	-	-	-	-

No. of Schools = 30					No. of Schools = 27					No. of Schools = 3		

D = 1 for schools exhibiting conspicuous advantages in average revenue and cost; = 0 for others.

We observe the following:

(1). In case of the cartel like coalition of 27 schools (dummy = 0) the average cost is almost flat in the range of (enrolment) 650 – 1150 and the marginal cost curve intersects the average cost at the enrolment = 1050 students. The marginal cost curve intersects the marginal revenue curve at (around) enrolment = 1633, at the price Rs. 3377. At this point, the average revenue is equal to the marginal revenue (=marginal cost). For this equilibrium enrolment, the average cost is Rs. 2307. The profit earned (normal) is Rs. 1070, which is about 31.68 percent of the average revenue.

(2). In case of the three schools that have cost as well as revenue advantages, the marginal cost curve intersects the marginal revenue curve at an output level about 2100 (students). At this point the marginal revenue is Rs. 5600, the average revenue is around Rs. 5100 and the average cost is around Rs. 1750. The difference between the average revenue and the average cost at this point is Rs. 3350. It is to be noted that these schools are functioning under increasing returns to scale and therefore they continuously strive for increasing the enrolment. Since their marginal revenue is larger than their average revenue, they will continue enrolling more students until cost advantages are fully used up. This finding explains why in these schools the growth rate of enrolment was observed quite substantial though they are already over-crowded.

An Alternative Model-I: We may postulate a different model to explain how the market of private schooling in Kohima operates. We may assume that the schools in the industry have an identical L-shaped average cost function with a fixed marginal cost. The marginal cost is throughout lower than the average cost though it has a tendency to equalize with the average cost asymptotically. However, five large firms (schools # 1, #2, #5, # 20, and #24) have a different demand curve than the rest of the schools. Overall, the schools face two different demand curves, but the common L-shaped average cost curve. On these assumptions we estimate the model. We find that at the point of kink

(average revenue curve) the enrolment size is about 1537 students. At this point, marginal revenues are Rs. 2958 and Rs. 6195 and average revenues is Rs. 3355 (common point of kink). The average and the marginal costs are Rs. 1937 and Rs. 1770 respectively.

Table 6.16(iv). Estimated Parameters of General L-shaped Cost Function

Model: AR= f (* * *)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.519	(Constant)	1769.825	130.509		13.561	.000
F = 30.20	N ⁻¹	256871.217	46744.413	.720	5.495	.000

Table 6.16(v). Estimated Parameters of Kinked Average Revenue Function

Model: AR= f (* * *)	Alt-Model-I	Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.540	(Constant)	3948.092	555.724		7.104	.000
F = 7.33	N ⁻¹	-227157.509	104477.494	-.509	-2.174	.039
	DN ⁻¹	-4816059.948	1679298.404	-1.314	-2.868	.008
	N	-.322	.525	-.225	-.615	.544
	DN	2.074	.654	1.750	3.173	.004

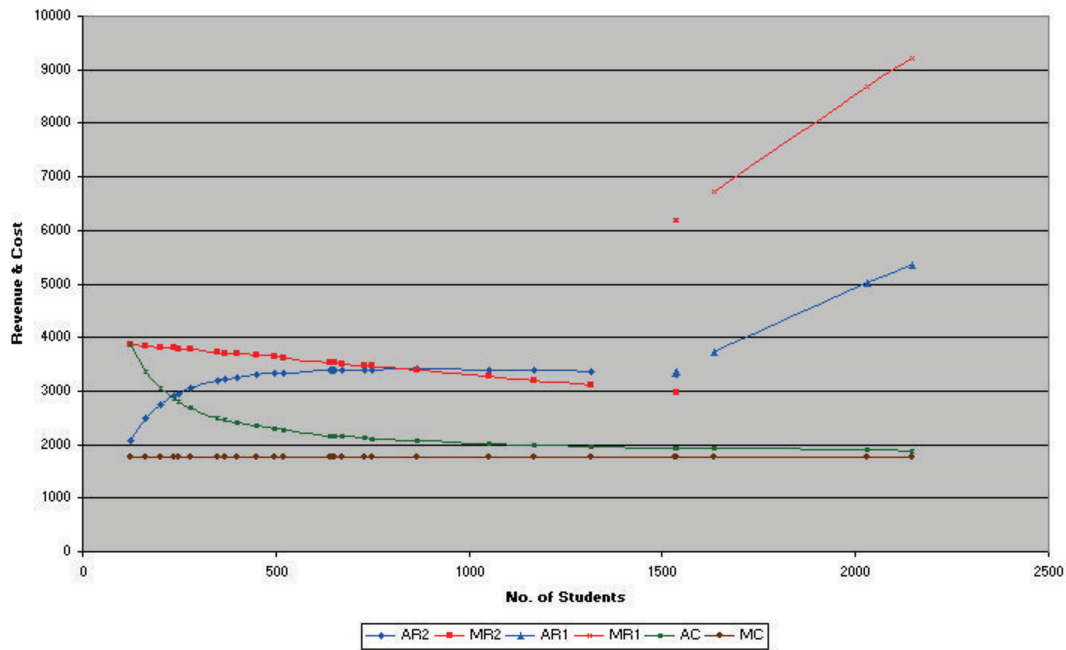
**Table 6.16(vi). Estimated Revenue and Cost (Alternative Model-I)
in Kinked Demand Function Model of Private Schooling Industry in Kohima**

SI No.	No. of Students	Estimated Kinked Revenue				Estimated General Cost	
		Coalition Members		Non-members		AC	MC
		AR	MR	AR	MR		
1	1534			3347.295	6183.687	1937.277	1769.825
2	1536			3355.078	6194.779	1937.059	1769.825
3	645	3387.931	3532.712			2168.075	1769.825
4	247	2948.781	3789.024			2809.789	1769.825
5	1633			3720.006	6720.914	1927.125	1769.825
6	749	3403.297	3465.736			2112.777	1769.825
7	123	2061.621	3868.88			3858.209	1769.825
8	399	3250.118	3691.136			2413.612	1769.825
9	1317	3350.947	3099.944			1964.868	1769.825
10	202	2758.415	3818.004			3041.465	1769.825
11	649	3388.812	3530.136			2165.62	1769.825
12	642	3387.252	3534.644			2169.936	1769.825
13	729	3401.426	3478.616			2122.186	1769.825
14	369	3213.505	3710.456			2465.953	1769.825
15	1170	3376.676	3194.612			1989.373	1769.825
16	1053	3392.83	3269.96			2013.767	1769.825
17	162	2493.648	3843.764			3355.45	1769.825
18	350	3186.213	3722.692			2503.743	1769.825

19	865	3406.565	3391.032			2066.786	1769.825
20	2145			5353.947	9218.925	1889.578	1769.825
21	235	2905.689	3796.752			2862.894	1769.825
22	672	3393.375	3515.324			2152.074	1769.825
23	495	3329.576	3629.312			2288.757	1769.825
24	2030			5019.329	8688.768	1896.363	1769.825
25	1538	3304.471	2957.62			1936.841	1769.825
26	654	3389.875	3526.916			2162.594	1769.825
27	654	3389.875	3526.916			2162.594	1769.825
28	450	3298.196	3658.292			2340.65	1769.825
29	280	3046.529	3767.772			2687.222	1769.825
30	522	3344.606	3611.924			2261.915	1769.825

The most interesting thing about this kink is that it is the common point at which the average revenue curve of the coalition members (who face downwards sloping demand curve) meets the average revenue curve of the non-members (with upwards sloping demand curve). The school # 25 is at this meeting point. Thus, the floor fee of the non-members of the coalition makes the ceiling fee to be charged by the coalition members. The maximal profit (Rs. 1418) of the coalition members is the minimal profit of non-members. It may provide some hint to the pricing policy prevailing in the private schooling market in Kohima. The schools with advantages set a '*mark up price (fees)*' to yield a minimum specified rate of profit (over the average cost or as a percentage of the average revenue). This rate of profit is 73 percent over the average cost (or 42 % of the average revenue). We would recall that the overall profit (for the industry as a whole) is about 42 percent of the total revenue (Rs. 37.11 million profit over Rs. 88.26 million of revenue).

**The Kinked Demand with Common L-shaped Average Cost
Model-I of the Oligopolistic Private Schooling Industry in Kohima**



An Alternative Model-II : We may postulate a yet different model to explain how the market of private schooling in Kohima operates. With reference to the Alternative Model-I, we drop N (number of students) from the list of explanatory variables of the average revenue function (which means that the total revenue of a school is no longer quadratic in N). This alteration is suggested by the statistical significance of the coefficient associated with N in the average revenue function estimated in the Alternative model-I. We maintain other assumptions of the Alternative model-I. We estimate the model and find that at the point of kink (average revenue curve) the enrolment size is about 1537 students. At this point, the marginal revenues are Rs. 3630 and Rs. 6296 (against Rs. 2958 and Rs. 6195 in model-I) and the average revenues are Rs.

3514 and Rs. 3355 (against Rs. 3355 in model-I). The average and the marginal costs are Rs. 1937 and Rs. 1770 respectively, as in the Alternative Model-I.

Table 6.16(vii). Estimated Parameters of General L-shaped Cost Function

Model: AR= f (*)		Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.519	(Constant)	1769.825	130.509		13.561	.000
F = 30.20	N ⁻¹	256871.217	46744.413	.720	5.495	.000

Table 6.16(viii). Estimated Parameters of Kinked Average Revenue Function

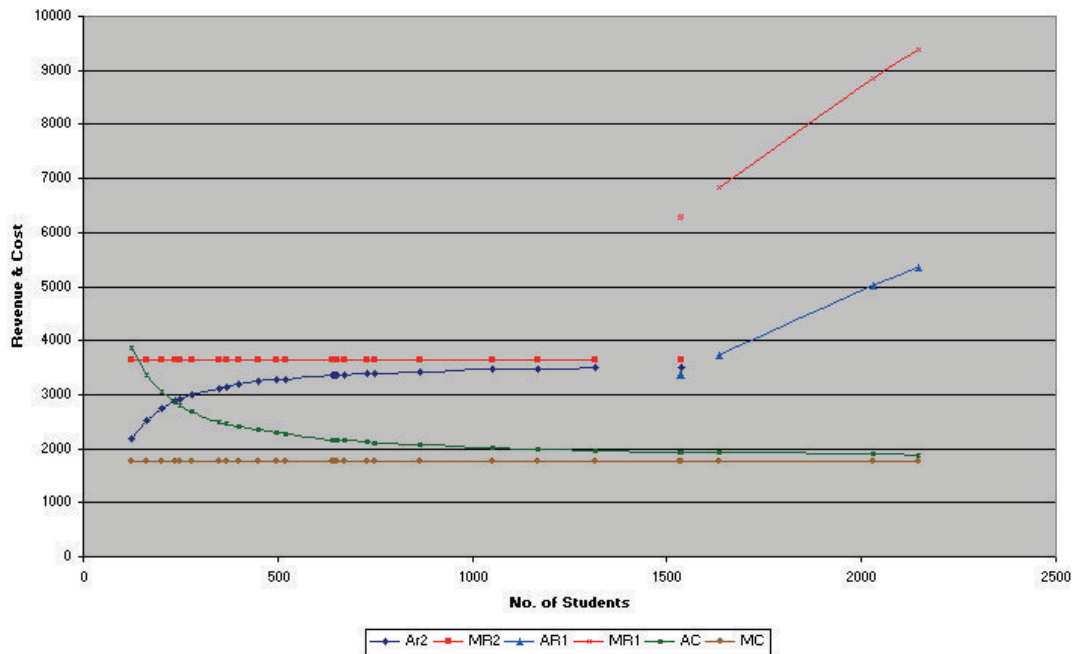
Model: AR= f (* * *)	Alt-Model-II	Coefficient	Std. Err	Beta	t value	Sig.
R ² = 0.533	(Constant)	3629.548	198.399		18.294	.000
F = 9.88	N ⁻¹	-177317.314	65104.151	-.398	-2.724	.011
	DN ⁻¹	-4581308.629	1615622.233	-1.250	-2.836	.009
	DN	1.839	.524	1.552	3.512	.002

**Table 6.16(ix). Estimated Revenue and Cost
in Kinked Demand Function Model-II of Private Schooling Industry in Kohima**

Sl No.	No. of Students	Estimated Kinked Revenue				Estimated General Cost	
		Coalition Members		Non-members		AC	MC
		AR	MR	AR	MR		
-----	-----	-----	-----	-----	-----	-----	-----
1	1534	0	0	3348.139	6285.088	1937.277	1769.825
2	1536	0	0	3355.856	6296.333	1937.059	1769.825
3	645	3354.638	3629.548	0	0	2168.075	1769.825
4	247	2911.664	3629.548	0	0	2809.789	1769.825
5	1633	0	0	3718.243	6830.266	1927.125	1769.825
6	749	3392.809	3629.548	0	0	2112.777	1769.825
7	123	2187.944	3629.548	0	0	3858.209	1769.825
8	399	3185.144	3629.548	0	0	2413.612	1769.825
9	1317	3494.911	3629.548	0	0	1964.868	1769.825
10	202	2751.74	3629.548	0	0	3041.465	1769.825
11	649	3356.332	3629.548	0	0	2165.62	1769.825
12	642	3353.353	3629.548	0	0	2169.936	1769.825
13	729	3386.315	3629.548	0	0	2122.186	1769.825
14	369	3149.013	3629.548	0	0	2465.953	1769.825
15	1170	3477.995	3629.548	0	0	1989.373	1769.825
16	1053	3461.156	3629.548	0	0	2013.767	1769.825
17	162	2534.997	3629.548	0	0	3355.45	1769.825
18	350	3122.927	3629.548	0	0	2503.743	1769.825
19	865	3424.557	3629.548	0	0	2066.786	1769.825
20	2145	0	0	5355.265	9383.05	1889.578	1769.825
21	235	2875.006	3629.548	0	0	2862.894	1769.825
22	672	3365.683	3629.548	0	0	2152.074	1769.825
23	495	3271.331	3629.548	0	0	2288.757	1769.825
24	2030	0	0	5018.128	8839.086	1896.363	1769.825
25	1538	3514.257	3629.548	0	0	1936.841	1769.825
26	654	3358.421	3629.548	0	0	2162.594	1769.825
27	654	3358.421	3629.548	0	0	2162.594	1769.825

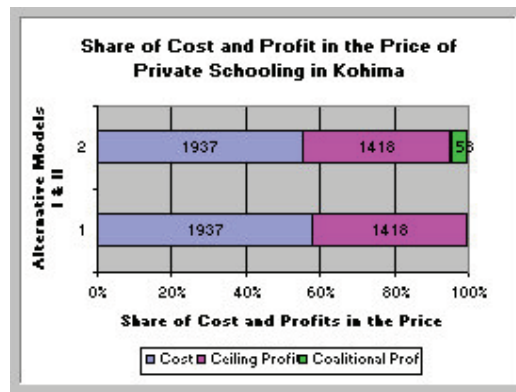
28	450	3235.51	3629.548	0	0	2340.65	1769.825
29	280	2996.272	3629.548	0	0	2687.222	1769.825
30	522	3289.86	3629.548	0	0	2261.915	1769.825

The Kinked Demand with Common L-shaped Average Cost Model-II of the Oligopolistic Private Schooling Industry in Kohima



The effect of dropping N from the list of explanatory variables of the average revenue is that now (for the coalition members) the marginal revenue is not falling with an increase in the number of students. Due to this, the average revenue remains throughout less than the marginal revenue. The floor price (Rs. 3355) of the non-members is lower than the ceiling price (Rs. 3514) of the coalition members by about Rs. 158. This difference is well within the standard error of estimate (\pm Rs. 350 around Rs. 3500) of the average revenue at the relevant point N (1537 students). Therefore, the alternative model-II cannot be preferred (or deferred) to the Alternative Model-I.

Table 6.16(x). A Comparative Over-view of Alternative Models (I and II) of Fee Determination			
Sl no	Attributes and Measures	Alternative Model-I	Alternative Model-II
1	Average Cost Curve (Common)	L-shaped	L-shaped
2	Marginal Cost Curve (Common)	Parallel to X axis	Parallel to X axis
3	Average Revenue Curve	Kinked non-monotonous	Kinked upper-monotonous
4	Marginal Revenue Curve	Kinked non-monotonous	Kinked monotonous
5	Marginal Revenue at the kink-point	Below the Average Cost	Above the Average Cost
6	Average Revenue at the kink-point	Coincident	Non-coincident
7	Abscissa at the Kink point	N = 1537 (approx)	N = 1537 (approx)
8	Average Cost at the kink point	Rs. 1937 (approx)	Rs. 1937 (approx)
9	Marginal Cost at the kink point	Rs. 1770 (approx)	Rs. 1770 (approx)
10	Average Revenue at the kink point	Rs. 3355 (approx)	Rs. 3355 – 3514 (approx)
11	Marginal Revenue at the kink point	Rs. 2958 – 6195 (approx)	Rs. 3630 – 6296 (approx)
12	Pricing Policy (Floor profit rate)	Mark up (42% floor Profit)	Mark up (42% floor Profit)
13	Explicit Gain from Coalition	None	8 % over the average Cost



It is difficult to choose among the models that we have estimated in our exercise. The last one (Alternative Model-II) appears to be statistically better (incorporating only those variables that are statistically significant), but the Alternative Model-I is theoretically attractive and empirically more consistent. In the midst of statistical risks of estimation, our only solace is that the results obtained by us are very close to what we find by a keen observation of figures (on observed average cost and average revenue) of individual schools. Hence, we hold that our findings are not much different from the reality.

K. Rio (2003) "Private Schooling Industry : A Survey of Kohima Town of Nagaland" : Doctoral Dissertation, Department of Economics, North Eastern Hill University, Shillong (India)

CHAPTER 7

A SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

7.1. A Summary of Findings

It would be interesting to know how much the private schools in Kohima are contributing towards economic development, employment and income generation. It has become a common phenomenon for every state to have a problem of unemployment especially from the educated groups. Government cannot guarantee employment to all people nor it can satisfy everybody with the state budget allocation. Private schools as an industry have played a significant role in this context. It has solved the unemployment problem to some extent, generated income and has brought about economic development.

However, before assessing the contribution of private schooling industry to Kohima economy, it would be worthwhile to summarize our findings detailed out in the preceding chapters. The growth rate of private schools in Kohima (1958-2000) is described by a quadratic trend. In 1958 there was only one private school. The number increased to 12 in 1980, 25 in 1990, 30 in 1993 and 31 at present.. The median size school enrolls about 800 students. The largest school enrolls over 2000 students while the smallest schools enrolls a little over 100 students. In 18 schools students are mostly from a better economic background while in the rest (12 out of 30) of the schools, students are mostly from a modest economic background. Against this, three govt-run

schools are all serving to low income group students only. Larger private schools have higher student/classroom and student/teacher ratio. Female teachers are a little over 60% of the total number of teachers. Sixty percent of the schools have at most 20 class-rooms. The largest no. of class rooms in a school is 36.

**Table 7.1(i). Gross Indicators
Private Schooling Industry in Kohima, Nagaland**

Items/Attributes/Indicator	Measure	Items/Attributes/Indicator	Measure
No. Private of Schools	30	Revenue from Tution Fees	43964880
No.of Students	24049	Revenue from Admission Fees	38268065
No. of Matriculate Teachers	136	Revenue from Computer Fees	6026060
No. of Graduate Teachers	463	Government Aid and Grant	141500
No. of P-G Teachers	102	Private Aid	330000
No. of Theology Teachers	36	Total Aid & Grants	471500
No. of Computer Teachers	29	Gross Annual Revenue	88259005
No. of Grade IV Staff	91	Gross Annual Income	88730505
No. of Matriculate Staff	38	Profits	37114545
No. of Graduate Staff	11	Gross Profit Rate on Expenses	72.57 %
No. of Rooms	752	Share of Teachers in Income	37.25 %
No. of Class Rooms	536	Share of Staff in Income	4.19 %
Salary to Teachers	33048192	Share of Other Expenses in Income	1.77 %
Salary to Non-teaching Staff	3719256	Share of Students' Scholarships, etc	1.41 %
Total Salary	36767448	Share of Miscellaneous Expenses*	1.40 %
Scholarships and awards	1247100	Share of Infrastructure expenses	6.94 %
Expenses on Infrastructure	6157914	Share of Rent in Income	6.91 %
Miscellaneous Expenses *	1241500	Share of Capital in Income	6.94 %
Expenses on Rent **	6130498	Share of Labour in income	41.44 %
Total Expenses	51144460	Share of Entrepreneur (Profits)	41.83 %

Note: All measures are at the annual level (No. in Number, Amounts in Rs.) and refer to the Year 2000.

*, Includes expenses on School Functions. ** Rent explicitly paid Rs. 13.03 + Imputed Rs. 48.75 lakh.

The student/classroom ratio is about 50 on an average, the largest being 78 and the smallest being only 10. In general, physical infrastructure of the schools is either fully (or slightly over-) utilized. In about 40% schools teachers also are over-utilized. Private schools employ 766 teachers of whom 60% are graduates and 13% are post-graduates. They employ 140 non-teaching staff. On

an average, a teacher's monthly salary is Rs. 3600 (about 1/3 of that of the teachers employed in govt-run schools), and for an average non-teaching staff the monthly salary is Rs. 2200. Some gross indicators regarding private schooling industry in Kohima are tabulated in Table 7.1(i).

One of the explanatory causes of the high rate of profits in the industry is market imperfection measured by concentration index or alternatively by Herfindahl-Hirschman index. We observe that the profit rate of private schools is significantly explained by the concentration index.

The market Structure: Our analysis has shown that the private schooling industry in Kohima is on the borderlines of oligopoly and monopolistic competition. On the one hand, there is a cartel type coalition among some (27 or so in number) private schools led by the optimal school # 25 (Little Flower school). The members of this coalition exhibit a remarkable uniformity in matters of fee, salary and enrolment policy. On the other hand, there are two, three or at most four schools, quite large in size, enjoying several advantages, including economies of scale, government as well as private patronage and reputation and goodwill of the people. These latter schools are in all likelihood not in coalition among themselves. They have their own policies regarding fees & salary structure and enrolment of students. Thus, the Private Schooling market in Kohima is an example of an oligopolistic market.

Due to their advantages over other schools, the two (or 3) largest schools set relatively much higher admission fees (with a premium over other schools), enroll large number of students in spite of over-crowding in the class-rooms, thereby generating the economies of scale, and earn larger profit (per student/year). Overall, they pay higher salaries to their staff. Other schools largely follow the salary & fees structure of the leader school (Little Flower), charging less admission fees, but also paying less to their staff. The latter schools earn less profit per student/year.

Kinked Curve Model of equilibrium of Oligopolistic Private Schools: Our findings on determination of prices (fees) and output (enrollment) by the private schools in Kohima under the conditions of the envisaged oligopolistic conditions are interesting. We estimated the kinked curves for their revenue, cost, and related quantities. We observe the following:

(1). In case of the cartel like coalition of 27 schools the average cost is almost flat in the range of (enrollment) 650 – 1150 and the marginal cost curve intersects the average cost at the enrolment = 1050 students. The marginal cost curve intersects the marginal revenue curve at (around) enrolment = 1633, at the price Rs. 3377. At this point, the average revenue is equal to the marginal revenue (= marginal cost). For this equilibrium enrolment, the average cost is

Rs. 2307. The profit earned (normal) is Rs. 1070, which is about 31.68 percent of the average revenue.

(2). In case of the three schools that have cost as well as revenue advantages, the marginal cost curve intersects the marginal revenue curve at an output level about 2100 (students). The equilibrium price is Rs. 5600 and the average revenue is around Rs. 5100.

At this equilibrium level of output, the average cost is around Rs. 1750. The difference between the average revenue and the average cost at this point is Rs. 3350. The average profit = (equilibrium price – average cost) = Rs. 5600 – 1750 = 3850. Out of this amount or Rs. 3850, the super-normal (monopoly) profit is Rs. (3850 – 3350) = Rs. 500, which is about 13% of the average profit. Therefore, the share of normal profit is about 87% in the profit earned.

We observe, therefore, that the coalition schools hardly make any monopoly profit while the schools with revenue and cost advantages earn 13% of their profits as the monopoly profit, over and above the earnings due to cost and revenue advantages.

It is interesting to note that the private schooling industry generates an annual income of over 88 million rupees. The share of labour (teachers and the non-teaching staff) is about 41% of the total dividend and the share of profits (entrepreneurs) is about 42% in the dividend. Only 17% is the share of other

factors of production. In this sense, *the profit rate in the private schooling industry is quite attractive*. However, four schools have shown a loss. The reasons are mostly the scale (enrollment) of operation.

7.2. Obstacles faced by the Private Schools in Kohima

Now we shall discuss the problems/obstacles faced by the head of institutions and administrators, as known by us while interviewing/collecting information from the private schools. We know that a modern school should have all the requirements needed by the students to improve their educational standard and foster all round development. But the private schools in Kohima cannot provide all the required facilities due to many constraints faced by them. These problems can be illustrated under the following heads.

Problems Relating to Finance: Finance is the most essential element in an industrial set up. As an industry, private schools suffer from deficiency of finance. This hampers the progress of the school and delays developments. Lack of funds makes administrators, teachers and parents – concentrate on day-to-day difficulties, leaving too little time and energy for the sort of large scale planning that is needed. Some of the conspicuous problems that private schools face in relation to finance are listed below:

(a) Low salaries of teachers are one of the major problems for the private school entrepreneurs. Unlike their counterparts (Govt-run school teachers) the teachers are low paid. On an average, a teacher's monthly salary is about Rs.

3600, and the non-teaching staff gets around Rs. 2200. Whereas a government teacher draws a monthly salary of about Rs. 6500 (the least) and the non-teaching staff gets about Rs. 3 to 4 thousand. This is one of the reason why private schools cannot retain good teachers for long.

(b) Another problem is lack of funds on the part of the state government. Only few schools get government grants and aid. From the year 1996-2000 (a span of 5 years), private schools received about Rs. 1.4 lakhs from the state government, which is a meager amount.

(c) The private schools also face financial problem when students cannot pay their school fees in time, because many schools depend on the students' monthly tuition fees to pay off the teachers' salary. In delaying this payment, teachers are made to suffer.

(d) Many people consider teaching as a stop gap arrangement. They take it up till they find a better job. As a result they are not committed to teaching. It is observed that even among those who have taken up teaching as their profession many are not committed to their vocation. Of course, low salary is one of the reasons for this.

Problems Relating to Teachers: Teachers play a major role in the destiny of mankind. The real dynamic force of the school is the teacher. There is no greater need for the cause of education today than the need for strong,

determined and qualified teachers for the younger generation. Though much of the above quality is expected from a teacher some major problems could be cited below.

(a) Private schools suffer from acute shortage of trained teachers especially good mathematics-science teachers cannot be retained for long due to obvious reason that the salary is low. Further the greatest untapped source of recruitment to science-mathematics teaching is from girls, because there is a great shortage of women teachers in these subjects.

(b) It is found that there is random appointment of teachers without any bond/commitment during their appointment. Therefore in the middle of the year when some teachers leave the school, the students become the ultimate losers. On the other hand, service rules are not properly maintained in many private schools. This gives a strong reason for teachers to have an easy exit.

(c) Irregularities among teachers are also one of the problems that the private schools face. During a particular teacher's absence the class adjustment becomes difficult. This in turn brings about misbehavior among students.

(d) There has been a lot of problems or overload of works as told by many teachers. The number of periods exceed beyond the normal period where teachers cannot do justice with their teaching.

Problems Relating to Parents: Parents too play an important role in educating the child in the school. Close coordination between the teachers and the parents will bring a fruitful result in moulding students' future.

Many parents today look with a suspicious eye at what the modern school is doing. They always feel, "this was not, when we were taught" they criticize the school and modern teachings. Their criticism generally falls into three categories: (1) quality of teaching – poor standard of mental arithmetic, children playing all day etc. (2) educational policies and procedures – teaching of crafts, activity methods, audio visual instruction, excursions etc., and (3) school's social and educational values – absence of religious and moral instruction, poor discipline, extra-curricular activities etc.

Some of the criticisms are constructive, but the majorities are destructive. At the same time, parents cannot be blamed since they fail to understand the trends of modern education (Mukherji, S. N. 1963, pp. 302-303). Owing to these criticisms the private schools in Kohima has faced problems from the parents side.

(a) The illiterate parents do not cooperate with the school authority. Whenever parents-teachers meetings are called, they seldom turn up for meetings and rather complain about certain changes.

(b) Most parents ignore their children's home study; they (parents) depend totally on teachers at school and neglect their children's regular study habit at home. They have no sense of monitoring the progress of their children and do not seem to feel the need of providing study room and other essential environment for their children to study at home.

(c) School practices at times irritate parents. Schools are apt to pile on demands and requests – costumes for a dance and drama, a present on some special occasion, late fines, examination fees, laboratory charges, etc. When these request and demands are put forth, parents often react negatively blaming the school authority of its selfishness and profit motives, which at times is not without ground.

Problems relating to Extra-Curricular Activities: In the scheme of education, the classroom activities as well as extra-curricular activities have their own value. They beautifully supplement each other. Extra-curricular activities make the children self-directing, give them experiences in social cooperation, foster sentiments for law and order and respect for authority and, train them in leadership. Besides these moral values, these activities appeal to tastes and temperaments of all and help them release their pent-up energies on the playground or in clubs instead of in the classroom.

Private schools in Kohima conduct various extra-curricular activities such as science club, media club, parents' day, sports week, educational tour, sales day and so on. There are some problems met with in respect of extra-curricular activities also. (a) The problem of acquiring a full fledged physical education teacher has become the greatest need. (b) The school also faces problem when it comes to study tour/excursion. This incurs a lot of money and students' excitement towards this is very high. But due to lack of funds and parents' inability to finance their children, very few students turn up to this kind of exposure. (c) Many schools do not have big open space for the students to play outdoor games. This allows only few students to spend their leisure outdoors.

Problems relating to School Plant : The school plant is a comprehensive term which includes buildings, grounds, furniture, apparatus, and other equipment. The expansion of the plant to meet the changing needs of education presents a serious problem among the private entrepreneurs. It involves not only the investment of a large amount of money, but must be thought of in functional terms. The school plant must be considered as the child's home during school hours. It must be thought of as a laboratory, where children learn by doing certain things. It can also be considered as a youth centre and as a civic enterprise for young people providing recreational, library and cultural facilities

for their growth. The school plant must also serve as a community social centre for adults as well as children. Sensing the need to provide the mentioned facilities and good environment, a modern school should at least satisfy the students by fulfilling the students' need. In many ways private schools fail to impress their clients. Such problems are noteworthy. (a) Most of the schools do not have safe drinking water and also ill-lighted classrooms. Some classrooms are without electrification. (b) Science laboratories do not have enough equipment for experiments, while in some cases they are not well maintained. (c) A majority of private schools do not have outdoor games court viz., football, volleyball, basketball, badminton etc. (d) Library books are very less and some schools do not have separate room for library. Headmaster's room becomes the sole collection of books. (e) Residential schools are almost absent in Kohima. Out of 30 private schools there are 9 schools which accommodate a total of 500 students (which is about 2 per cent of the total enrolled in private schools). Lack of hostel/boarding facilities has therefore discouraged the parents during admission. (f) Modern equipment like computers, internet access is still scanty. There are some schools which have not yet introduced computer education. (g) Educational guidance programme and students counseling is little known among the students. Therefore it is the duty of schools to stress more on these programmes. Adequate vocational guidance should be built on consideration of marked differentiation in all youths and the supply of adequate

information, which will lead ultimately to correct occupational choices and adjustments.

Problems Relating to Students: The school as an educational institution admits an army of students from different economic backgrounds. Some are rich, some are poor. Some come from a decent family while some don't. With these varied factors it poses a lot of problem on the school authority.

On the one hand, **Husen** (pp. 131-132) writes that young people are today caught in squeeze between many conflicting forces. They mature biologically one to two years earlier than did their counterparts some fifty years ago, but they stay longer in school and assume important adult responsibilities much later. There is also a lack of consistency in how young people are treated in some countries at the age of 18; they have the right to vote but not the right to participate in decision making in their educational institutions. They want to establish adult identity as holders of occupations but are not wanted at the work places. They do not want to stay in the school with all the pressures for achievement and irrelevance of curriculum, but are fully aware that the number of educational credentials they can amass determines their subsequent careers. The greater the number of students who pursue studies in order to achieve higher qualifications, the stronger the tendency to enhance entrance requirement to many occupations.

With the passage of time teachers are also facing new problems among the students community. (a) Teachers find that some students always abscond from a certain subject class. Two reasons are generalized in this. Firstly the student does not like the teacher or second, the student does not like the subject. The regular study culture among the students is found to be unsatisfactory. In many cases students belong to low economic background which compels them to help their parents in household chores. (b) Teachers also find it hard to handle students at times. This new generation students form in groups/gangs at school and start to misbehave inside the class. Some distinctive character that these students show are: similar hairstyles, distinctive types of music and clothing, and even languages befitting their modern lifestyles. (c) Most schools have class over-crowdedness. This impels student to misbehave and disturbs the tranquility of the class environment.

7.3. Policy Implications

Privatization of school education has come to stay and reinforce itself ultimately to marginalize public provisions for education. In a way it is good since it would reduce the heavy burden on public exchequer, possibly improve the quality of education and expand the scope of entrepreneurship. Nevertheless, it may benefit the better off class in the society and the poorer section may not afford to educate their children. However, it is pertinent to

formulate necessary policies to let private education industry grow and contribute to the society and the economy. The following points are relevant.

(1). Formalisation of private education (school education in particular) as an economic enterprise and inclusion of this industry in the formal sector is needed. It has very important implications with regard to the following.

- (a) Necessary framework for consumer protection has to be made, as we have already noted the dangers of moral hazards at a large scale.
- (b) Protection of the interests of employees – teachers as well non-teaching staff in matters of working conditions and salaries must be a concern, since private entrepreneurs are likely to pay too little and that ultimately affects the students.
- (c) At present there are no *norms* to be observed by private schools. As a matter of fact, such norms are not yet developed and enforced in case of schools/colleges run by whatever organization, private or public. However, for quality education some norms are to be developed and enforced. It has to be decided as to what should be the maximal student/teacher, student/classroom, student/built-up area, student/floor area, and so on. Norms on availability of students' common room, play ground, drinking water facilities, basic dispensary facilities for accidental cases, toilets/urinals, etc. are to be developed and strictly

enforced. Many private schools do not have any library. Unless there is some norm to be observed regarding student/library book ratio, it is natural that private entrepreneurs would not like to invest on building up a good library. Certain schools have buses to carry pupils to the school and back home. Over-crowding on such buses is natural. All these issues are to be considered. Strict enforcement of the norms regarding infrastructure, student/teacher ratio, student/classroom ratio, hours of teaching done by a teacher, hostels and health and hygiene problems therein, etc. may be made.

(d) Location decisions regarding the school plant are important, since unplanned locations of schools may add to transport/traffic problems in congested areas, it may result into an unbecoming land use problem, etc.

(2). A long run perspective in replacement of govt-run schools by private management also has to be drawn up. With an increasing population and demand for education, the society must decide how and to what extent will the government meet the demand for education. How much and in what manner would the private sector meet the demand for education in future, is an important matter to decide.

(3). While private schools are set up for profit making and the entrepreneur does indeed earn a fabulous profit, it must be decided as to how to deal with

taxation of income from such profits, unless schooling business grows to be a hide out or sanctuary for tax evaders. For interestingly, though government policy and a landmark 1993 Supreme Court ruling prohibit profiteering in education, schools are permitted to make an “excess of income over expenditure”: “excess” that is expected to be used towards further development of the school. In practice, school promoters often charge for consultation, management, catering, special coaching facilities and other such services, and eat up the “excess”. **Wadhwa** (2003) p. 29. As a matter of fact, it is against the economic principles to expect someone to invest and not earn/harness profits but to continue re-investing the surplus for sake of promotion of altruism forever. The Jain Group (for example) plans to set up about 100 Jain International Schools in the next 10 years, each at a cost of Rs. 22 crore. Why a businessman who will invest Rs. 22 crores will harness no profits, but earn some “excess” to reinvest for further development of the school ? Is it not unrealistic to expect some one to do that ? One has to be realistic and not idealistic in making functional policies.

(4). Certain services provided by the government (e.g. board examination) to the govt-run schools are shared by private schools also. It has to be decided about the charges the private schools must pay for these services. Since private

schools are profit making organizations, they cannot be treated at par with the govt-run schools.

Finally, though provision for imparting education (especially, school education) to the children is ideally the responsibility of the government because objective justice and equality of opportunities to all cannot be realized without socially just opportunity to education, the govt. sector has not performed satisfactorily in discharging this duty. As a result, the need for better education felt by those who can pay manifested itself into emergence, justifiability, viability and profitability of private schools as an industry. It is well known that a market economy delivers many goods, but it is also known that it has a dismal facet too. Especially in a strategic service like education one should be cautious of the market economy. Privately run education sector will deliver goods only if it is strictly and efficiently monitored and managed. This should be the ultimate objective of any public policy regarding privately run education industry.

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