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FACTORS AFFECTING
GIRLS' PARTICIPATION AND ATTENDANCE
IN FORMAL SCHOOLING
IN THE HILL AREA OF NEPAL
presented by

Narayan Kaji Shrestha

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FACTORS AFFECTING
GIRLS' PARTICIPATION AND ATTENDANCE
IN FORMAL SCHOOLING
IN THE HILL AREA OF NEPAL

By

Narayan Kaji Shrestha

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ABSTRACT

FACTORS AFFECTING GIRLS' PARTICIPATION AND ATTENDANCE IN THE FORMAL SCHOOLING SYSTEM IN THE HILL AREA OF NEPAL

By

Narayan Kaji Shrestha

This study attempts to identify the factors that affect the participation and attendance of girls in the formal schooling system in hill area of Nepal. The issue of equal educational opportunities for women was examined in relation to several identified blocks of factors namely, girl related, school related, socio-cultural, economic, and parental education and attitudes related.

Two explicit null hypotheses were tested: (1) these factors are not significant determinants of school attendance for girls enrolled in school; and (2) these factors are not significant predictors of the participation of girls in the formal schooling system.

Data were collected from three sources: rural households; rural school-age girls; and rural schools. Face-to-face interviews were used to collect these data. All data and information from these sources were assigned to the relevant individual girls.

The research findings showed that all five blocks of factors were significant determinants of both dependent variables, i.e., attendance and participation. Therefore,

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This study attempts to identify the factors that [illegible] the [illegible] of girls in the formal secondary system [illegible] area [illegible] educational [illegible] [illegible] and [illegible] from [illegible]

Two [illegible] both [illegible] not [illegible] for girls [illegible] particular [illegible] in the formal schooling system.

Data were collected [illegible] interviews were used to collect the data. All information [illegible]

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both null hypotheses were rejected. Two of the sets of factors, girl related factors and socio-cultural factors, were highly significant predictors of attendance. The most significant determinants of participation were girl related factors followed by socio-cultural and economic factors.

Based on these and other research findings, it was recommended that efforts to encourage participation of more girls in formal education would include the following: 1)adoption of alternative structures of schooling including flexible school hours; 2)increased local participation in the management of schools through decentralization of authority; 3)employment of more local teachers; 4)employment of more women teachers and women administrators; 5)implementation of programs to reduce the household work load of school-age girls; and 6)increased focus on functional literacy programs for adults.

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This study and thesis is dedicated to my mother, Mrs. Krishna Devi Shrestha, who put me through my initial years of schooling by selling all her jewelry and personal property. My achievement today is the result of my mother's confidence and trust in her son.

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CHAPTER I

INTRODUCTION

After the dawn of democracy in 1951, the Nepalese people showed a growing interest in education. This interest soon resulted in a growth in the number of educational institutions all over the country. Table 1 shows the progress made in the educational sector from 1950 to 1984. In terms of the number of schools, primary schools increased by 37 times, and secondary schools increased by 442 times during this period. The number of students attending primary and secondary levels increased by 214 and 273 times respectively. Likewise, participation of girls in formal schools did not remain untouched. There were only 86 girls in primary level schools in 1950, which had increased to 545,121 by 1984. At the secondary level only 17,625 girls were attending in 1970, that number rose to 122,350 by 1984.

This is a very impressive expansion in terms of numbers. However, it is nowhere close to the universalization of primary education, a sacred goal that is hoped to be achieved by the year 2000 (in an effort to raise quality of life at par with the Asian standard). Especially in the sector of girls education, it seems to be almost impossible to achieve this goal, even at the present pace. Table 2 shows that 94.97 percent of primary school-age boys (6-10 years) were attending their age specific grade level in 1981, while only

39 percent of primary school-age girls were doing so. The percentage decreases as the level of schooling increases. Only 8.08 percent of girls were attending their age specific secondary level of schooling. All together 72.77 percent of the school age girls were not attending their age specific school level in 1981. This situation has not yet shown any dramatic change. So, there appears to be important barriers to school access and utilization for Nepalese students, particularly females, at the primary and secondary levels of schooling.

Table 1

Growth in Number of Schools and Students and Female Students, 1950-1984

	1950	1960	1970	1980	1984
Primary Schools	321	4001	7275	10130	11888
Secondary Schools	11	156	1094	4286	4868
Primary Level Students	8505	182533	408471	1067913	1818892
Primary Level Girl Students	86 (1.00%)	-	64752 (15.85%)	299512 (28.05%)	545121 (29.97%)
Secondary Level Students	1680	21115	120537	512434	459058
Secondary Level Girl Students	-	-	17265 (14.32%)	102502 (20.0%)	122350 (26.65%)

(Number in parentheses represent percentage of girls in that level).

The barriers may stem from any one of several factors or combination of them. Thus it is important to know whether they stem from inaccessebility to schooling, crowding of existing schools, lack of parental demand for girls' education, or the inability of the school system to retain or to advance students (Lockheed and Jamison, 1979). Bowman and Anderson (1979) reviewing studies that explain factors influencing female enrollment cite five major determinants: ethnic and regional differences, caste differences, paternal occupation, attitudinal modernity, and miscellaneous factors, such as foreign travel or language usage.

Table 2

Percentage of Boys and Girls Attending the School Level Corresponding to Their Ages, 1981.(In Thousands)

Age	Total	Boys			Girls		
		Total	In School	%	Total	In School	%
6-10	21,73	11,21	10,64	94.97	10,52	4,10	39.00
11-12	7,04	3,81	1,56	40.92	3,23	43	13.25
13-15	8,80	4,70	1,37	29.19	4,10	33	8.08
6-15	37,57	19,72	13,57	68.81	17,85	4,86	27.23

Previous research on determinants of school participation in Nepal shows that "Sex is the single most important predictor of educational participation" (CERID, 1984:ii). It further adds that the educational status of the adults in a family was found to be the strongest predictor of rural children's educational participation. Lockheed and Jamison (1979) also maintain that "Such research as does

exist confirms that lack of demand (for schooling) is an important explanation for low school participation, in addition to the school supply explanation." These supply and demand models are seemingly very simple but in reality are very complicated because factors within them are compounded. Socio-cultural factors coupled with other economic determinants should also be considered while trying to identify factors affecting wider participation of girls in formal schooling.

This problem is not limited only to Nepal, rather, it has become a phenomenon of many Third World countries. The UNESCO Regional Office for Education in Asia and the Pacific (1982) confirms this:

> Two-thirds of out-of-school children are girls. Nearly half the girls between 6 and 11 years of age are not in schools. The proportion of out-of-school girls is over 80 percent in some countries, and the target of universal primary education set by the Karachi Plan of 1960 and the revised targets generally known as the Asian Model, adopted at the Second Regional Conference of Ministers of Education in 1965 (Bangkok), have yet to be realized. (p.8)

The above finding relating to Asia and the Pacific region is on a par with a finding by Smock (1981), who states, "Coverage of the male primary school-age population in 38 low income countries in 1977 equalled 90 percent as compared with only 64 percent for females" (p.13). Bowman and Anderson (1982) conclude in the same tone, "Everywhere outside the most developed regions, intercountry variations in enrollment rates are very large for both sexes, as are sex

disparities in those rates" (p.16). However, in every case it is the girls who will be disadvantaged by not having the opportunity to attend school.

It is in this context of low participation of school-age girls in formal schooling in the Third World in general and in Nepal in particular, that this study was undertaken.

Purpose of the Study

The main purpose of this study is to identify and determine factors or variables that predict girls' participation in formal schooling in the hill areas of Nepal. Participation is defined here as "Going to School" and/or attendance percentage of each school-age girl between 6 to 15 years of age. It is hoped that the research findings will help policy makers and planners to outline realistic strategies and programs for wider participation of girls in formal schooling. The main objectives of this study are specified below:

a. To identify the factors that affect girls' participation and attendance in formal schooling in the hill areas of Nepal.

b. To make an estimation of differential effects of blocks of factors such as girl related, school related, economy related, socio-cultural norm related, and parents related on girl's participation and attendance in formal schooling.

c. To suggest recommendations for increasing rates of participation and attendance of school-age girls in the hill area of Nepal.

Precedent for This Study in Nepal

Some studies related to girls' education in Nepal are available, but most of these have only been either exploratory or evaluative in nature. However, these studies have been helpful in understanding the nature and magnitude of the problem, and in generating factors that may fit regression models to predict girls' participation in schooling. A few of these studies are reviewed in this section.

One early study conducted for UNESCO in 1973 investigated social and economic factors that were affecting female education and teacher training for women (Shrestha and Gurung, 1973). The study revealed that, from among the school-age (6-15 years) children, 68.0 percent of the boys and only 35.8 percent of the girls were participating in schools. The economic standing of households and the literacy status of parents were found to be the two major factors that were directly correlated with school attendance of female children. Occupational castes like Damai, Sarki, Kami etc. sent the least girls to school, followed by the so-called conservative castes like Brahmin and Chhetris. However, 'open' communities like Gurungs and Newars were shown to be far ahead in this respect. Parental occupation

and parental travel had no bearings on providing eq. of women to education.

Two additional studies were conducted in 1977. One of these (Sharma,1977), found three major reasons for parents not enrolling their children in primary schools. They were, in order of importance, school fees, work value of children, and no perceived value of education especially for girls. This same study identified that reasons for not sending children to primary school varied with caste and ethnicity, sex, educational background of parents, parental occupation, and family size. The study revealed that neither father nor mother gave much importance to female education. Whereas, Panday (1977) identified safety, quality of teaching, schooling costs, familiarity with teachers as some of the factors that affected parental selection of schools. Even though these two studies were not specifically geared towards girls education, some of the socio-cultural factors such as cost, relevancy, teacher quality, etc., which they identified are pertinent. These factors can be used as guides for additional study to see if they influence the participation of girls in formal education.

Lockheed and Jamison (1979), from a study in the Terai in Nepal reported that school availability positively affected the household heads' school demand for children at the primary level. They identified household wealth, the schooling level attained by the household head, the attitud-

inal modernity of the household head, the caste of the household, and the percentage of female children in the household as factors affecting children's school participation. This study also used a regression model to predict effects of different variables on participation.

Acharya, and Bennett (1981), in The Status of Women in Nepal, gave an aggregate analysis and summary of eight - village case studies. They found that only 12 percent of the girls in the 5-9 age-group were in primary schools, while the corresponding percentage for the boys was 39.2 percent. Further, they stated that "The difference in the proportion of male and female children attending school increases in the 10-14 age group compared to the younger cohort of 5-9." (p.109) Household wealth and status of female education, according to their findings, were positively related with girls' participation in schooling, however, the income effects tapered off at higher income levels. The barriers to education were identified as: needing their labor for household and farm works; and the perception that an investment in girls' education was a waste because of their eventual transfer to their affinal household through marriage.

The Research Center for Educational Innovation and Development (CERID,1982) found from their survey on parental attitudes towards education, that parents in the rural Terai saw no point in educating their daughters. Whereas parents from rural mountain areas favored educating their daughters

up to at least the primary level. The major constraints identified by this study relating to girls' participation in schooling are:

a. the need to do household chores,

b. parental fears that girls might become uncon trollable,

c. employment for girls in rural communities is limited, and

d. the investment in girls' education is unlikely to pay off in terms of increased future security for the parents.

Another study by CERID (1984) identified sex as the single most important predictor of educational participation in the Nepalese context. It found that boys' participation rate was higher by 33 percent than girls'. The rate of girls attending school decreased very greatly after the age of 12 and 13. Other factors identified by this study as determinants of participation of children in schooling were: distance to school, children becoming engaged in income earning activities, need to help with household chores, educational status of adults, attitude of the household head towards modernity, language spoken at home, income, ethnic similarity with teachers, and qualification and training of teachers.

Ashby (1985) also found that for rural farmers in Nepal, educating boys was more important in terms of future invest-

ment than educating girls, and that girls were required for household works. She revealed that regarding access to schooling for the boys and girls over-40 age cohort and the 6-14 age cohort, there had been a 61 percent increase in school enrollments among males, whereas for females it was 26 percent. Among the age cohort of 6-14, 64 percent of boys were literate compared to 28 percent for girls.

Conceptual Framework of the Study

To date very few empirical studies regarding factors affecting girls' participation in schooling in less developed countries have been undertaken. Furthermore, it is found that these studies deal with limited variables and focus on narrow aspects pertaining to gilrs' education. Available literature generally attributes sex as a variable. Male bias is apparent because the respondents of most of those studies were male. This study recognizes these limitations and tries to accommodate women's perspective by: 1)including school-age girls themselves as respondents; 2)collecting modernity and women's education related attitudes both from male and female household heads; and 3)incorporating relevant girl and women related information in the household questionnaire.

In the literature the most frequently expressed views regarding girls' participation in formal schooling are: 1)lack of schooling facilities; 2)irrelevance of educational programs to local needs; 3)lack of proper atmosphere in schools; 4)economic hardships; 5)lack of time for girls to

attend schools; 6)girls preoccupation with household activities; and 7)traditional bias against women's education. A comprehensive and valid assessment of the differential effects of the wide array of potential factors, such as those mentioned above, has so far received little attention.

In order to make an objective assessment of effects of selected factors related to school-age girls, the schools, socio-cultural norms, economic hardships, and parental attitudes and education the following framework (Figure 1) was used in this study. The diagram shows the schematic framework that was developed from various theoretical models. It is obvious from Figure 1. that girls' participation in formal schooling and their attendance percentage are the two dependent variables. It is assumed that both of these dependent variables are affected by five blocks of factors: 1)school-age girl related; 2)school related; 3)related to economics of schooling; 4)socio-cultural norms related; and - 5)parental education and attitude related.

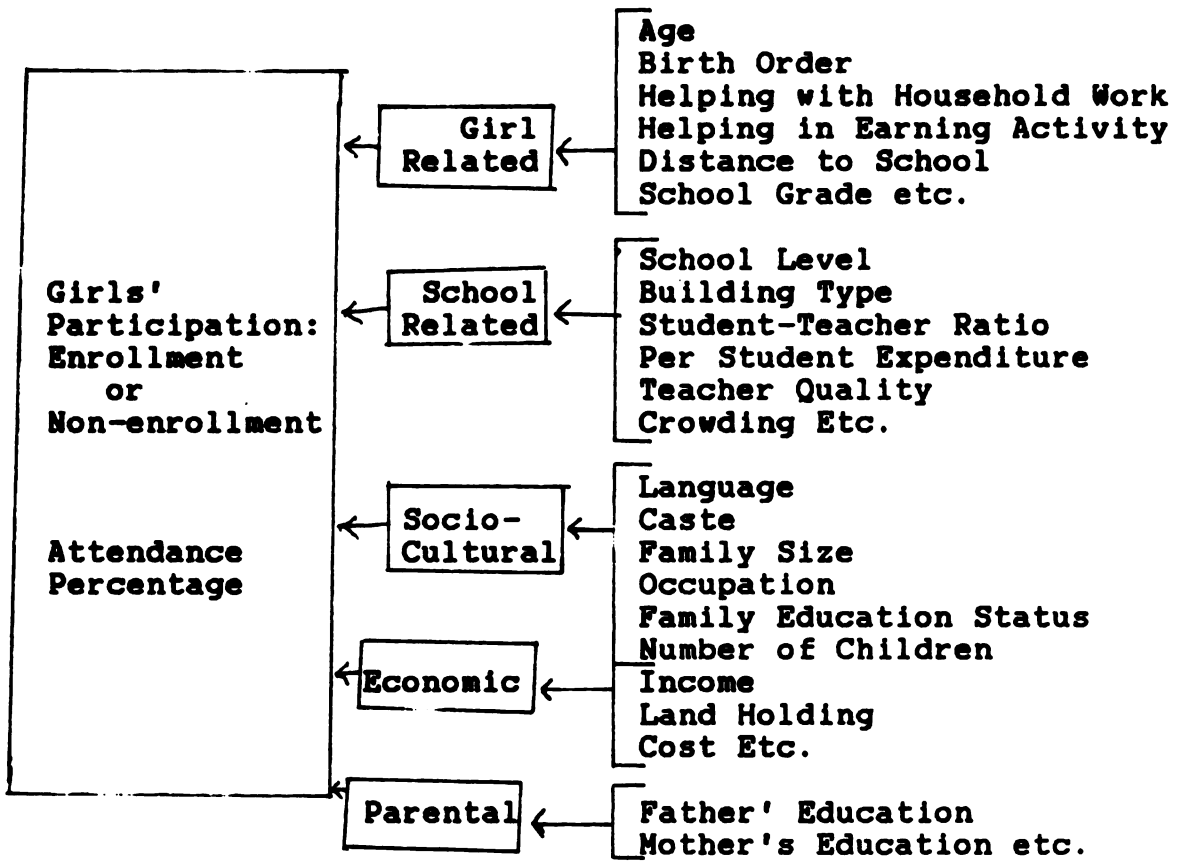
The primary step to be taken to achieve the goal of universalization of primary education has been to enroll and sustain all school-age children in their corresponding school levels. Even in the Third World more or less almost all the school-age boys have been provided with this kind of opportunity, but in case of girls it has not been yet realized. Especially in Nepal non-enrollment of school-age girls in schools is a major problem. Therefore, this study has been

primarily directed towards identifying the factors which affect girls' participation in schooling.

Educational participation in this study is measured in terms of enrollment and non-enrollment. The second dependent variable measures the attendance percentage of the girls enrolled in the schools. Identifying the factors which affect girls' attendance is of immense value because regularity in the school activities may contribute to greater achievement levels and less drop-outs.

Figure 1

Diagram Showing Schematic Framework of the Study



All these factors or variables are not mutually exclusive to each category, in fact, they overlap with each other in several categories. A detailed specification and operational definition of each factor is given below.

Operational Definition of the Factors

The basic population unit of analysis in this study is school-age girls between the ages of 6 and 15 years. The dependent variables are school participation and attendance percentage of school-age girls in the formal school system of the hill area of Nepal. All factors or variables were assigned to each girl. The factors that were assumed to effect the dependent variables were classified into five categories. The specific factors belonging to each category are operationally defined as follows:

a. Girl Related Factors (Eleven Factors):

Chronological Age of the Girl (Age):

The actual age of the girl between 6 and 15 years is coded for each girl in months.

Chronological Order of Birth (Birth order):

The birth order of sampled girls from each household is coded according to chronological order including boys born from the same parents.

Helping with Household Work (Household Work):

The total hours spent on household work, as reported by the sampled girl for one week is enumerated.

Helping in Income Earning Activities (Help Earn):

This is a dichotomous variable. A value of 1 is assigned to girls who report that they were engaged in money earning activities and 0 is assigned to girls who report no such activity.

School Grade in which the Girl was Studying at the Time of the Survey (School Grade):

The value for this variable ranges from 0 to 10. Zero is assigned to girls who were not attending school at the time of the survey. Girls attending school are assigned numbers corresponding to their respective grades.

Distance to Age-Respective School (School Distance):

This variable refers to the distance between the respondents' homes (according to their ages) and the schools they were enrolled in or supposed to enroll in. Distance is measured in kilometers.

Cumulative Number of Times a Grade has been Repeated (Grade Repeated):

The total number of times a grade has been repeated up to the time of the survey is enumerated.

School Grade Dropped by the Sample Girl (Grade Dropped):

The grade in which the sample girl dropped out is recorded in terms of number.

Time Spent on Home Study (Home Study):

This is a dichotomous variable with a value of 1 assigned to girls who reported that they spent time studying at home, and 0 to girls who reported no study at home.

Girl's Educational Participation (Participation):

The girl's participation in formal schooling is measured as a dichotomous variable. A value of 1 is assigned to girls enrolled in the school at the time of survey and 0 to those not enrolled.

Attendance Percentage (Attendance):

The attendance percentage is calculated by dividing the actual number of days girl students were present by the total number of instructional days for the previous school session according to school records.

b. <u>School Related Factors</u> (Eighteen Factors)

Status of the School by the Three Levels (School Level):

The value of 1, 2, or 3 is assigned to primary, lower secondary, and secondary levels of schooling respectively. In the case of a combination, the highest level is used.

Total Number of Classes or Sections in the School (Classes):

A number is assigned which corresponds to the frequency count of the number of classes and sections in the school.

Type of School Building:

The school building is classified into three categories; mud-stone, brick, or concrete. Values of 1, 2, or 3 are assigned respectively corresponding to the building material used.

Space Available in the Classroom per Student (Space):

All classrooms in the school are measured in sq. ft. and the total area is divided by the total number of students in the school.

Student-Teacher Ratio in the School:

Student-teacher ratio is calculated by dividing the total number of students by the total number of teachers in the school.

Per Student Expenditure in the School (Expense):

The total expenditure of the school for the previous fiscal year is divided by the total number of students in the school for the same year. The value is in Nepalese Rupees.

Percentage of Trained Teachers in the School:

A teacher who has taken at least six months of teacher training is defined as a trained teacher.

Percentage of trained teachers out of the total number of teachers in the school is calculated.

Percentage of Qualified Teachers in the School:

Qualified teachers are defined as those who have the required academic qualifications, as stipulated by the NESP (New Education System Plan 1971-76) for the level of schooling taught by the respective teacher. Percentage of qualified teachers out of the total number of teachers in the school is calculated.

Percentage of Experienced Teachers in the School:

Experienced teachers are defined as those having at least five years of teaching experience in any school. Percentage of experienced teachers out of the total number of teachers in the school is calculated.

Percentage of Female Teachers in the School:

Percentage of female teachers out of the total number of teachers in the school is calculated.

Percentage of Teachers from the School's Locality (Local Teacher):

A teacher is considered from the same locality if she/he comes from the same area as students who attend the school come from. Percentage of such local teachers out of the total number of teachers in the school is calculated.

Percentage of Teachers with the Same Caste and/or Ethnic Background (Ethnic Teacher):

The same caste and/or ethnic background refers to major caste and ethnic groups for the area served by the surveyed school. The percentage of teachers having similar backgrounds out of the total number of teachers in the school is calculated.

Percentage of Teachers Speaking the Ethnic Language:

The ethnic language is defined as the language(s) other than Nepali spoken in the area. The percentage of teachers, who speak ethnic languages out of the total number of teachers is calculated.

Availability of Instructional Materials:

Availability of instructional materials is assessed on a scale of 0 to 5, with 0 referring to schools not having any materials at all, and 5 assigned to schools with sufficient availability of materials. This valuation is based on the school administrator's judgement.

Availability of Materials, Equipment and Space for Extra-Curricular Activities:

This variable is also assessed on a scale from 0 to 5 as a composite score, with 0 being not available at all and 5 being sufficiently available. The score is based on the school administrator's judgement.

Existence of Special Educational Programs for Girls in the School:

This is a dichotomous variable and is assigned a value of 1 if any kind of special program for girls exists in the school, and 0 if this is not so.

Percentage of Girl Students in the School:

Percentage of girl students is calculated out of the total number of students enrolled in the school.

The number of years the School has existed in the area:

The total number of years since the school was established is enumerated.

c. Socio-Cultural Factors (Twenty-one Factors)

Language Spoken at Home (Language):

A value of 1 is assigned to girls who speak predominantly Nepalese at home with other family members, and 0 is assigned to girls who speak predominantly languages other than Nepalese at home.

Caste or Ethnicity of the Family (Caste):

The castes or ethnic groups are divided into three categories. Educationally privileged groups like Brahmins, Chhetris and Newars are assigned a value of 3; educationally unprivileged touchable ethnic groups are assigned a value of 2; and educationally

neglected and deprived occupational groups are assigned a value of 1.

Average Education Level of the Adults in the Family:

An adult is defined as any person in the family who is 16 years of age or older. Family education level is calculated by dividing the aggregate number of years of education of the adults, by the total number of adults in the household. Adult literacy is calculated as an equivalent of two years of formal schooling.

Family Size:

Total number of family members eating from the same hearth is counted and assigned a corresponding number.

Ratio of School-age Children to Adults in each Family:

This ratio is calculated by dividing the total number of school-age children (those 6 to 15 years old) by the total number of adults (16 years or older) in each family.

Total Number of School-age children in the Family:

Total number of children between the ages of 6 and 15 years is counted and assigned corresponding values.

Total Number of School-age Boys in the Family:

This is the total number of school-age boys in the family.

Total Number of School-age Girls in the Family:

This is the total number of school-age girls in the family.

Percentage of School-age Children Going to School:

This percentage is calculated by dividing the total number of children in a household who attend school, by the total number of school-age children in the family.

Percentage of School-age Boys Going to School:

This percentage is calculated by dividing the total number of boys in a household who attend school by the total number of school-age boys in the family.

Percentage of School-age Girls Going to School:

This percentage is calculated by dividing the total number of school going girls by the total number of school-age girls in the family.

Percentage of School-age Girls in the Family:

This percentage is calculated by dividing the total number of school-age girls by the total number of school-age children in the family.

Total Number of Children 0 to 6 Years of Age:

This number is obtained by simply counting the total number of children in the family who are 6 years old and younger.

Percentage of Literate Adults in the Family (Family Literacy):

This is represented by the total number of literate adults out of the total number of adult family members (calculated as a percentage).

Average Eduction Level of Adult Women in the Family:

This is calculated by dividing the aggregate number of years of education attained by adult women by the total number of these adult women in a family. Adult literacy is calculated as an equivalent of two years of formal schooling.

Agriculture as an Occupation in the Family:

If any member of the family is engaged in agriculture as a primary occupation a value of 1 is assigned, if not a value of 0 is assigned.

Business as a Family Occupation:

If any member of the family, as reported by the respondent, is engaged in trade or business, as a primary occupation, a value of 1 is assigned, otherwise 0 is assigned.

Industry or Cottage Industry as a Family Occupation:

If any member of the family, as reported by the respondent, is engaged in industry or cottage industry as a primary occupation, a value of 1 is assigned, if not 0 is assigned.

Wage Labor as One of the Sources of Livelihood:

If any member of the family reported wage labor as a source of livelihood, a value of 1 is assigned, if not 0 is assigned.

Service as an Occupation of the Family:

If any member of the family, as reported by the respondent, is engaged in salaried employment or service in government, non-government or any other agency, a value of 1 is assigned, if not 0 is assigned.

Percentage of Adult Income Earners in the Family:

This is enumerated by converting the total number of income earning adults into a percentage of the total number of adults in the family.

d. Economic Factors (Eight Factors)

Total Yearly Income of the Family (Income):

Total yearly income is enumerated in rupees as the sum of salaries, wages, the value of the total agricultural production at current market prices, and one-fourth of the total value of the livestock.

Total Number of Animals in the Family (Livestock):

This is enumerated by counting the total number of large animals such as cows, water buffaloes, pigs, goats, sheep, etc. owned by the family.

Total Land Owned and Cultivated by the Family (Land Size):

Total land area in Ropanies cultivated by the family including borrowed or rented land, is enumerated.

Total Yearly Production from Land in the Family:

Total muries of grain produced from the land that year (year of the survey) is enumerated.

Cost of Schooling (Cost):

Cost of schooling is an estimate based on various expenses, including tuition, books, paper, pencils, etc.

Distance to Primary School:

Distance to the nearest primary school is measured and enumerated in kilometers.

Distance to Lower Secondary School:

Distance to the nearest lower secondary school is measured and enumerated in kilometers.

Distance to Secondary School:

Distance to the nearest secondary school is measured and enumerated in kilometers.

e. Parental Attitude and Education as Factors (Six Factors)

Educational Status of the Girl's Father:

A value which corresponds to the number of years of schooling attained by the father of the sample girl

is assigned. A value of 2 is assigned to those adults considered as literate as defined earlier.

Educational Status of the Girl's Mother:

A value equivalent to years of schooling attained by the sample girl's mother is assigned. A value equivalent to 2 years of schooling is interpreted as being literate.

Attitude of the Male Household Head Towards Modernity:

The male decision maker in the family (usually the father) is taken as the male household head. There are altogether ten questions on attitude towards modernity with three point scales. They are scored as 0, 1,and 2 for a positive, undecided, or negative response respectively to each item. The cumulative value for each respondent ranged from 0 to 20.

Attitude of the Female Household Head Towards Modernity:

The female decision maker in the family (usually the mother) is taken as the female household head. The same questions and procedures as discussed above are administered.

Attitude of the Female Household Head Towards Girls' Education:

There are ten questions on attitude towards girls' education, each measured on a three point scale of 0, 1, and 2 indicating a positive, an undecided, or

a negative response respectivelty to each item. The cumulative value for each respondent ranges from 0 to 20.

Attitude of the Male Household Head Towards Girls' Education:

A procedure equivalent to the one discussed above was used.

Scope and Significance of the Study

Education is a precondition to social and economic development. This is because education plays a crucial role in bringing about mass consciousness, and enabling disadvantaged and oppressed groups, including women, to participate effectively in development activities. Education also enables people to realize their own potential which is essential for personal growth. Thus, universalization of educational accessibility for all groups of the populace, at least at the primary level, is one of the first steps in the progress towards development.

The acquisition of information related to new practices and technologies requires education, at the least, reading, writing and simple arithmetic. The problems of hunger, poverty, over population, and misuse of the natural resources may be impossible to overcome in the Third World countries without making use of

simple and fit technologies and creating an awareness of personal responsibility to society and mankind in general. Education will enable a person to utilize the available knowledge and information to solve such problems and realize such responsibilities

Despite the goals and objectives enunciated by the United Nations and its allied agencies through the Universal Declaration of Human Rights, the UNESCO International Convention against Discrimination in Education, the United Nations Declaration on the Elimination of Discrimination Against Women, and the International Women's Year Conferences in Mexico (1975), Copenhagen (1980) and Nairobi (1985), women as a group continue to be educationally disadvantaged and deprived. However, these international efforts have brought women's oppression to the forefront of national and international consciousness. Educational opportunity for women is increasingly viewed as an integral part of ensuring human rights and social justice, uplifting the quality of life to an adequate level, and making optimum use of human resources for development.

The concept of equal educational opportunity, as an underlying philosophy of educational policy, has been recognized in recent years in the developing countries of Asia. However, it is an established fact that girls and women in this region are educationally disadvan-

taged, this is especially true in the remote and economically depressed areas of these countries. For this reason, the Karachi Plan of 1960 recognized the need for universal primary education in the South Asian region. This plan was revised in 1965 at the Second Regional Conference of Ministers of Education in Bangkok, in which the participating countries from the Asian region pledged to achieve universal primary education in two decades.

Two decades have now passed, and data from various countries in the region show that this pledge has not only remained unfulfilled, but it appears that some countries have shown very little progress. Nepal, as a signatory country of this pledge, has extended the magic date to 2000 A.D. with a slogan "Education for all by 2000 A.D.". In the context of Nepal, the question arises as to whether or not it is possible to achieve the goal of universalization of primary education by 2000 A.D. Furthemore, are the problems and barriers that hinder the achievement of this goal well understood, so that proper strategies can be outlined to over-come these barriers ?

Smock (1981) finds that there are sufficient data and information available to illuminate the magnitude of gender inequalities in opportunities for schooling, and draws some conclusion regarding their consequences.

However, she finds that data and information to explain the configuration of gender inequalities or to define with assurance the factors causing such inequalities are lacking. Rao (1983) vents the same feeling in relation to India:

> The present educational system has not taken into account the needs of a developing country and also the significance of the contribution of women who form nearly fifty percent of the total population. Not much attention has been paid to the education of women nor an earnest attempt has been made to understand the various problems faced by rural girls in attending school. (p. 41)

A similar statement can also be made for Nepal. It is apparent from the previous discussion that in spite of educational expansion and recognition as policy of equal educational opportunities, the women of Nepal are an educationally disadvantaged group. More than 72 percent of the school-age girls were not attending school in 1981. In 1981 national literacy was estimated to be 23.26 percent, whereas female literacy was estimated at only 12.05 percent (CBS,1986). Enrollment ratios are also low and sex disparities in enrollment are wide (UNICEF,1983). The female drop-out rate for grades 1 to 5 ranged from 40 percent to 95 percent respectively for the country as a whole (CERID,1981). These facts lead us to ask what it is that causes this situation, especially with reference to the education of girls?

In previous studies this situation has been explained as resulting from a tradition of prejudicial views against the education of girls. According to these studies, Nepalese people have felt that education for daughters is not necessary, and it is not a rewarding investment because daughters eventually marry and leave their families (CERID,1984). The Status of Women in Nepal (Acharya and Bennett, 1981) tries to explain this in terms of economic difficulties experienced by much of the population with the resulting necessity of child labor at home. Again, however, a question arises. Are these the only explanations?

Against this backdrop a study that could facilitate a more complete understanding of the nature of problems and barriers to the education of women in rural areas of Nepal became inevitable. Underlying premises for this study are accurately articulated by Kelly and Elliott (1982:1), who write that "... women ought to be educated, that education can have beneficial effects on women, and that the current pattern of female undereducation in the Third World can and should be change." As outlined by them, the main goals of this study are not only to answer questions raised in the previous discussion, but to also stimulate further research which will serve as a basis for formulating educational programs and policies. The latter will aim to enhance

women's participation in schooling, to help women realize individual potential, to improve the lives of women, and to improve the quality of life and promote social well-being for the population as a whole.

Research Questions and Hypotheses

The purpose of this study is to identify and predict factors that affect girls' participation and attendance in formal education in the hill area of Nepal. The research questions which guided the research design and subsequently the research procedures and methods for this study, were:

1. What is the relative significance of different factors in determining the participation and attendance of girls in formal schooling in the hill area of Nepal?

2. To what extent do the five blocks of factors explain the nature of girls' participation in formal schooling in the hill area of Nepal?

3. To what extent do the five blocks of factors explain the nature of school attendance of girls attending schools in the hill area of Nepal?

4. Which factors, identified as significant determinants of participation and attendance, may offer policy makers opportunities to maximize girls' participation and attendance in formal schooling in the hill area of Nepal?

5. What are the personal and situational characteristics of the survey population; e.g., school-age girls, rural household, and rural schools, in the hill area of Nepal?

Twelve research hypotheses were derived to assess the strength of association between the dependent and predictor variables. A significance level of .05 was arbitrarily selected for rejecting each null hypothesis (See Chapter IV).

Overview of the Research Design

The research design chosen for this study was predictive and multiple regression analyses were used. The data and information were collected by face-to-face interviews with the selected respondents.

The target population of this study was school-age girls (those 6 to 15 years old) in one hill area of Nepal. Because of difficult terrain, lack of accessibility during the monsoon season, and lack of time and other resources a multi-stage cluster and random sampling procedure was used to derive the required number of respondents. Since data on this target population were not available, households were selected as the sampling unit. All the school-age girls from the sample households became the survey sample, and all the schools where these girls in the survey sample were

attending, or supposed to attend, were chosen for the school sample.

Using different questionnaires data were collected from three sources: school-age girls, households, and schools. The questionnaire items were reviewed by a panel of five judges. Revisions were made based on the recommendations from the judges, other field research experts, and by pre-testing with a similar population. Six female enumerators, and a research supervisor were hired and trained for data collection by the principle investigator. Data and information from 398 households, 540 school-age girls, and 14 schools were collected.

The data collected from these three sources were assigned to the relevant girl sample. The data were transformed to numerical value for microcomputer entry and analysis. Descriptive statistics and multivariate regression analyses were performed to answer the research questions and to test the hypotheses.

Limitations

As stated earlier, the nature of this study is primarily descriptive and predictive, however, it is also possible to use the data and research results in an exploratory way. The study has produced information that may be useful for formulating policy guidelines and designing education programs that may facilitate the

wider participation of girls in formal education in the hill area of Nepal. However, considering multiplicity and varieties in culture, society, physiography, customs, etc. this study can not be considered as representative of all situations across Nepal or in other nations.

The study does not focus on building a model or elaborating a concept, rather it is only a modest attempt at identifying factors that have been shown to significantly predict girls' participation in formal schooling.

This study was undertaken in one hill area of Nepal with a limited sampling frame. Therefore, findings of the study may not be generalizable to different socio-cultural and physiographical conditions within Nepal and elsewhere.

Overview of the Dissertation

The dissertation is divided into six chapters. The First Chapter deals with the total frame of reference of this study. First, the research problem is discussed and the need for the study is justified. The purpose of the study, summary of other studies conducted in Nepal, and a conceptual framework for the study are also presented. A brief description of research questions and hypotheses is outlined, factors or variables are operationally defined and research procedures are

explained in brief. The limitations of the study, as perceived by the investigator, are also presented.

The Second Chapter presents background information on Nepal, specifically that related to the country's geophysical structure, socio-cultural conditions, economic reality, and educational system. As the country is unique in terms of the above factors it was felt necessary to provide such background to give meaning to the study.

The Third Chapter reviews studies that are related to this research topic. This discussion focusses on theories and models of the equality/inequality issue of educational opportunity. It also derives the given conceptual framework of the study from previous studies, and discusses each block of factors as well as individual factor in terms of their relation to the education of girls.

The design and methodology used for the study is described in the Fourth Chapter. Sections covered in this chapter are approach to measurement, population and sampling, data sources, data collection instruments, field data collection, and data analysis.

Chapter V reports the findings related to the research questions and hypotheses. Finally, a summary of the study, conclusions, and recommendations for further study are presented in Chapter VI.

CHAPTER II

BACKGROUND

Introduction

Nepal is a sovereign independent kingdom sandwiched between the two giants of Asia, China to the North and India to the South. It is situated on the Southern slopes of the Mid-Himalayas between 26.22' and 30.27' North Latitudes and 80.4' and 88.12' East Longitudes. Nepal covers an area of 147,181 square kilometers with a length of 885 kilometers east-west, and a north-south width ranging between 241 kilometers and 145 kilometers (CBS,1984:1-2).

Nepal can be divided into three elongated parallel physiographic regions running east to west: 1) a tropical region, the Terai, is part of the Indo-Gangetic plain comprising 17 percent of the total land area with altitudes ranging from 152 meters to 305 meters above sea level; 2) the rugged mid Mountain or Hill region formed by the Churia and the Mahabharat ranges comprising 68 percent of the total land area with altitudes between 305 meters and 4,877 meters, and 3) the Himalayan region in the North mostly snow covered year around, with altitudes ranging from 4,877 meters to the highest peak in the world, Sargamatha (Everest) at 8,839 meters above sea level.

The Terai is highly fertile flat land, sloping towards the south with partially forest clad hills on the northern belt of its 26 to 32 kilometers narrow strip which extends

along Nepal's boundary with India. The Hill region is clustered with the mountains (NNEPC,1956:8); that are extremely complicated geophysically (Rose and Scholz,1980:2); and marked by a series of parallel north-south ridges flanking deep, narrow, southward sloping villages (Harris, et al., 1973:29). The Himalayan region is the northernmost part of Nepal generally covered with snow year around. It is conspicuous for its extreme altitudes, wild terrain, and it holds some of the highest mountains in the world (Gurung,1973:33).

Climate and Vegetation

Nepal, though a relatively small country, has a wide range of climatic zones ranging from arctic tundra zones in the North to sub-tropical jungles in the lowlands of the Terai. Nepal may be divided into various horizontal and vertical climatic zones depending on varying altitudes and location. Basically, Nepal enjoys four seasons, a long hot and humid Summer (April-August), a short pleasant Autumn (September-November), a short chilly Winter (December-January), and a short pleasant Spring (February-March). On average, Nepal receives almost 80 percent of it annual precipitation between the months of June and July. Rainfall decreases from East to West and South to North, while temperature decrease with altitude.

The climate of the Terai is generally hot, sub-tropical and humid during the monsoon season, when numerous streams and rivers that cross this flat land bring silt and gravel with their annual floods. The Hill climate is characterized as sub-tropical, with a temperate warm rainy summer, and a moderately cool to severe winter. The Himalayan region experiences long severe winters, and short and cool summers. The snowline is situated at an average altitude of 4,000 meters in the west and 5,000 meters in the east.

Nepal is very rich in flora and fauna because of the wide variety of ecological zones, rainfall patterns, soil conditions, and rivers. Vegetation is limited at altitudes above 4,000 meters, but grasslands, often used by pastor-allists, are commonly found at these altitudes. Forests, once described as the "Wealth of Nepal" are being destroyed by encroachment and overexploitation for timber harvesting. The overexploitation of natural resources has made the country one of the most fragile areas in terms of soil erosion. Along with this phenomenon the wide variety of rare animals is at the verge of being extinct. The deciduous forests of the moist Terai contain indigenous species of rattan, palms, bamboo, khair, acacia, sissoo, semal, karma, etc. The Hill areas are populated by species of sal, walnuts, oaks, horse chestnuts, maples, birches, rhododendrons, larches, firs, bamboo, etc. In the higher altitude Himalayan zone oaks,

maples, spruce, firs, rhododendrons, birches, massifs, junipers, ash trees, etc. are found.

Nepal also has a wide variety of animals and bird life. Tigers, leopards, bears, rhinoceros, elephants, wild buffaloes, jackals, wolves, hyenas, snow leopards, mountain goats, various species of deer, snakes are examples of the variety of animals found around in different regions of the country. Nepal is also supposed to be paradise for bird, butterflies, moths, and other insects. It is estimated that more than 800 species of birds are found in Nepal (Fleming et al,1976; and Gibbons and Ashford, 1983; Bhatta,1981).

Administrative Division

For administrative purposes, the country is divided into five development regions, 14 zones, and 75 districts. Each district is sub-divided into town and village panchayats. There are altogether 29 town panchayats and more than 4,000 village panchayats. Town and village panchayats are the smallest administrative and political units. At the head of the political structure is the King who rules the country.

Three elected bodies, the National Panchayat which functions as national legislature, the District Panchayats which mostly oversee district level development, and the village or town panchayats which oversee local level development, function as advisory and supervisory organs of His Magisty's Government (HMG). There is also a cabinet which is

constituted by the King on the advice of the National Panchayat. AT the district level a Chief District Officer is in-charge of each district's administration.

Demographic Structure

According to the 1981 census, the population of Nepal is 15 million, this is estimated to have increased to 16.7 million by 1985. Over half, 51.2 percent, of the population was reported to be male. While the rate of population growth, which has progressively grown since the 1960's, is estimated to be 2.66 percent per annum. The current pattern of growth is expected to continue and the population growth rate for next two decades is expected to remain at around 2.5 percent per annum. Partly as a result of this trend, people have been migrating to the fertile plains of the Terai, and the population growth rate in this region is greater than the national average.

The average population density in the country was reported to be approximately 102.1 persons per square kilometer in 1981. This represents a net growth of 23.7 persons since the 1971 census. However, the distribution of population is not even across the country. Population density ranges from 20.7 in the Himalayan region to 1551 persons per sq. km. in parts of the Terai. Approximately 47 percent of the total population live in the hills, while only

about eight percent of the population inhabit the Himalayan region, with the remaining 45 percent residing in the Terai.

The Peoples of Nepal

Nepal is a country with a diverse socio-cultural and linguistic populace. Social Scientists like Iijima (1964:93-94), Kawakita (1957:99), Hagen (1961:64), and Karan and Jenkins (1963:142) have organized Nepal's population as shown in Table 3.

Table 3

Caste and Ethnic Groups Settlement of Nepal

Altitude	Topography	Caste/Ethnic Groups
4000m.	Highland	Sherpa,Bhote,Lama,Tamang,Topke, Mustange, Dolpo, Raute, etc.
2500m.	Midland	Rai, Limbu, Thakali,Chepang, Newar, Magar, Gurung, Brahmin, Chhetri, and Other Occupational Castes, etc.
1000m	Lowland	Brahmin, Chhetri, Rajput,Tharu, Danuwar, Majhi, Sataar, Dhimal, Darai, Rajbanshi, and Other Occupational Castes etc.

Sharma (1979) agrees with traditional thinking which holds that ethnic people of the north are of Mongoloid stock, while the caste groups in the south originate from the Indo-Aryan group. With reference to indigenous local people he writes:

> Nepal is the meeting ground of two races:i.e. Aryan of south and Mongolians of north. Likewise trad-

> ition and inheritance from both sides influenced mixed, developed, and refined to the need of soil, climate, and resources of the country. (p.65)

Shaha (1975) describes Nepal as a "shifting mosaic of diverse ethnic groups" (p.2). Because of this kind of constant intermingling and change, scholars have faced difficulties in their efforts to develop an accurate taxonomic systematization of the sixty diverse ethnic communities and caste groups that inhabit Nepal. As Frank (1974:87) writes, "Contrary to all comparable places in the world, there is hardly any area in Nepal which can be considered to be the area of a certain ethnic group." Furthermore, "These ethnic groups are again split into different castes and subcastes resulting in minor variations in their way of living, language and culture" (Shrestha, Singh, and Pradhan; 1975:1).

It is apparent that Nepal has a composite population coming from various racial and ethnic strains. Three ethnic strains are traceable in the Nepalese population: the pre-Aryan and/or pre-Mongoloid tribes, considered to be the indigenous people of Nepal; the Mongoloid ethnic groups; and the comparatively late arriving Indo-Aryans and their hybrid progeny. The so-called indigenous people who lived as hunters and gatherers had been pushed back into the forest and wilderness by the Mongoloids and by other powerful Aryan late-comers. The process of acculturation has not yet stopped, and many of these indigenous groups are on the verge of total cultural and physical annihilation.

The Mongoloid ethnic groups live mostly in the mountainous region and may have originally entered Nepal from the north-east. While the Indo-Aryan/Caucasoid people probably entered Nepal from the south-west. The later group, particularly those in the low lands and midhills, exhibit a fairly strong caste orientation through a vertically structured caste-system. Mongoloid ethnic groups, on the other hand, do not exhibit the same kind of rigid social structure.

Language

The cultural diversity of Nepal is evident in its linguistic diversity. Over 60 dialects belonging to Austric, Dravidian, Tibeto-Burman, and Indo-Aryan language families are spoken. The Nepali language, originally spoken by the Khasas, the ruling elite class of Nepal, is becoming the lingua-franca of the whole country. Nepali, which is written in the Devnagari script, is accepted as the official national language, and is used widely in the media. Nepali is also the main medium of instruction in the majority of Nepalese schools.

More than 58 percent of the total population is Nepali speaking. This percentage is composed of Brahmins, Chhetris, the occupational castes like Kami, Sarki, Damai, Sunar and other sub-groups belonging to the caste hierarchy (See Table 4). The mid-hill and valley areas are the traditional centers of these communities. The Brahmins and Chhetris have

enjoyed an elite status by virtue of their caste and affiliation with the traditional rulers.

The other major languages spoken in Nepal are Maithili (11%), Bhojpuri(7.6%), Tharu(3.6%), Tamang (3.5%), and Newari (3%). Alongside Nepali, Maithili, Abadhi, and Bhojpuri belong to the Indo-Aryan group of languages. They are mostly spoken by the people inhabiting the Terai. Most other languages belong to the Tibeto-Burman family and are spoken by the so-called ethnic groups. Usually these languages and dialects are scattered around the hills and mountains but some of them are concentrated in a particular area. Because of the growing tendency to migrate towards the lowlands, exposure to and mixing with new cultures, and the government's apathy towards safeguarding ethnic minority culture and language, some of the original dialects are in the process of obliteration.

Table 4

Population by Mother Tongue (Census,1981)

Mother Tongue	Total	Percent
Total	15,022,839	100.0
Nepali	8,767,361	58.4
Maithili	1,668,309	11.1
Bhojpuri	1,142,805	7.6
Tharu	545,685	3.6
Tamang	522,416	3.5
Newari	448,746	3.0
Others	1,927,517	12.8

Nepali is understood by the majority of people and it is used as the language of communication between different caste and ethnic groups. As Nepali is also used as the medium of instruction in the schools of Nepal, children from non-Nepali Speaking ethnic groups face difficulties especially at the primary level of schooling.

Religion and Caste

As Ragsdale (1982:5) summarizes, "Religion and caste are important aspects of Nepal's complex societal structure and also correlate with the above classifications." Hinduism is major religion and is practiced by about 89.5 percent of the population consisting mainly of Indo-Aryan people. Some converted, sanskritized Tibeto-Burman communities like the Newars and Thakalis also practice a form of Hinduism. Buddhism, the second most popular religion, is almost exclusively practiced by the Tibeto-Burman speaking people. A little more than 5% of the population follows the Buddhist doctrine (See Table 5). However, the concept of the Buddha as one of the incarnations of Shiva or Vishnu, and acceptance of Hindu gods and goddesses by the Buddhists make it sometimes difficult to draw a definitive line between these two religions. As Malla, (1977:) states:

> "Because of the process of synthesis and interfusion between Vaishnavism, Shaivism, Hinayan Buddhism, Mahayan Buddhism, Tantrism, Vajrayan, Shakta and local cults; there is some artificiality in the use of religious labels in Nepal."

Table 5

Population by Religion (Census, 1981)

Religion	Total	Percentage
Hindu	13,445,787	89.5
Buddhist	799,081	5.3
Islam	399,197	2.7
Jain	9,438	0.1
Christian	3,891	-
Others	365,445	2.4
Total	15,022,839	100.0

Through a legal code established in 1963 all people of Nepal are equal before the law, however, the caste system still persists among major communities and continues to play a fundamental role in shaping Nepalese society (Harris et.al., 1973). Caste is also a major determinant to social, economic, and cultural conditions of any community which then directly affects educational status as well as overall societal ranking. As Ragsdale (1982:5) writes, "Several systems of hierarchically ranked, endogamous group of hereditary castes are found in Nepal, associated with particular occupations and ordered according to their supposed ritual purity and social prestige." This is mainly true with the Indo-Aryan people who inhabit the hill and Terai areas, as well as the Hindu Newars. Hierarchically, priestly caste Brahmins are on top because of their ritual purity and power to interpret religious books. The Brahmins are followed by the Chhetris as warriors and managers of the

government. There are several traders and artisans who occupy a position on the third tier. The lowest group are the occupational castes like Damai (tailors), Kami (blacksmith), Sarki (shoemakers), Sunar (Goldsmith), Bhangi (sweepers) etc.

Budhhists and Tibeto-Burman speaking ethnic groups generally do not belong to any specific caste group, but they do usually have their own hierarchical system, most probably learned from the majority group. To think of an egalitarian system in the context of Nepal is still a dream because those who enjoy the fruits of the caste system are not ready to relinquish their age-old privileges and power. The lower caste and untouchables have been muted by the system and cannot voice their suffering and exploitation. Also, they are busy just trying to earn enough to survive. Education, therefore, often becomes a luxury which many of these lower castes cannot afford. Education has become the sole prerogative of Brahmins, Chhetris, Newars, and the wealthy ethnic families. Furthermore, many teachers are not ready to accept untouchable children in their classrooms because of fears of defilement, and social prejudice.

National Economy

Nepal, with a per capita income of US $160 in 1984, is one of the economically least developed countries in the world. In terms of national economic growth, Nepal's GDP grew

at the rate of 2.2 percent per annum during the Fifth Plan period (1975-1980), but agricultural production declined by 1.1 percent per annum and population increased by 2.7 percent per annum, resulting in a substantial net decrease in per capita wealth in real terms. According to Acharya (1987:11):

> "... the latest figures, the period between 1980/81 and 1984/85 has seen an annual growth rate of GDP by 3.9 percent and a population growth of 3.5 percent, giving a net per capita GDP growth rate of 0.4 percent per annum but this does not include decline in agricultural production, high inflation, rising price index and rising trade deficits which has been a constant feature of Nepal."(see Table 6)

Table 6

Main Economic Indicators
(% Change over from the Previous Year)

	1978/79	1979/80	1980/81	1981/82	1982/83	1981/82+	1982/83+
Gross Domestic Product*:	2.4	-2.3	5.6	3.8+	-1.3#		
Major Agricultural Productions:	3.4	-12.4	16.6	4.0	-9.7		
a. Food Grain	3.1	-13.5	19.0	4.0+	-12.1		
b. Cash Crops		5.4	-6.1	3.5	4.0		5.1
Industrial Production	1.3	6.1	-3.1	14.8	18.8		
Consumer Price Index	3.5	9.8	13.4	10.4		4.6	7.8
Money Supply	21.6	13.0	13.3	12.6		15.8	17.3
Imports	16.8	20.6	27.2	11.3		7.0	28.7
Exports	24.0	-11.3	39.8	-7.3		8.6	-32.9
Trade Deficit	11.6	46.7	21.0	22.0		6.3	58.5
Foreign Exchange Reserves	30.8	-0.9	12.4	25.9		23.4	-10.0

*based on 1974/75 prices; +Provisional; #Estimates
(Source: "Economic Survey 1982-83.", NPC, HMG, Nepal.)

Nepal is a predominantly rural country with about 91.1 percent of the economically active population engaged in agriculture which contributes 62 percent of the GDP. Only 4.6 percent of the economically active population are employed in government and private services, while 1.6 percent are employed in business, with the remaining involved in different activities.

It is not only low growth but uneven distribution of the wealth which is the major problem. About 43 percent of the population are estimated to live below the poverty level, many of these people are not able to provide for their absolute minimum physical requirements of food, shelter, clothing, health, and education (The Basic Needs Task Force, 1986). The inequality in income distribution between the 3.6 percent poorest families and the 3.0 percent richest families works out as a minimum of 80 times and a maximum of 150 times difference (Pant and Jain, 1980). An estimated 66.27 percent of rural families share only 20.59 percent of aggregate income, whereas the top 18.64 percent of the rural population share 57.77 percent of the net aggregate income, and 3 percent of this group enjoys more than 28.0 percent of the income. Less than 1.0 percent (0.87%) of the highest echelon control 12.08 percent of the income. Thus, the income structure is like a pyramid with a few families enjoying the highest shares on top, and a majority at the bottom with not enough to survive (see Table 7).

Population distribution and the distribution of cultivated land over the three geographical regions, is also uneven. More than 55 percent of the people live in the hills and the himalayan regions but less than one-third of the cultivable land is in the region. The land ownership pattern is also skewed, with the poorest 68.5 percent of the households owning 10.5 percent of the total cultivated land and the richest 9.8 percent of households holding 59.5 percent of the cultivated land. The large landholders also own the most fertile and irrigated land.

Table 7

Percentage Distribution of Rural Families' Share in Net Income and Average Net Income Per Family in Different Income Classes.

Income Class (Rs.)	Percentage of Families	Percentage Share in Annual Income	Average Annual Income Per Family (Rs.)
< 500	3.60	0.11	250
500 < 1500	12.04	1.48	1000
1500 < 2500	17.30	4.25	2000
2500 < 3500	16.30	6.00	3000
3500 < 4000	7.23	3.33	3750
4000 < 5000	9.80	5.42	4500
5000 < 8000	15.09	21.64	6500
8000 < 10000	5.16	5.70	9000
10000 < 15000	4.91	7.54	12500
15000 < 25000	3.14	7.71	20000
25000 < 40000	2.43	9.70	32500
40000 < 75000	2.13	15.04	57500
75000 >	0.87	12.08	112500
Total	100.00	100.00	

(Source: National Planning Commission, Nepal.)

Among the population of six years and above, only 24 percent are literate. This is expected to change since 73

percent of the primary school age children are now in schools. The life expectancy at birth is 52.9 years for males and 51.5 years for females. The death rate is estimated to be 16.57 per thousand and the infant mortality rate, one of the highest in the world, is 111.5 per thousand live births. Per capita calorie intake is 93 percent of the minimum requirements (World Bank, 1986).

Development of Education in Nepal

A comprehensive history of education in Nepal is yet to be published but casual remarks made by different historians indicate a long educational tradition. Upraity (1962:17-27) has divided the educational history of Nepal into four periods. Accordingly, the Early Period covers up to 1768, and is described as a period of Indigenous Education. Highly developed Brahmanic as well as Buddhistic systems of education were in operation even before the dawn of the Christianity. Later, in the 14th century, the Malla Kings introduced an apprenticeship system of training. As a consequence of the caste system, it was organized along occupation and skill.

The second period, 1768-1846, is characterized as a period of Educational Neglect. The then Shaha kings were more interested in conquering small principalities and consolidating their conquered territories into a new country rather than providing social services, such as education.

However, the Parbatiya or Khas language, the current national language, was introduced as the court language during this period. The national language is currently known as Nepali language.

The third period, 1846-1950, is characterized by Upraity as the years of Opposition to Education. The Rana dynasty was against educational expansion because they were afraid that an educated enlightened people would turn against their family's dynastic, autocratic, and undemocratic rule. However, at this time, the first English based school was established in 1854 A.D. This school existed solely to educate the children of the Ranas and their councilors. According to Levi (1905-08), during his visit to Nepal in 1898 there were a few learned scholars here and there, but he found the torch of ancient knowledge dying. In this period, various kinds of schools existed in limited numbers including basic schools, vernacular schools, English schools, and private schools in this period. The hostility and opposition towards education entertained by the Ranas is aptly expressed by Wood (1969:9):

> "The Rana period, 1846-1950, is best described as one of general opposition to education by the ruling group. In an era when Western countries were developing and extending their systems of learning, the Ranas were attempting to remove all vestiges of education in Nepal. Although they imported British or Indian Pundits to teach their own children according to the English system, they thoroughly opposed education for the masses. In fact, any one advocating it risked the death penalty or the dungeon."

The modern period, 1951 to the present, can be characterized as a period of Educational Reconstruction and Experimentation. Before this period there was no base for expansion of education. The advent of democracy in 1951 opened the floodgates of education. The government recognized education to be a right of the people, and the people, in turn, responded with rising enthusiasm by establishing schools for their children. The scenario is described by Aryal (1970:35) as follows:

> "In spite of this zeal from both the public and the government it was hard to channelize education in the right direction. The new government, for some time, was at a loss to how and in what direction it should administer the country. The old machinery had collapsed, and the new set-up had not yet been well established."

In 1954, the government, realizing that comprehensive and detailed planning is a prerequisite to the launching of any mass educational program, formed the Nepal National Educational Planning Commission (NNEPC). The report presented by the Commission outlined a detailed and long range educational plan. The main recommendations were: 1)universal primary education by 1985; 2)availability of adult education facilities to those who desired them by 1965; 3)establishment of a national university by 1965; and 4)provision of multi-purpose secondary schools for every 10,000 inhabitants (Wood, 1965:18).

In 1961, the All-Around National Education Planning Commission presented its recommendations regarding reforms in

the areas of primary, secondary, adult, and teacher education. Later, in 1962, a two member UNESCO team suggested the adoption of regional targets for educational expansion. However, there was an inherent shortcoming in all of these plans; planners did not seem to grasp the real purpose of education for the present society (Aryal,1970:67).

Also, the political changes of 1960 which introduced the partyless Panchayat system called for changes in the education system to help sustain the newly introduced system. "It was strongly felt that the attainment of the system goal and its cardinal plank aimed at realizing an exploitation-free society considerably depends on our ability to develop a system of education that is geared to generate necessary pre-requisites for this" (NESP, 1971:i). Under this directive, the National Education System Plan of 1971-76, which was basically an education policy document, was implemented. The basic aim of this plan was to produce citizens faithful to the Crown and the Panchayat System, and to fulfill the manpower requirements of the country through the spread of scientific and technical education. According to Manandhar (1982:3), the main thrusts of this plan were:

1) promoting equal access to education for all,
2) linking education with production by fulfilling the requirements of vocationally trained and technical manpower, and

3) improving the quality of education by providing trained teachers, improved curricula, textbooks, and materials.

Educational Structure

The educational structure consisting of 5 year's of primary school, 3 year's of middle school, and 2 year's of high school was introduced during the inception of the English system of education and it remained intact until 1971. The NESP introduced a "3+4+3" structure for primary, lower secondary, and secondary levels of schooling during the planning period of 1971-76. The self terminating goals for each level of schooling were stated as "making literate" for the primary level, "character building" for the lower secondary level, and "preparing productive citizens " for the secondary level. Later, high level Mid-Term and Full-Term evaluation committees found that three year's of primary education were insufficient for the retention of literacy skills.

The present educational structure with officially identified age-groups for each level is given below in Table 8.

Table 8

Structure of Nepalese Education.

Level of Schooling	Grades	Age Level
Primary	1-5	6-10 years
Lower Secondary	6-7	11-12 years
Secondary	8-10	13-15 years

Educational Expansion

The efforts made by the national government to organize the education sector systematically, combined with the growing interest in education shown by the general population, resulted in the sectors' steady growth and expansion. Table 9 shows the extent of educational expansion over time.

Within a little more than three decades Nepal has made tremendous progress in terms of educational expansion. In terms of the numbers of schools, students, and teachers, they increased by 32, 173, and 50 times respectively at the primary level, and 93, 101, and 47 times respectively in the secondary level between 1950 and 1982 (Table 9). Girls' participation in schooling went up from 1 percent in 1950 to almost 28 percent by 1982 in the primary level, an upward trend has also been found in the secondary level which had reached almost 20 percent by 1982 from almost no-one in 1950.

From 1950 to 1982 the number of teachers increased by 50 and 47 times in primary and secondary levels respectively. The percentage of trained teachers increased from 3 to 36 in the primary level and went from 42 and 62 percent in lower secondary and secondary schools respectively. However, the pupil/teacher ratio has grown to unmanagable levels, much larger than that stipulated in the NESP (1971:40). According to the plan, the ratios should be, 1:30, 1:25, and 1:15 for primary, lower secondary, and secondary levels respectively.

However, in 1982 the ratio was reported to be 1:46, 1:18, and 1:30 for the same levels (Table.9).

Table 9

Growth of Schools, Students,and Teachers 1950-1982.

Year	1950	1960	1970	1980	1982
Primary Level					
No. of Schools	321	4001	7275	10130	10912
No. of Students	8505	182533	408471	1067912	1474698
No. of Girl Students	86	NA	64752	299512	410439
% of Girl Students	1.00		15.85	28.05	27.83
No. of Teachers	642	7281	18674	27805	32259
No. of Trained Teachers	20	NA	4983	9971	11525
% of Trained Teachers	3.12		26.68	35.86	35.73
Student/Teacher Ratio	13	25	22	38	46
Lower Secondary Level					
No. of Schools				3501	2964
No. of Students				391427	198723
No. of Girl Students				80889	42807
% or Girl Students				20.67	21.54
No. of Teachers				11693	10820
No. of Trained Teachers				4587	4549
% of Trained Teachers				39.22	42.04
Student/ Teacher Ratio				33	18
Srcondary Level					
No. of Schools	11	156	1094	785	1031
No. of Students	1680	21115	120537	121007	170404
No. of Girl students	NA	NA	17265	21613	33131
% of Girl Students			14.32	17.86	19.44
No. of Teachers	120	1612	5628	4683	5634
No. of Trained Teachers	NA	NA	981	2919	3518
% of Trained Teachers			17.43	62.33	62.44
Student/Teacher Ratio	14	13	21	26	30

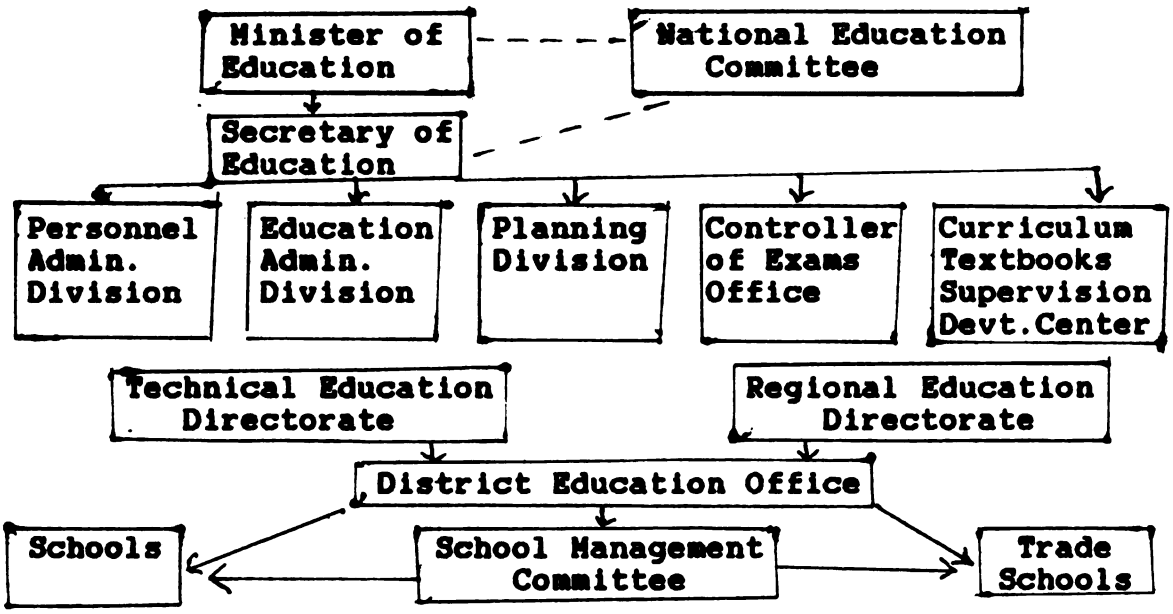
Source: Government of Nepal, Ministry of Education, Various Educational Statistic Reports.
(NA = Not Available)
(Data for lower secondary level until 1970 were included in the secondary level.)

Educational Administration

Educational administration in Nepal is centralized. The Secretary of Education is expected to carry out administrative functions as well as to provide leadership by drawing out plans and programs, executing and evaluating such plans, and directing subordinates (NESP, 1971-76:43). The Ministry of Education and Culture, through its various divisions and sections, takes care of formulating, implementing, and monitoring the education programs of the country (CERID,1984:13). Figure 2, below, shows a schematic chart of this system.

Figure 2

Organizational Chart for Educational Administration.



The National Education Committee, set up under the Chairmanship of the Minister of Education, is the highest

body for formulation of comprehensive plans and programs for educational development. The Regional Directorates, the Technical Education Directorate, and the District Education Officers administer, co-ordinate, and supervise the implementation of education programs in their respective areas.

The District Education Committee plays a key role in the expansion of education and in other general educational concerns in their districts. The School Management Committee is formed to assist schools in various aspects of their development.

Curriculum, Textbooks and Instructional Materials

The NESP(1971-76) prescribed a uniform curriculum for all grades to bring about national harmony. The Curriculum, Textbook and Supervision Development Center is responsible for framing and making revisions in the standard curriculum. Nepali language has to be used as the medium of instruction in all schools. However, because of the influx of private schools this policy has not been strictly followed. Private schools are allowed to teach materials beyond that prescribed in the national curriculum and to use the English language as the medium of instruction. The school supervisors make sure that centrally prescribed curriculum and standards are maintained in all schools.

Centrally prescribed school textbooks are prepared and published at the national level and distributed all over the

country to ensure a minimum uniform standard and to maintain uniform content. Textbooks are distributed free of cost to all primary level students, and to girls up to lower secondary level in the remote hill districts.

Limited kinds and quantities of educational materials, far less than what is required, are distributed to all school levels. Equipment for extra-curricular activities is also distributed from the center.

District level examinations are given at the end of primary school education, zonal level examinations are given at the end of lower secondary education, and the national level School Leaving Certificate examination is given at the end of secondary education. This is done to ensure uniformity in educational standards.

School Teachers

The New Education System Plan (1971-76) prescribed that the minimum qualification for primary, lower secondary, and secondary level teachers should be the School Leaving Certificate, the Intermediate and the Bachelor degrees of education respectively. Besides, all teachers are required to undergo teacher training to qualify as permanent teachers. The plan also outlined a program to ensure security of service, promotion prospects and equitable pay scale so that talented people could be attracted to the teaching profession. For this purpose various pre-service and in-service

teacher training programs, and intensive teacher training programs like equal access of women to education, and radio education teacher training programs have been conducted. All these efforts have increased the percentage of trained teachers in all levels of schooling. However, the rapid growth of education and the unwillingness of trained and qualified teachers to work in the remote areas has created an imbalance between the numbers of available and required teachers in different regions.

Teaching is generally considered as a stepping-stone to other professions so there is very high turnover rate. Women constitute less than 10 percent of the entire teaching community. Most urban schools have local teachers with the same background as the majority of the people in the area. However, in remote rural areas this is do not the case since there are few educated people staying in these areas. Therefore, such areas have to rely on teachers from other regions, and often these teaches have cultural and linguistic backgrounds that differ from the local population.

Physical Facilities

Most rural schools operate in very poor conditions. Most school buildings do not have enough rooms to accommodate all grades under one roof. Most buildings consist of small rooms without proper ventilation, lighting, or furniture. Almost all school buildings lack essential services like

drinking water, sanitation, and playgrounds. Compared to rural primary schools, urban schools and secondary schools have better facilities, but they also lack laboratories, workshops, libraries, playgrounds, and equipment.

Financing of Education

The government pays 100, 75, and 50 percent of teachers' salary as grants-in-aid at primary, lower secondary, and secondary schools respectively. In 18 designated remote areas all salaries and miscellaneous expenses are covered by the government of all levels. Textbooks are distributed free to primary level students and up to lower secondary level in the case of girl students in remote areas. Remaining expenses are covered by fees levied on lower secondary and secondary level students, taxes from local and district panchayats, and donations. The local people are supposed to meet expenses related to building, furniture and other physical facilities.

Records of local contributions to educational efforts are not readily available or properly documented. An effort will thus be made to shed light on the government's efforts to make educational facilities available to people by reviewing the allocation of educational expenditure against total government expenditure and gross domestic product.

From 1972/73 to 1982/83, annual growth rates of both total government budget expenditure and educational budget

expenditure increased proportionally and the share of the education budget to the total budget remained around 10 percent. During the same period, an average 46 percent of the budget allocated to the social services sector went for education. The education sector shared an average of 1.37 percent of the GDP with a range of 0.79 to 2.44 percent.

Table 10

Share of Expenditure on Education in Total Government Expenditure, Gross Domestic Product and Total Social Services Expenditure, 1972/73-1982/83.

Items / Year	1972/73	1975/76	1978/79	1981/82	1982/83
Expenditure on Education (In Million Rs.)	90.0	229.4	315.3	519.1	821.0
Total Government Expenditure (In Million Rs.)	982.8	1,913.4	3,020.5	5,361.3	9,187.2
% of Educational Expenditure in Government Expenditure	9.1	12.0	10.4	10.3	11.2
Gross Domestic Product (In Million Rs.)	11,260	17,394	22,215	30,265	33,621
Share of Educational Expenditure from the GDP (%)	0.80	1.32	1.42	1.72	2.44
Total Social Service Expenditure (In Million Rs.)	194.9	463.0	709.0	1,309.2	2,139.4
Share of Educational Expenditure In Social Service Expenditure (In Percent)	46.2	49.6	44.5	39.7	38.4

Source: His Majesty's Government of Nepal, Ministry of Finance, Various Economic Survey Reports).

The World Bank Education Sector Policy Paper (1980) indicates that average government expenditure on education in developing countries has increased steadily as a percentage of both GNP and total national budgets, from 2.3 and 11.7 in 1960 to 3.9 and 15.1 in 1974 respectively. However, govern-

ment expenditure on education in Nepal is low both in terms of a percentage of GDP and total national budget. Also, a high proportion of the education budget in Nepal goes to pay teachers' salaries.

According to Agrawal (1980), the average budgetary allocation for primary education was 24 percent, lower secondary and secondary levels received 21 percent, 34 percent went to higher education, and 21 percent was allocated to educational administration, management, and other such activities. Less than 50 percent of the total educational budget was allocated and spent on primary and secondary education combined.

Table 11

Government Expenditure per Student (Current Price and Adjusted Price to 1972/73 level)

Level	1973/74 current price	1973/74 72/73 price	1979/80 Current price	1979/80 72/73 price	Increases in current prices	Decline in72/73 price
	(Rs.)		(Rs.)		%	%
Primary	67	58	96	54	43	7
Secondary	143	125	155	87	8	30
Higher	1,923	1,678	2,975	1,675	54	0
Total	156	136	190	107	22	21

In spite of the increase in current prices, there is actually an overall drop in expenditure in real terms of 21 percent per student from 1973/74 to 1979/1980. Lower secondary and secondary levels of schools were hardest hit,

with a decline in expenditure of 30 percent per student. The government expenditure per student in current prices for 1979/80 in primary, secondary, and higher level was 96, 155, and 2,975 rupees respectively.

Girls' Education

In spite of a belief that women's position in Hindu society was low, great women writers and philosophers like Maitreyi and Gargi did exist in the mythical period. Since education is an out-of-home activity Hindu custom has not been very favorable towards the education of women. Buddhist nuns were educated in remote nunneries to read and interpret holy scripts. However, this was limited to certain areas and to certain women among specific ethnic groups in the mountainous areas of Nepal.

There is almost no evidence of provision for the education of girls and women before 1947 A.D., when the first girls' school - "Padma Kanya School" was established (Devi,1977). Before this school was established the only provision for girls' education was in the home by educated elders, family priests and hired tutors (Kumar,1967). In 1954, only 3,242 girls were enrolled in schools in Nepal, which was 4.4 percent of total student population (NNEPC,1956). According to the NNEPC (1956:38), "Most schools provide co-educational facilities up to high school and there are five high schools for girls...., there is also

a women's college." In spite of this finding on women's education and the bold statement that "No one can ever dream of any progress in a country as long as its motherhood remains uneducated. Man will remain only half-developed as long as woman goes without education" (NNEPC,1956:64), the commission failed to come up with any sound plan or strategies to provide equal educational opportunities for girls. The commission focussed mainly on the supply side of schooling and did not realize the importance of the constraints against girls' participation in schooling.

The idea that supplying educational facilities will automatically increase girls' participation in schooling remained part of the National Education System Plan (1971-76) for several years. According to the NESP (1971-76:63), "The constitution of the Kingdom of Nepal provides for equality of men and women in solemn re-affirmation of the healthy Nepalese social traditions, which enjoin no purdah system nor any other form of segregation on grounds of sex." However, it also turned out to be a bold political statement which was beyond the realm of reality within the context of Nepalese society. Naivety and ignorance on the part of the planners became evident when they said, "Under our age-long social customs, women take part in daily life in terms of complete equality of men"(p.63). As such, the plan does away with emphasizing the coeducational nature of schools.

Since 1971, His Majesty's Government of Nepal, with assistance from UNICEF, UNESCO, and UNDP has been implementing a special development program titled, Equal Access of Women to Education Program. As Jayavera (1983:12-13) writes, "This program is based on the premise that in the cultural context of Nepal, women teachers can play a critical role in promoting educational opportunity for girls. Its objective is to train rural women as teachers who will in turn help to promote positive attitudes to the education of girls and function as role models in their communities." In an assessment of the qualitative impact of this program CERID (1986) reports that:

> "The EGWN (Education of Girls and Women in Nepal) teachers have served in many ways as a 'role model' also in the rural community. In addition to working as teachers, these ladies have contributed to the welfare of the family as well as that of community. These contributions have a considerable influence on developing positive attitudes among rural people toward female education. Instead of considering female education as a disruptive factor, the rural people have gradually begun to find economic and social advantages in educating their girls." (pp.101-102)

Between 1971-1983, 1,187 women graduated as primary school teachers under the teacher training programs of this project, and 75.5 percent of those trained between 1971-1982 were employed in schools (Women's Education Unit, 1983). Only 315 women from remote areas and disadvantaged communities benefited under the upgrading program of this project. This program provides opportunities for women to get secondary level education in a fully paid residential

setting so that they may qualify for the teacher training program. In 1983, a local high school scholarship program was instituted to extend the upgrading program among untouchable and disadvantaged groups. Under the scholarship benefit women are given a monthly allowance, free textbooks and tuition to enroll in a nearby secondary school.

In terms of specification in National policies on education of girls and women, the Fifth Development Plan (1975-1980) mentioned in its policy statements that in primary schools, as far as possible, women teachers would be appointed to promote girls' participation in formal schooling. The Sixth Development Plan (1980-1985) was the first time that the needs of women, as a special group, received recognition. The two-fold objectives of this were: 1)to provide educational opportunities to the educationally backward areas and to women; and 2) to encourage participation of women in national development activities by providing training opportunities in areas such as agriculture, industry, and family health. The Seventh Development Plan (1985-1990) also laid special emphasis on extending girls' and women's education. The plan states, "Arrangements will be made to increase enrollment of girls in local schools, to admit girls to feeder hostels in remote areas, to train women teachers, and to set up a system of part-time primary education for the benefit of those women who have never attended school".

The gradual translation of these policy statements into reality is reflected in the extension of the Equal Access of Women to Education Program and the creation of a special Women's Education Unit in the Ministry of Education. In 1975 primary education for grades 1 to 3 was declared free, now, however, it includes grade 5 too. Textbooks are provided free of cost to all primary school girls, and to girls up to the 10th grade for 18 remote areas of Nepal. Various higher level institutes have also developed strategies to enroll women in technical areas of study like forestry, agriculture, engineering and medicine. Special facilities have been created and scholarship programs for women have also been institutionalized.

In response to the call from the Women's Decade (1975-1985), the Women's Services Co-ordination Committee has prepared a national plan of action to promote the socio-economic and educational level of women in various development sectors. The committee is also forming policies, plans and programs to extend women's education to all groups of people in the country.

Status of Women in Nepal.

Nelson (1979:32) emphasizes, "... one must be very careful about treating women as a homogeneous category." Nelson came to this conclusion in her review of the literature on women and development in South Asian countries. She

also concluded that village women are different from each other and from urban women. Those differences were attributed to several factors, including geographic region, class, caste/ethnicity, religion, age, and the status ascribed to women in the family. However, while recognizing the dangers and difficulties inherent in generalizations, an attempt is made here to summarize the roles and status of women in the context of Nepal.

This section is primarily based on data from eight village studies conducted in Nepal, as reported in The Status of Women in Nepal. The complexities of this topic, especially in the context of Nepal with its castes, ethnic groups, and multi-cultural nature, are well expressed by Acharya and Bennett (1981):

> "... it is misleading to speak of the status of women even within a single group. ... women's status vis-a-vis men (in a given community) would vary with women's many roles and the contexts within which these roles are enacted. Status is a function of the power, authority and prestige attached to a given role by society and everyone, male and female, must play a number of different roles in the course of a lifetime (in a single day or even simultaneously at a given instant) (p.3)."

According to the 1981 census, women represent 48.8 percent of the total population of Nepal. In the same year, only 28.0, 22.8, and 20.6 percent of the primary level, lower secondary level, and secondary level of students respectively were girls. The percentage of literacy was estimated to be 23.2 percent for the population as a whole, with women's share being a mere 12 percent. The percentage of the female

teachers was reported to be consistently lower than 10 percent in all levels of schooling. Female life expectancy at birth was 44.5 years compared to 47.5 for males. The female share among the economically active population was less than 35.0 percent. Less than 8.0 percent of government employees in all categories were women.

The rural economy of Nepal is subsistence oriented and based on largely household agriculture where women play a major role. Agriculture related activities contribute on average 80 percent of the total household income. The share of market intervention in household income is 30 percent compared to the 70 percent generated from the subsistence sector. "Women are responsible for 86 percent of the time put into domestic activities, 74 percent of the time spent in expanded economic activities in addition to 49 percent of the total time put into conventional economic activities" (Acharya and Bennett, 1981:306). In summation, women's overall work burden for a day turns out to be an average of 10.8 hours compared with 7.5 hours for men. Additionally, 50 percent of total family income is contributed by women, while the percentage accounted for by men and children is 44 and 6 percent respectively.

Women's time input in family farm enterprises was reported to be 9.91 hours compared to 5.86 hours for men, but their inputs into the local market economy and employment outside were considerably lower. This situation has been

made possible not only because of men's mobility, access to education and credit, and socialization opportunities, but also because "female labor is available within the family to assure that whatever land and livestock resources the household has are fully utilized to provide as much of a subsistence base as possible" (Acharya and Bennett, 1981:307).

The study also found that women are primarily involved inside the household economic unit, while they occasionally use men as mediators with the outside world. This dependency on men has several implications: 1)women are deprived of learning opportunities to deal with extension and credit services and facilities; 2)women's participation in political and government affairs becomes extremely low; and 3) educational need is not felt, and opportunity for education and training become rare. However, the extent of the dependency differed between Hindu caste groups and ethnic groups. Hindu values emphasize female sexual purity which requires control over the affines thus hindering women's participation in the market economy and also restricting their contact with the outside world. Whereas the ethnic groups put more value on female enterpreneurship, so their contact with the market economy and the outside world is greater.

Farm maintenance, water collection, food processing, household maintenance are some of the activities exclusively within the domain of women. Whereas, ploughing, house con-

struction, timber collection are generally men's jobs. Other jobs like fodder and fuel collection, animal husbandry, wage labor, domestic enterprises, etc. often cut across the gender divisions and vary between and within the communities.

In terms of household decision making, women seem to take more decisions regarding agriculture related activities, child care, house cleaning and maintaining, food choice, small purchases, small gifts and borrowing, vegetable gardening, and the sale of produce, etc. Household cash is usually kept by women, but decisions on expenditure are commonly made by men. Major decisions related to education, treatment of diseases, organizing of agricultural work, ploughing, loans, purchase of clothing and household durable goods, land and major animal transactions are the domain of the males. Other activities are decided fairly equally by both. It is apparent that ethnic women have more decision making power than the caste women. As Nepalese society is basically a patrilineal one, major decision making power remains in the hands of the senior male members of the household.

A considerable percentage of women - almost one quarter of all married women - were married before the age of 14. More than half of the marriages were also arranged by parents or affines. This is more so in the upper caste and higher economic class families. The ethnic groups and low economic class families provide opportunities for girls to mingle with boys and even to make their own choice for marriage.

As Bennett, (1983:165) reports, "Women's position with respect to the patrilineal institution is extremely ambiguous." Girls do not belong to their patrilineal lineage so they do not enjoy rights to parental properties as well as parental status. However, the parental home is the keeper of the girls so that they can be married to suitable grooms. For this reason, it becomes necessary for the parents and the affines to make sure that their virginity is kept intact before marriage. Therefore, among the high-caste Hindu families child marriages are preferred and girls movement without a guardian is not generally possible. However, there is more freedom for girls among the ethnic groups and low income families.

CHAPTER III

PRECEDENT IN THE LITERATURE

This review of the literature concentrates mostly on various theoretical models which have tried to describe and explain the existence of equality and inequality of educational opportunities, and the general and specific factors that directly affect girls' participation in formal schooling. As literature on women in development, education and development, and women and education are numerous and reviewed by many; much literature related to the above topics are not included in this review. Even though some of this literature is indirectly related to the present study, they are not directly related to the primary purpose of this study. This chapter is divided into the three sections. The first section deals with the theoretical models of equality/ inequality of educational opportunities. The second section reviews general factors that effect the education of girls and women. The third section looks into some specific factors directly related to the topic under study.

Theoretical Models

Participation in schooling is related to the decision to or not to allow girls and young women of a family to attend school. This is in turn affected by various physical factors, socio-cultural norms, perceived economic or social benefits or detriments of education of girls and women, and

economic constraints. The term participation carries several different meanings. Within precedent literature the following terms are often used: access and utilization (Bowman and Anderson,1982:12); access and participation (Elliott and Kelly,1982:332); demand and supply (Jones,1982:36; Lockheed and Jamison, 1079:3); and provision and opportunity (Smock,1981:12). The substance of these terms was based on whether schooling is provided or available in the area and whether available schooling facilities are being used to educate children. Within the context of this study meaning is applied in a similar fashon, and therefore, literature that involves the concept of equality of educational opportunities will be reviewed to illuminate the framework this study. However, available literature on this topic deals more on what happens inside the school, much more the concern of more industrially developed countries, rather than why girls do or do not participate in formal school programs, which is more of a concern for many low income countries.

Equal is defined as:

> "Definitions of equality and of equality of opportunity have been traditionally difficult to establish by any widely accepted criteria which carry universal validity and common factors. This report, however, is based on the principle that in seeking to achieve equality in education and training equal means the same not the questionable concept of 'Equivalent but Different'. ... education must be offered to each child in accordance with her or his actual, not assumed, personal gifts and needs; not on any other pre- conceived "normative" basis; and not on grounds of sex." (Byrne,1978:15)

Equality of educational opportunity is a recurring issue in the history of educational development, there also seems to be a never ending debate over this issue because of its broad scope. The antithesis of equality is inequality, this is defined as a state caused by factors like social class, inherited intelligence, area of residence (Byrne, 1978:17), ethnicity, birth order and so on. Discrimination, on the other hand, is brought about by a conscious and active effort by some groups to impose limitations and differences on others. However, in much of the literature little effort is made to differentiate between these two terms and concepts, both of these terms embody the concept of inequality of educational opportunities.

The differences between the educational opportunities made available for boys and those for girls can be attributed to factors that cause inequality in educational opportunities between the sexes. Meanings may differ between countries and educational systems, but the problem is widespread and worldwide. The magnitude of historical and contemporary inequalities in educational opportunities between the sexes in Third World countries is higher than that of more industrialized high income countries (Smock,1981:12). Such findings, which correlated social and economic standing with educational achievement, opened the doors for additional research into background factors that relate inequalities to factors beyond gross enrollment percentage and provision of educational

opportunities. What goes into the educational process itself is also being scrutinized by researchers. This has led to theories which attempted to explain inequalities in educational opportunities.

Bennison et al. (1984), on the basis of three primary differentiating assumptions: the characteristics of the learners; the goals of education, and the structure of the program, discusses four models developed for achieving educational equity. These models, as described, do not directly relate to the concept of participation as defined in this study. However, they do contribute to a more complete understanding of the problems of educational inequality as perceived by educational planners.

The Assimilationist Model basically takes the view that there are no differences in the salient characteristics of male and female learners. Therefore, the educational goals and processes should be the same to both sexes, which will eventually lead to the same outcome for both males and females. This model emphasizes the provision of identical educational opportunities for both sexes, and it is represented by proponents of co-education and androgyny.

The Deficit Model assumes that "differences among groups of learners exist which render them unequal in ways that are important to the educational process" (Bennison et al., 1984:6). The deficits are attributed to sex, genetic and environmental influences, social and cultural causes, eth-

nicity, and socialization processes. Proponent of this model emphasize equal educational outcomes through provision of special educational environments and processes to compensate for differences between male and female learners. The essence of this model is expressed in the following statement:

> The notion of equal opportunity supposes that children entering school are equal, although for example a mass of evidence on working-class children and their educational experiences indicates that inequality is present before the age of entry to school, and implies that opportunities to become equal actually exist, which in a class society and a system of production based on a polarization between owners and non-owners of capital, they manifestly do not. (Deem, 1978:58)

"The Pluralist Model assumes that children who enter school have important differences in their cultural background or in gender and that these variations are best served by different educational experiences which result in unique outcomes and goals" (Bennison et al. 1984:8). Heterogeneity is the key concept in this model which emphasizes the right of oppressed and dominated groups to have a perspective of their own, one not muted by the perspective of the dominant group. According to Gibson (1976), many programs appearing to be pluralistic are in fact based on assumptions of the majority group, and that educational pluralism is the only model which has as its primary goal the enhancement of the power of the dominate groups over the minority. Applied to methodology, this model advocates the studying of the world of women from the perspective of women. "A pluralistic

perspective suggests that it is the women's world that needs to be decolonized and articulated. Until that world is articulated, we have not begun to speak about either equality or equity" (Bennison et al. 1984: 12-13).

The Justice Model is a philosophical approach and eclectic in the sense that it combines portions of the preceding models. This model assumes that "Persons are both alike and different, and that people should be treated identically when equal and differently when unequal in some relevant way. In other words, in order to have justice in education, sometimes equal and the same opportunities are needed and at other times different opportunities are required to provide equity" (Bennison et al., 1984:13). "When applied to equal educational opportunity this model proposes enhancing the opportunities of those with the lesser opportunity" (Rawls, 1971:303). For this purpose differential educational treatment can be justified if such differences help people secure their basic human rights and allow people to have equal access to social goods as education. This assumption is valid in a truly just society. In such a society sex and gender differences would not prevent people from securing their human rights viz. a viz. their opportunity for access to social goods like schooling.

Various other theories have been generated to explain inequality in educational opportunities. The "Value Theory"

(Hyman, 1953) ascribes inequality to the existence of different systems of value among various social classes, which also results in attaching different values to education. The "Social Position Theory", presented by Keller and Zavalloni (1964), questions the interpretation of the value theory because the value theory does not take into account the origin of clients. By relating a person's origin to the social status he/she wants to achieve, more comprehensive results can be reached according to this position. Utilization of educational opportunity is a function of perceived costs and benefits which differ according to social background.

The "Cultural Theory" holds that inequality in educational opportunity is generated mainly by differences in cultural opportunities afforded by families according to the social background and position (Boudon, 1973:23).

Persell (1979) criticizes the "Deficit Model" and casts doubt on the thinking of education as the great equalizing force based on meritocratic ideology. She emphasizes the need for a "comprehensive theory of educational outcomes and their relation to society. Such a theory should explain how observed relationships between race, class, and educational outcomes occur and why education is related to societal inequalities" (p.4). She further adds:

> ... an adequate theory of the relation between education and inequality needs to integrate four levels of analysis, societal, institutional, interpersonal, and intrapsychic. Moreover, it needs to

do this in a coherent way that explains observable phenomena at all levels (p.16).

The Integrated Theoretical Framework, presented in Figure 3, shows interrelationships of four levels of variables relevant to research into inequality of educational opportunities.

Figure 3

Theoretical Model of Relevant Variables and Their Interrelationships.

1.Societal Level	2.Institutional Level	3.Interpersonal Level	4.Intrapsychic Level
		Teachers' expectations	
Structure of dominance in society	Educational structures	Educational interactions	Educational outcomes: cognitive
Societal ideologies	Educational ideologies, concepts		non-cognitive

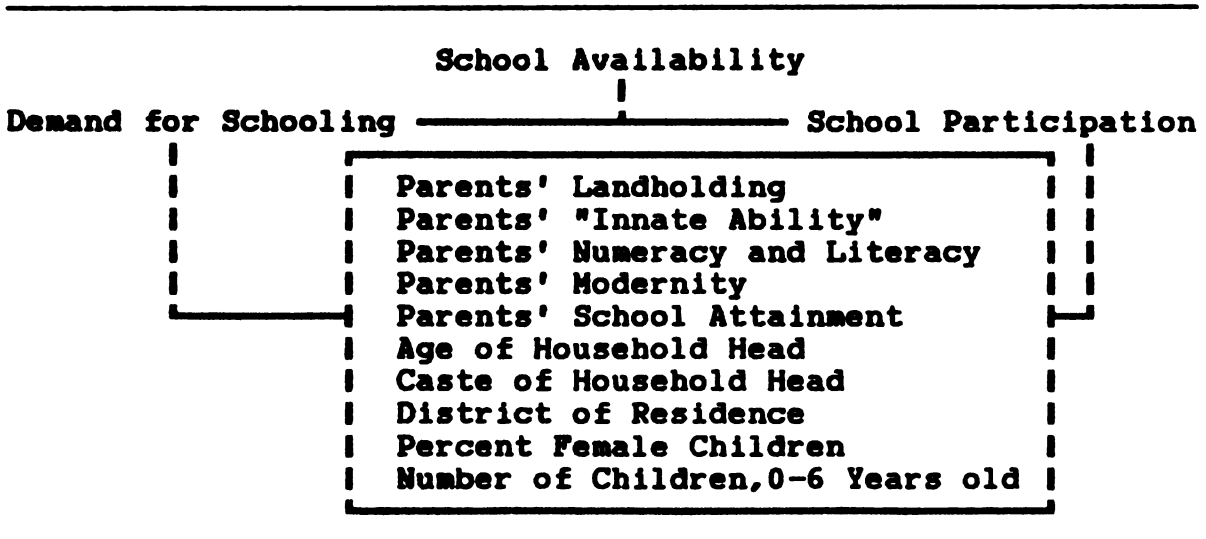
The different models and theories discussed above deal with inequality in educational outcomes and inequality in educational processes rather than inequality in educational participation directly, however, they provide a basis for generating factors that may affect educational participation, and to help analyze and interpret observed data and information. Factors and variables proposed by various theories and models have direct links to the proposed model in this study. The contention made by Boudon (1973) that "...we may

inequality of educational opportunity problem (and, furthermore additional light on the problem of the influence of inequality of educational opportunity on social mobility), if we try to devise a theory accounting for a wider range of data" (p.36) ;needs to be taken into account. This is especially true when dealing with the problem of inequality in educational participation.

Another theoretical model, developed by Lockheed and Jamison (1979), as summarized in Figure 4, was used to predict determinants of school participation (the dependent variable) dealt with household determinants, school demand, and school availability as predictor variables. In this model, school supply is measured in terms of distance to school, crowding, and school quality and relevance.

Figure 4

Factors Influencing Children's School Participation



School demand is measured by out-of-pocket-costs, cost of student's time, and parental attitude towards schooling. The household characteristics deal with parents' landholding, parents' "innate ability", parents' numeracy and literacy, parents' modernity, parents' school attainment, age of household head, caste of household head, district of residence, percent female children, and number of children younger than six.

General Factors Affecting Girls' Participation

After discussion on the theoretical models related to equality/inequality of educational opportunities it is pertinent to see how those theories and models have been translated by various researchers in terms of generating factors that predict educational opportunities. Smock (1981), comments that:

> "The concept of equality of educational opportunities has been employed in a variety of ways: to evaluate patterns of educational provision, to examine factors that influence differentials in student achievement in school, and assess the linkages between schooling and occupational mobility and income." (p.12)

The present study focusses on the provision and utilization of educational opportunities because the other factors are depended upon them. Unless girls are provided with school facilities and use them, there is no necessity to study differential achievement and linkages to income and occupational mobility.

Smock (1981) defines and elaborates factors affecting access as follows:

> "Access, ... measures the proportion of the members of an eligible group who enroll in a particular educational level or program. Differences in the coverage of the educational system among various subgroups of the population, defined by sex, class, regional origins, language, or a combination of these characteristics, constitute one common source of inequality in educational opportunity. Uneven availability of educational facilities may arise from the historical diffusion of western education, patterns of public or private investment in education, policies regarding the allocation or reservation of places within schools, or fee requirements that price schooling beyond the reach of segments of the population. Inequalities in educational opportunity may also result from the reluctance or inability of specific subgroups to take full advantage of chances for schooling." (p.38)

The terms access and participation are often used synonymously in the literature. Lockheed and Jamison (1979:1) prefer to use the term access, saying that, "There appear to be important barriers to school <u>access</u> for rural students - particularly females at the primary and secondary levels." Bowman and Anderson (1982), however, prefer to differentiate between provision and utilization of schooling, according to them:

> "The availability of educational options does not ensure their utilization. ... From a collective or public policy viewpoint, primary schooling is available to the family for daughters as well as sons. But for a girl whose parents dread the classroom give-and-take with boys, the free school across the road can be inaccessible. Such barriers against accessibility are deeper than "Social Disadvantage". There are also outlays for fees and "incidentals", and there are foregone economic contributions to the household or in other work that can yield cash." (p.12)

Decisions related to participation in schooling can also be explained in terms of supply and demand. "The availability of schools (for boys, girls, or both) may reflect community demand for schools, even though to each family the availability of places is a supply or cost factor in its decision about schooling" (Bowman and Anderson,1982:13). Lockheed and Jamison (1979) elaborate on this perspective:

> "Since a household's decision to invest in education is subject to supply and demand constraints, if the supply of schooling (location of schools, places in schools, quality of schools) is adequate and the cost of schooling (both out-of-pocket costs and the opportunity costs of child labour) is low, then children will be sent to school. Even in the absence of these conditions, children may be sent to school on the basis of anticipated rate of return to the investment." (p.2-3)

Supply and demand factors are important in predicting girls' participation in formal schooling but this economic model does not properly account for some other socio-cultural, attitudinal factors which may be equally important. To understand the nature of the problem a more through study comprising all possible factors and combination of factors, and their effects on participation needs to be undertaken. Shrestha (1978) postulates and suggests that:

> "Access to education is governed by many factors besides sex, age, religion, ethnic affiliation, economic class and urban or rural residence - all affect the access of men and women to education. If Nepal's case is to be studied, all these factors might have more or less influenced the access of women to education. In depth studies of all these factors would reveal the true nature of the impact of each one on female education." (p.4-5)

Thackersey (1970:38-39) came up with ten different factors which, she believes, hamper the progress of girls' education. Those factors are:

a. Poor economic condition of parents and the consequent need for children to contribute their quota of work at home;

b. Conservatism and illiteracy of parents and their apathy to education;

c. Age old customs like early and expensive marriages and the purdah;

d. Lack of proper physical facilities like school accommodation, hostel facilities, transport arrangements, creches and pre-primary schools;

e. Lack of proper security measures for girl students and women teachers;

f. Lack of qualified women teachers;

g. Lack of awareness of the necessity of education of girls in rural areas;

h. Inadequacy of funds;

i. Parents' preference for boys' education to girls' education;

j. Inadequate means of communication in rural areas.

Thackersey, in addition to economic and socio-cultural factors, suggested that school related factors like physical facilities, availability of women teachers, and lack of security measures for girls might be determining factors in

girls' participation. Jusuf (1969) also found the lack of school building and equipment, and the lack of teachers and textbooks as determinants of participation of girls in formal schools, in addition to economic and socio-cultural factors.

Several authors and researchers (Jones, 1982; Qurashi, 1960; Acharya, 1981; and Tinker and Bramsen, 1975) raised issues related to perceived irrelevance of girls' education to prepare them for their future life. However, the kind of irrelevance differs in terms of preparing girls for natal household work (Acharya), or for employment in the local or national economy (Tinker and Bramsen). In addition to the above researchers, Smock (1981), and CERID (1982) found that fear of loosing virginity, girls becoming uncontrollable, and girls becoming defiant to parents' authority were causes cited by the parents for denying girls access to education.

Specific Factors Affecting Participation

The preceding discussion sheds some light on various factors that have been suggested in the literature, which either facilitate or hinder the participation of girls in formal schooling. Further discussion on each specific factor and its relation with the problem of the participation of girls in formal schooling is presented through a categorization of suggested factors into the following five general areas:

A. Historical Background as a Factor

B. Physical Factors

C. School Related Factors

D. Socio-Cultural and Attitudinal Factors

E. Economic Factors

These categories are not mutually exclusive, many of them overlap with each other. One specific factor may also fit into several categories. These factors are categorized mainly to facilitate discussion and review of material in available literature.

Historical Background as a Factor

Even though Nepal never experienced colonial rule, its educational history suggests that the educational system imposed in neighboring India by the British Empire to suit the needs and interests of the colonial administration was influential in the development of Nepal's educational system up until 1960's. The purpose of this educational system in India was to prepare people to fill middle and the lower level management positions to support the colonial bureaucracy. In spite of various planning efforts, the Nepalese education system has not yet been able to develop a system that more closely meets the needs of Nepal and not that of a colonial empire, this situation is clearly described by Smock (1981):

> The development of Western education within the framework of a Victorian mentality and a dependent

> economy consistently led to the exclusion of women from the educational system. Initially education had an instrumental function to produce clerks and lower level functionaries for the colonial administration and enterprises and to effect conversion to Christianity. The European conception of females during the formatting years of European colonialism in the nineteenth and early twentieth centuries of a helpless, dependent, home-bound creature inclined colonial administrators and missionaries to favour the admission of boys to the limited number of school places available even when local cultural traditions enabled women to fill roles quite at variance with middle-class Victorian lady (p.254).

The then Rana Prime Minister not only introduced one English-based school in 1854, but along with it he incorporated the colonial mentality and Victorian Era European concept of female education; which, in fact, was compatible to the Ranas. There is little evidence to indicate that things have drastically changed, at least, in the context of Nepal since this early time. Before the Ranas, education was a neglected subject because of the almost total involvement of the rulers in expanding their kingdoms and consolidating their power. Whatever educational facilities were available went to boys so that they could learn warfare and help their rulers to build empires, which was considered to be out of realms of women.

Even after the autocratic rule of the Ranas was ended in 1951, the education sector did not receive much attention. Several education plans were prepared but could not be implemented properly because of lack of required manpower and/or the lack of integrity and commitment among the

planners and implementors. The plans became showpieces used to satisfy western donor countries. There is very little mention of women's education in the various education plans (1956, 1961, 1971-76). The education of girls and women was a neglected topic.

Apart from thinking nationwide, it is also found significant that the length of time a school was in existence in a locality positively influenced the participation of girls in formal education. The longer the schools were in existence the better chances were for girls to participate. As Smock states (1981:3):

> "Historical patterns in the diffusion of education, which have advantaged some ethnic groups and geographic regions and disadvantaged others, constitute more of a determinant of educational opportunity than the horizontal class divisions that cut across these vertical clusters."

Bowman and Anderson (1982) also found status patterns of participation of girls affected by how long schools had been present in a society. This is supported by Smock (1981) who concludes:

> Significant differences in the diffusion of schooling historically and in the contemporary availability of facilities mean that females who are members of specific ethnic groups, who reside in various localities, who speak certain languages, and who come from particular social class backgrounds have greater access to education and far higher rates of representation at all stages of educational system than other females (p.51).

It is apparent from the above discussion that the mere establishment of a school itself will positively affect the participation of girls in formal schooling.

Physical Factors

Physical factors are the passive factors which are assigned or given and exist on their own. These include factors like age of the girl, birth-order of the girl, distance to school etc.

Age of the girl: The age of girls as a predictor for their participation in formal schooling has been a factor recognized by various researchers. Declining enrollment of girls at the higher level of schooling across all caste and classes in low income countries indicate its effect on participation. It appears that parents are ready to send girls to school up until they reach a certain age for various socio-cultural and economic reasons. If children are sent to school, they usually drop out by the age of 10 in order to contribute to the family's livelihood. It is not easy for village girls to obtain even a basic education since from a very early age they are expected to help with household chores from which their brothers are often exempt (UNESCO, 1975:36).

Age, according to a report by CERID (1984:68) is also an important factor: "The age factor comes into the picture of educational participation in two distinct forms, one in relation to the distance to be covered by a child going to school and another, the likelihood of having a younger brother or sister to look after some of the household activities." Furthermore, in traditional societies like

Nepal, parents may decide not to send girls to school because of a stigma about school-going girls 'being free' and because of a fear that girls may loose their virginity by being in the unsupervised company of males. Also, in rural settings, as a girl grows older she either becomes more involved in household work or she is married off.

Grades being studied: The grade being studied by a girl is often determined by age. Therefore, this can be seen as a corollary to the age factor. It can be assumed, in the case of the girls, that the probability of them participating in the formal schooling is dependent upon the grades they are studying. A report from CERID (1982:17) discusses this factor in reference to the situation in Nepal as follows: "Parents in the rural Terai saw no point in educating their daughters while the parents in the rural mountains tended to think that primary level of education was sufficient for girls." If allowed to participate beyond the primary level it is reported that parents assume that "... girls would use education for writing love letters, choose their own husbands and elope, or commit sexual lapses etc. which would considerably erode the prestige and dignity of the family in the community" (Shrestha and Gurung,1973:75).

Number of school-age children in the family: According to Rosenzweig, and Evenson (1977), "Data from farm populations in low-income countries suggest that there exists an important relationship between the amount of schooling

children accumulate and the number of children in the family". It is assumed that the presence of additional children will require more resources to be devoted for schooling which can be translated as fewer resources that can be devoted to schooling per child (Ashby,1985). This assumption is the basis for explaining an observed negative correlation between the number of children in a family which is termed as 'child quantity' and the level of schooling achieved by each child is termed 'child quality', and the correlation obtained is termed as the "quality-quantity interaction" (Becker and Lewis,1975). It is usually the girl who has to suffer when parents make decisions about which children in the family will be given the opportunity to attend school or continue with their education.

Birth-order: Birth order of girls in the family could have an important implication in terms of their participation in formal schooling. The first born girl may have a better chance of participating because of the availability of family resources for education of children, this may also be related to the preferential treatment given to first-born children. At the same time, however, the first-born girl may have less of chance to participate because of the need for her to work within the household. Furthermore, as more child are born into the family the need for child care may force the first-born girl to leave school. An analysis of the place in the birth-order of students in secondary schools in Kenya

revealed that there was an over representation of first born sons who were attending school, and second born daughters attending school (Munroe and Munroe, 1971), which suggests that responsibilities for caring for younger siblings may exact a toll on older daughters' school enrollment (Smock, 1981).

Children adult ratio: There is an abundance of literature which suggests that the need for girls' labour in the fields or at home is a major reason for keeping a female children out of school (Bennett, 1981:235) and that many parents do not think twice about keeping a girl from going to school when an extra worker is needed (Schuler, 1981:127). However, if there are enough adults to take care of field and household activities, one must question what opportunities there may be for school-age girls to participate in formal schooling.

Education/School Related Factors

Discussion of this category will focus on school quality, teachers' quality and family education background. There are many studies and an abundant literature available dealing with the impact of school quality on achievement. However, the same can not be said about using the factor of school quality as a predictor variable for attendance and participation in schooling. This is the same for teacher quality, which is mostly commonly studied as a predictor for

achievement. Teacher quality as a predictor for participation in terms of girls schooling relate more to trust and credibility factors. It is assumed that parental choice of sending girls to participate in formal schooling depends upon how much parents trust the teachers and school managers. Literature relating to family educational status and background as predictor variable for participation assumes that education weakens socio-cultural taboos and barriers related to the participation of women in formal education, and which facilitate possibility of girls getting into the school system. These factors are discussed below as evidenced by the literature.

Family education background: It is assumed that families with a higher average education level will have a positive attitude towards female education because of the benefit they received from their own education. Ashby (1985) also assumes that higher average levels of schooling among adult male family members is likely to increase school attainment of children. She suggests that the existence of certain 'traditions of instruction', and the association of higher levels of education with wealth which results in the ability to afford schooling may account for this situation. In reference to this factor, a study by CERID (1984) concludes that:

> It is highly significant to note that the average educational status of the adults in the family had the strongest association with educational participation by rural children. A unit increase in the

> average education status of the adults is associated with 4.5 percent increment in children's participation in schooling. It is also logical to assume that the presence of an educated adult in the household might motivate young children to be inclined to formal education (p.94).

Bowman and Anderson (1982) recognize parental education as a more sensitive predictor of children's schooling and assume that "literacy of rural adult males seemed to foster schooling of boys more than of girls, whereas literacy of rural adult women benefitted each sex equally, within urban communities, the effects of adult literacy were stronger for girls" (p.24). In terms of differential effects on sex, Prewitt (1974) reports that "... a male child of literate parents has on the average a 60 percent higher education than a male child of illiterate parents: for females this figure increases to 75 percent" (p.206).

The previous statement made by Bowman and Anderson leads to the need to look into differential effects of father's and mother's education as well as average education level of males and average education level of females on the participation of girls in formal schooling. However, "since schooled women are often few, the better schooled fathers may have the greater influence in spurning traditional resistance to allowing girls to begin or continue in school" (Bowman and Anderson,1982:). Shrestha and Gurung (1973) also found such a correlation in their study in Nepal, but they caution that family education is conditioned by economic, and social standing:

> At this point, therefore, suffice it to say that an association exists between the educational status of the head of the household and the school-going status of female children therein. This, however, is no adequate basis for establishing a causal relationship (p.84-85).

Smith and Cheung (1982) reports the same kind of finding from the Philippines:

> We show that the elimination of the sex bias in schooling is a socially admitted rather than a society- wide phenomenon; in the large, generally poor and more traditional sectors of the society, wherever the educational attainment of fathers is still low, significant sex differentials in the schooling of their offspring persist (p.53-54). .. our data demonstrate the persistence of father's schooling and father's occupation as determinants of educational attainment (p.66).

If parental, as well as average education of the males, affects the participation of girls in formal education, an assumption can also be made that mother's education and average female education will have a more positive impact. According to Chabaud (1970), "The more illiteracy there is among mothers, the less chance their daughters have of receiving an education" (p.30). Bowman and Anderson (1982) also find that a mother's education is a facilitating factor to girls' education because "Schooled mothers everywhere are key influences on the spread of girls' schooling, and such mothers also are role models" (p.32).

Teachers Quality as a Factor: Teachers quality as a factor facilitating or hindering girls' participation in schooling relates to the credibility and the amount of trusts parents have in the teachers. Some of the reasons frequently

mentioned in the literature for not sending girls to school relates to the lack of security for girls and the fear of girls mixing with boys. If the parents see that the teachers are trustworthy and credible there is a better chance that girls will attend school. Therefore, it can be assumed that teacher quality (academic, social, moral, physical, etc.) actually indirectly facilitates the parental decision to send girls to school. In relation to making such decisions is does not seem to matter whether a teacher is trained or experienced, it is parental trust in the moral and professional character of a teacher that makes a difference. In such case, it is probable that variables such as teachers with the same ethnic background, teachers speaking the local dialect, and female teachers will be significant determinants of decision to or not to enroll girls to school.

Fattahipour-Fard (1963:24) report from Iran that "In districts where teachers are predominantly male, literacy and enrollments were relatively low, especially for girls." Shrestha (1978:7) came to a similar conclusion for Nepal: "The educational statistics indicate that the girls enrollment has a positive correlation with the availability of lady teachers." These findings led Bowman and Anderson (1982:20) to believe that "all aspects of girls' schooling, the availability of women teachers is salient as both an instrument and product." Additionally, a UNESCO report (1975) came to the conclusion that the presence of women teachers can be an

important factor for increasing the enrollment of girls in formal school systems. Smock (1981) and Schuler (1981) tried to interpret this phenomenon in terms of role-models that women teachers provide for village girls:

> Since there is virtually no educated Baragaonle women at present, and female teachers are scarce, the school girls lack role models. ... Even a single Baragaonle schoolmistress could have a great impact in introducing the idea that education can be relevant and rewarding for females (Schuler, 1981:13).

Schuler also raises the issue of the teachers' origin. The more teachers there are that have characteristics close to those of the local community, i.e. the same ethnicity, speaking the same language, and being born and raised in the same locality, the better the chances are for girls to participate in formal schooling. Otherwise, there is a possibility for the reaction 'not like of us' if teachers have characteristics too dissimilar to that of the local community. Schuler (1981) elaborates on this theme:

> One problem is the language barrier. Since none of the teachers know the local dialect, and the local culture is also new to them when they first arrive at their posts, most of their time is spent teaching the children Nepalese language and culture. If local people could be recruited and trained as teachers, bilingual education would be possible, and more immediately relevant and culturally appropriate ideas could be incorporated into the lessons (p.131).

The ability of teachers to monitor student behavior is affected by the number of students assigned to a teacher. Therefore, another factor related to the attendance of girls in formal schooling to be looked into is the student-teacher

ratio. This may be especially important for the education of girls, since it may be assumed that the higher the student-teacher ratio is, the lesser the chance for girls to be allowed to attend school.

School Quality as Factors: School quality refers to the supply side in an economic model. Lack of school supplies can arise from various sources: distance to a respective school, over-crowding, insufficient buildings, insufficient furniture, insufficient teaching materials, extra curricular activities, etc. Previous research has focussed more on these variables in terms of their impact on student achievement rather than on decisions to participate in schooling. There is some controversy among researchers in terms of their opinion regarding the impact of school quality on the participation of rural girls. According to one report, "the rudimentary nature of some of the physical facilities does not pose a major problem for girls' primary education, nor distance from schools as the majority of the population is clustered in fair sized village districts (UNICEF, 1975:46). Contrary to this view, Smock (1981) postulates that:

> ... protective attitudes toward female children generally make families reluctant to allow daughters to walk far from the home to the school as they do for sons. In addition, inadequate facilities, particularly the lack of permanent buildings to house the school, weigh very heavily against female, than male attendance (p.92).

Much literature focusses on the distance to school as an impediment for girls' participation because the distance

traveled to school is usually greater for sisters than brothers (Chabaud,1970), because of cost of travel in terms of time and hazards relating logistics and cultural norms (Bowman and Anderson,1982), and financial sacrifice a family has to make by sending girls to school (UNESCO,1975). Harris et al. (1972) concludes for Nepal, "Perhaps the principal determinant of access to education is place of residence" (p.100). Rao (1983) emphasizes more on cultural norms and probable hazards related to distance:

> Girls in rural areas face certain problems in attending schools especially if these are not situated near their home-steads. Adequate protection is not assured, hence there is a great deal of reluctance on the part of the rural parents to send their girls to schools once they come of age. ... Besides, the timing of the schools are also not always convenient as most rural girls have to assist in the household chores (p.42).

Lockheed and Jamison (1979) did not find that distance had any effect on demand for schooling, but they warned against generalizing this from their findings: "Since schools are fairly well distributed in the Terai, as opposed to other areas in Nepal, this finding should not be generalized to areas in which schools are less available" (p.19). Shrestha (1976) also reported that the distance to school was reported by the parents in Jumla, Gorkha, Dhankuta (Hill areas of Nepal) and Chitawan districts to be one of the least important reasons for not sending children to school. Shrestha et al. (1986) assumes that, in the context of Nepal, topography may be a powerful determinant because "with a

highly dispersed rural population, comparatively few school buildings, and terrain that must be the most rugged in the world, the distance a child must travel to school is no small consideration" (p.511-512).

Crowding as a factor affecting girls' participation in schooling is culturally important to consider. Looking into cultural norms in Nepal there is enough reason to think that parents will decide against sending girls to school if they know that their daughters are sitting close to boys with little space between them. Other factors like availability of instructional materials, good furniture, space for extra curricular activities, etc. may have an attractive value, thus encouraging parents to allow girls to attend school.

Socio-Economic Factors

"Economic difficulties affect both the provision of educational opportunities in low income countries as well as the utilization of opportunities by the rural majority" (UNESCO,1982:10). From the point of view of supply of educational facilities low income countries generally do not have enough money to open and maintain the required number of schools, furnish them, supply free text-books and materials, and design strategies to encourage girls to participate in schooling. It can not be denied that countries with higher per capita income may have more resources to invest for children's schooling. In this context, the wealth of a

country, rather than income distribution pattern or social stratification, determines opportunities for children's education (Smock,1981:111). Contrary to this, Bowman and Anderson (1982) find that the socio-economic status of parents is more influential on the schooling of girls than on boys, and the influence becomes more pronounced among rural localities and among disadvantaged ethnic groups. The findings reported by Jones (1982) matches this perspective. According to this research:

> "Enrollments of girls have been particularly depressed in rural areas of interior provinces where the population is poor, dispersed, and relatively less exposed to new ideas about women's roles in society" (p.36).

Economy as an impediment to girls' participation in schooling is manifested in terms of the utilization of educational opportunities. Whether children go to school or not, and who goes to school is an outcome of a family decision making process. One assumption made here is that preferences for the amount of schooling are made in an economic decision-making framework in which a family takes into account the costs and returns to the household of additional schooling (Schultz, 1975). Other findings lead to conclusion that decision on participation is based on a combination of socio-cultural and economic factors but economic factors are a significant cause for low school attendance (Shaikh,1969; Hussain and Shaukat,1972; and Anwar and Bilquis,1976).

It is apparent from the above discussion that mass poverty, low per-capita income, dispersed rural setting, and disparities among ethnic groups are some of the causes of low enrollment of children in schools. These factors, may influence girls' education more than boys' education, because in the case of choices to be made between boys and girls, it may be that boys are generally more often chosen to be educated as bread-winners, and name and tradition carriers of the family. So, in spite of the fact that primary schooling is free in Nepal, as well as in many other countries "... the costs of textbooks, stationary, clothes, transport, meals and residence facilities are prohibitive" (UNESCO, 1982:10).

In addition to low per capita income, the resources and wealth available in low income countries is often not distributed equally, and a vast number of people live below the poverty level. This gap between the wealthy and the poor majority is very large is several nations. Smock (1981) concludes that these kinds of socio-economic conditions do not facilitate educational opportunities for girls and women:

> It seems likely that the more pronounced the inequities in income distribution, the more highly stratified the society, and the more traditional the basis for social differentiation, the poorer the educational prospects would be for the majority of women, over and above the disadvantages they share with males from lower social and economic strata. When this inequality, rigidity, and the traditionalism occur in association with lower per capita income and relatively high school fees, women from the less affluent strata probably would be even further displaced from the educational system (p.15).

Another socio-economic issue related to household decision making is the joint family system prevalent in many lower income nations, and its impact on the participation of girls in formal schooling. Liddle and Joshi (1986) through discussions with women in India came to this understanding:

> It is difficult to do anything independently of which the family disapproves when the money is controlled jointly. Social control within the joint family has a sound economic basis, and is one of the mechanisms whereby girls' education is limited regardless of income. But where income is low, the financial constraints can affect girls more than boys. If the family can't afford to educate all the children, priorities will be assigned, and ... "preference is given to boys' education" (p.118).

Various literature (Ashby, 1985; Smock, 1981; Jayavera, 1983) raise issues related to the opportunity costs of sending girls to be educated. If girls are to be married their education may not be seen as benefiting the family. Also, once they are married there may be very little chance for them to make use of their education in terms of securing employment. In may nations there are very few money making employment opportunities for girls and women in rural areas. It is also assumed, from the perspective of villagers, that formal education for girls is not relevant to their work at home.

The above discussion leads us to discuss what girls do at home. McSweeney and Freedman (1982), Acharya and Bennett (1981), Shrestha and Gurung (1973), Schuler (1981), Molnar (1981), Ashby (1985), and Liddle and Joshi (1986) all of them

find the first and foremost reason for not sending the girls to school is their labour needed at home. Bowman and Anderson (1982) explains the phenomena as follows:

> New investigations are raising our estimates of how much time and labour children contribute to the economy of the household. Often the burden placed on girls exceed those for boys. Child care and household tasks do not exhaust girls' contributions to the family economy; they may work in garden or field, fetching and carrying, or help in trade and do home processing of products for sale. Time spent by girls in these activities can be especially important in poorer families where perception of benefits from the schooling of girls are dimmer (p.22).

Many studies suggest that economic status is directly related to attitude towards female education. In one study, Acharya and Bennett (1981:137) conclude that "Respondents from the bottom stratum seemed most negative toward female education." These researchers support this statement by explaining to this phenomenon as follows:

> On deeper analysis attitudes towards female education are also related to the relative structure of economy. The more the economy is oriented towards subsistence farm production, the less need for women to come into contact with outside world and the less the perceived need of female education (p.137).

Apparently, economic factors are very critical determinants of educational participation for girls since they affect the supply side in terms of the national economy; lessens demand because of less opportunity cost, labour needed for household work, attitude related to irrelevance of girls' education, and disadvantaged position of girls for education in the household decision making model.

Two other factors related to economy, direct schooling costs like school fees, books and materials; and indirect cost incurred because of time spent on education are also important. Chabaud (1970) and Smock (1981) find direct cost of schooling as a barrier to girls' education because of a limited amount of funds available for education in many families. However, one study from Nepal (Acharya and Bennett, 1981) indicates that very few families cited school fees as a reason for not sending girls to school. This is most likely related to education being free through the primary level and that these same households may not prefer to send girls to school beyond the primary level.

Time spent by the girls travelling to and from school and by studying is done so at the expense of doing work at home. Bowman and Anderson (1982) find that distance travelled by girls for schooling has logistical and cultural costs in terms of time and hazards, which act as barriers. So the distance to school itself becomes a significant factor in terms of cost of student's time and insecurity involved.

Socio-Cultural and Attitudinal Factors

Since many rural societies are still isolated, traditional social concepts regarding sex-role norms, division of labour, behavioral expectations from the girls are often very strongly held. However, it is very difficult to make

generalization because of a multiplicity of factors involved with socio-cultural norms. As described by Smock (1981):

> There are several major problems that complicate efforts to relate cultural values to the educational process: most of the countries are characterized by considerable cultural heterogeneity which suggests a need to either designate a dominant cultural strand or to analyze linkages between each sub-group and the educational system. Rapid cultural and social changes in many of the societies, some of which are of a fundamental nature, ... preclude easily designating a cultural baseline (p.90).

The situation described above is also true for Nepal. Because of great heterogeneity in physiographic conditions, caste and ethnicity, language and religion, and sex-roles ascribed by these variations, it is difficult to look for a generalized baseline to make comparisons. However, there is no denying that these same socio-cultural variations will have a direct bearing on girls' access to education.

The young age at which girls are often married, often in their early teens, encourages family to concentrate teaching girls domestic skills to make them good home-makers and attractive brides. The result has been a low level of demand for the provision of schools for girls. There is often little incentive for regular attendance of girls when educational facilities are established nearby (Bhatti, 1967; Hussain and Shaukat,1972; and Qurashi,1960). According to Smock, (1981:14): "Traditional patterns of female seclusion, domesticity, and subservience, designed to preserve female sexual virtue, raise the risks involved in educating girls."

In the case of Nepal, caste and ethnicity seems to play a major role conditioning sex role biases towards education. Acharya and Bennett (1981) summarize this situation:

> In Indo-Aryan communities ideally all women, either educated or uneducated are secluded within the household and expected to come into little contact with the outside world. Education, while generally highly valued in Hindu groups, is still regarded as a luxury for women rather than as a potential economic asset (p.137). A more liberal attitude towards female education in the non-Hiduized Tibeto-Burman groups is also evident from the responses in these villages to the survey on attitudes towards male and female education (p.118).

Shrestha and Gurung (1973) also found a strong association between the kind of caste/ethnic groups and the school going behavior of the female children in that, the conservative caste groups of Bahuns and Chhetris and the untouchables Damais and Sarkis tend to send a fewer number of their female children to school while the more open communities of Newars and Gurungs place a much higher premium of female education. So it is presumed that socio-cultural factors associated with the caste and ethnic groups play a significant role in determining whether girls will participate in school or not.

CHAPTER IV

METHODS AND PROCEDURES

The main purpose of this study is to identify and determine significant factors or variables that predict girls' participation in formal schooling in the hill area of Nepal. The design chosen for this study can be categorized as predictive study using multivariate correlation statistics (Borg and Gall, 1983), and the investigator, as a pragmatist, according to the category of Krathwohl (1985). Because the purpose of the study is to predict and thus control those factors that are blocking girls' access to education, the main emphasis is on "... finding operations that work rather than on explaining why they work" (Krathwohl, 1985: 193). Data for this study were collected using face-to-face interviews with questionnaires from three different data sources. The data obtained thus were used to describe characteristics of the data sources. The primary strategy for analysis involved two kinds of multivariate analysis - step-wise multiple regression and probit regression analysis; because of the different nature of the two dependent variables to be explained (attendance variable stated as percentage and participation variable measured as yes=1 and no=0).

This chapter is divided into six sections. The first section deals with the approach to measurement and describes the null hypotheses and research questions that guided this

study. The second section describes the three data sources used. The third section is concerned with sample selection. The subsequent sections deal with the design and development of the study instruments, process of field data collection, and procedures of data analysis.

Approach to Measurement

The study is based on the assumption that identifying factors that affect prediction of girls' participation and attendance in formal schooling will help to explain the low level of participation of girls and women in formal schooling. It is also assumed that identification of these factors will allow educational planners to develop strategies to overcome these barriers and thus maximize girls' participation. Following on from this, the researcher focussed on examining twelve null hypotheses which directly relate to the research problem:

Hypothesis 1: Girls related factors such as age, birth-order, helping in household work, and so on, are not significant determinants of the participation of girls and women in formal schooling in the hill area of Nepal.

Hypothesis 2: Girls related factors such as age, birth-order, helping in household work, and so on, are not significant determinants of the school attendance of girls and women, as measured by percentage of days present in the school against total school days for the previous school

session, in the formal school systems in the hill area of Nepal.

Hypothesis 3: School related factors like space available per student, percentage of female teachers, per student expenditure, availability of instructional materials, etc. do not significantly determine the participation of girls and women in the formal school system in the hill area of Nepal.

Hypothesis 4: School related factors like space available per student, percentage of female teachers, per student expenditure, availability of instructional materials, etc. are not significant determinants of the attendance of girls at schools in the hill area of Nepal.

Hypothesis 5: Socio-cultural factors like caste, language, family size, family educational levels, number of children, etc. do not work as significant factors in determining the participation of girls and women in formal schooling in the hill area of Nepal.

Hypothesis 6: Socio-cultural factors like caste, language, family size, family educational levels, number of children, etc. have no significant bearing on determining school attendance of girls and women in the hill area of Nepal.

Hypothesis 7: Economic factors like total yearly income, number of animals, size of land holding, distance to various levels of schools, schooling cost, etc. do not significantly

affect the participation of girls in the formal schooling system in the hill area of Nepal.

Hypothesis 8: Economic factors like total yearly income, number of animals, size of land holding, distance to various levels of schools, schooling cost, etc. do not significantly affect school attendance of girls in the hill area of Nepal.

Hypothesis 9: Parental education and attitudes towards girls' education and modernity related factors do not significantly predict the participation of girls in formal schooling in the hill area of Nepal.

Hypothesis 10: Parental education and attitudes towards girls' education and modernity related factors do not significantly affect school attendance of the girls in the hill area of Nepal.

Hypothesis 11: Selected factors from the five blocks - girl related, school related, socio-cultural, economic, and parental education and attitude do not significantly predict the participation of girls in formal schooling in the hill area of Nepal.

Hypothesis 12: Selected factors from the five blocks - girl related, school related, socio-cultural, economic, and parental education and attitude related - do not significantly affect the school attendance of the girls in the hill area of Nepal.

In addition to the preceding null hypotheses, the

investigator was guided by the following research questions related to the measurement approaches.

1. What is the relative significance of different factors in determining the participation of girls and their attendance in the formal schooling system in the hill area of Nepal?

2. To what extent do the five blocks of factors explain the status of girls' participation in the formal schooling system in the hill area of Nepal?

3. To what extent do the five blocks of factors explain the status of school attendance of the girls in the hill area of Nepal?

4. Which factors, identified as significant determinants of participation and attendance, may offer policy makers opportunities to maximize girls' participation and attendance in formal schooling in the hill areas of Nepal?

5. What are the personal and situational characteristics of the survey population, i.e., school-age girls, rural household, and rural schools, in the hill area of Nepal?

Data Sources

The process of identifying data sources required a definition of the population from which the required sample could be drawn. Borg and Gall (1983:241) identify two kinds of populations; the "target" population and the experimentally "accessible" population. According to them, the target

population is "all the members of a real or hypothetical set of people, events, or objects to which we wish to generalize the results of our research." The target population of this study included all the school-age (6-15 years) girls in the hill area of Nepal. It would have been very costly and time consuming to collect data and information from this target population. Therefore, it became necessary to identify and define accessible population from which the actual sample was drawn for the study.

Three primary data sources used for collecting pertinent data and information related to the study were school-age girls, rural households, and rural schools of Nepal. From the later two sources data and information were to be collected regarding the school-age girls or the target population. It would have been beyond the scope and means of the investigator and this study to provide wide coverage of such a tremendous amount of elements. Therefore, a multi-stage stratified sampling design was designed to make the target population accessible and manageable.

Selection of the Study Sample

The logic of predictive research and inferential statistics states that estimation of a particular population parameter requires the selection of an adequate sample which is representative of the target population. Theoretically, a representative sample can be selected using various sampling

techniques, which, if used properly, will produce an accurate estimation of the population parameter. The investigator used the following procedures to select the sample for this study.

Stratification of Nepal into Three Regions

Various geographers and the Planning Commission of Nepal have divided Nepal into three geophysical regions; hill, mountain and the terai. Out of the 75 districts of the country, 38 districts lie in the hill region. Three of these hill districts, comprising the Kathmandu Valley, are predominantly urban, and therefore they were not included within the sampling frame for this study. Out of the remaining 35 hill districts; one district, Okhaldhunga was chosen by lottery from the resultant sampling frame. It is assumed that the randomly selected district will be representative of the other hill districts in terms of characteristics of the target population.

Stratification and Selection of the Village Panchayats

There are altogether 54 village panchayats in Okhaldhunga district. Once the district to be studied was identified, the investigator visited the district and asked the District Education Officer to categorize the panchayats into educationally advanced, educationally medium, and educationally backward panchayats in terms of number of

schools, students, and interest in education among the people based on available data and information. There were 18 panchayats in each category. The same procedure was repeated with the District Panchayat Chairman who was asked to categorize all panchayats in three categories; economically better, economically medium, and economically poor.

These two sets of categorizations of panchayats were compared and it was found that nine panchayats from the upper level, eight panchayats from the medium level, and 10 panchayats from the lower level overlapped with each other. From among the medium level overlapping panchayats one panchayat, Jyamire, was selected by lottery. From each of the other two categories one panchayat close to Jyamire panchayat was selected purposefully to make data collection activities and supervision as easy as possible.

Sampling Frame, Specification, and Sample Size

Though the target population of this study was the school-age girls of Nepal, no list of the target population i.e. school-age girls was available from which to draw the sample. However, voting lists consisting of households for all three panchayats were available. Two assumptions were made while deciding to use these voters' lists for the sampling frame: 1)as a unit, households could be randomly sampled and identified; and 2)selection of the required sample size from the household provided a unit required to

achieve an adequate level of confidence, and it would elicit a sufficiently larger sample size. As Borg and Gall (1983:257) state, "The larger the sample, the more likely that the mean and standard deviation will be representative of the population mean and standard deviation." This statement formed the basis for procedural decisions.

Sampling size was decided upon by using the framework given by Kalton (1983:82). According to the voters' lists, the total number of households in the three panchayats was 2,198. The degree of precision for the sample size was estimated to be within 2% of the accessible population percentage with a 95% confidence interval. Setting up the population percentage (P) at 35%, the formula for initial estimation of the sample size (n') was determined to be $1.96/\sqrt{PQ/n'}=2$. Thus, n' was calculated to be 504. Taking into account the fpc, a revised estimate of the sample size (n) was calculated as $n= Nn'/(N+n')$ (with N being the accessible population). This calculation gave n equal to 410.

At the third stage, as suggested by Kalton (1983:82), a somewhat smaller sample size was estimated because of the complexity of the sampling design used in this study. The design effect for the sample percentage was estimated to be 0.97 which led to the required sample size of 0.97 x 410 = 398. However, it was assumed that some of the households would not have any school-age girls and that others would

probably not participate in the interview for various reasons. Therefore, 30 additional households were added to the sample as alternates. The goal was to use a sample of 398 households for this study. This goal was achieved. The households in the voting lists were randomly assigned numbers from 0001 to 2198. The sample households were then selected in sets of four by using a simple random number table.

Though the target population of this study was the school-age girls of Nepal, information presumed to be affecting the girls' participation and attendance in the formal schooling needed to be collected from households and schools too. Data and information required from households and parents was obtained from the sample households. All the primary, lower secondary and secondary schools of the area where sample girls were attending or supposed to attend were taken to form the school sample.

Instrumentation

The nature of this study required the collection of mostly factual information and data from the three data sources, i.e., school-age girls, households and parents, and schools. However, attitude related items regarding attitudes towards modernity and the girls' education were also administered to the parents. As telephone facilities are non-existenct in Okhaldhunga telephone interviewing was out of question. Additionally, since most of the rural people are

illiterate, mail questionnaires were also impossible. Therefore, only face to face interviews could be used to collect data. Even though most of the information was factual in character, it was necessary to collect information using face to face interviews, since these three sources were significantly different in terms of their level of understanding, language skill, educational level and openness. This procedure also provided opportunities for the investigator to check for discrepancies at each interview and make adjustments.

Three different questionnaires were developed and administered to the three data sources. Questionnaires administered by preceding studies (Acharya and Bennett,1981; CERID,1982; and Lockheed and Jamison,1979) to comparable audience and with similar topics were carefully studied and used in designing the questionnaires, for this study. Various new items and scales were also constructed to meet the needs of this study and to address the different variables in this study. The sources mentioned above provided a beginning point for the process of developing valid and reliable questionnaires.

Girls' Questionnaire

As school-age girls were the focal point of this study a questionnaire was designed to elicit information relating to causes and conditions that facilitate or hinder their

participation in the formal school system. The other areas covered by this questionnaire were the girl's background, educational activities, economic activities, household work, and other regular activities. (See Appendix).

Household Questionnaire

This questionnaire was administered to any available and willing responsible household member who could provide information on demographic characteristics, educational status, economic activities, girls' responsibilities at home, and other family related concerns. This questionnaire had two separate sets of attitudinal questionnaires related to modernity and girls' education. These questionnaires were administered to the girls' father and mother separately. If the father and/or mother were not available for some reason this questionnaire was administered to male and female guardians of the sample girl in the household. This questionnaire included some items which would provide qualitative information to facilitate interpretation of other collected data. (See Appendix).

School Survey Form

This survey form covered areas of information related to the level of schooling available in and around the sample villages, quality of teachers, availability of instructional materials and other facilities, women teachers, number of students, etc., so as to asses the effects of these factors

on educational participation and attendance of girls in formal schooling. (See Appendix).

In addition to the above, pertinent information on the sample villages and the district were collected informally from formal and informal leaders in the sample areas. This was done to provide a realistic interpretation to the collected data.

Validity

The following types of validity were taken into account while developing the data collection instruments: content, construct, face and criterion related validity. Content validity refers to the degree that items in the instrument represent to the domain of meaning under study (Bohrnstedt,-1983:98). Construct validity answers the question: "What does the instrument really measure?" (Barrick et al. 1985:13). Face validity relates to the total impression of the instrument, i.e., whether or not the instrument looks like it is measuring the variables and factors in question. Criterion-related validity, which is also the main concern of this study is defined as, "... the correlation between a measure and some criterion variable of interest" (Bohrnstedt, 1983:97). Maintenance of criterion-related validity is achieved by qualitative sampling .

To ensure validity of the instruments, a panel of five expert judges was selected to advise the investigator after

examining the questionnaires. The panel included an economist, a sociologist, a linguist, a women in development expert, and an educationist. All the judges in the panel had several years of research experience in Nepal. The investigator provided each expert with copies of the questionnaires and asked them to evaluate them in terms of the following guidelines:

1. The appropriateness, for the intended respondents, of the language used in the questionnaire.

2. The validity of each item, in terms of measuring what it is intended to measure.

3. The probability of eliciting intended responses from each item.

4. The clarity in the intended meaning of each item.

5. The language chosen in terms of encouraging respondents to answer the questions or inhibiting responses.

6. The bias evidenced from the language used by the investigator.

After an interval of a few days the panel of judges were brought together to discuss the questionnaires. Several changes in content and language were made by unanimous agreement. It is assumed that validity concerns regarding the instruments were adequately addressed by this process.

Reliability

Reliability refers to the measure of stability and equivalence. Since most of the data measured by the instrument required factual information, which could be validated by consulting available documents and other members of the family, no measure of stability or equivalence was used to ascertain reliability coefficient of the instruments. Instead of interpreting each attitudinal item, only a composite score was used to run regression. The investigator felt that it was unnecessary to go through the process of establishing reliability coefficients for the attitude related items.

Pre-Testing

Questionnaires prepared in consultation and agreement with the panel of judges were circulated among the staff of a research organization in Nepal. Since this organization is experienced in the collection of data from rural settings, their advice and comments were sought and incorporated into the instruments.

Following this process of refinement all three sets of questionnaires were prepared in draft form for pre-testing. Six trained and experienced women enumerators, an experienced supervisor, and the investigator went to a village similar to those of the sample to administer the questionnaires to

school-age girls, household heads and parents, and school authorities.

The materials prepared for the pre-testing were quite similar to those which were intended to be administered in final data collection. The whole procedure used for random sampling, contacting village elders and explaining the purpose of study, approaching the household head, building rapport, explaining the purpose of the study, explaining their rights to withhold information they did not want to disclose, filling in the items and checking them, was systematically followed. In fact, this process helped the enumerators perfect the process of administering the questionnaires to the three data sources.

On the basis of the pretest results, the wording of some items were changed. Comments and suggestions from the respondents and the enumerators were incorporated to develop an improved version of questionnaire items.

Field Data Collection

The main respondents of this study were identified as women. In Nepal, it is not considered as proper for a male outsider to approach village women, especially young girls. Additionally, because of the need to collect a large amount of data it was impossible for the investigator to collect all the data by himself. Therefore, six women enumerators were hired along with a supervisor for the purpose of data

collection. A one week training workshop was organized for the enumerators and supervisor by the investigator and the experienced researchers. The main focus of the workshop was to acquaint the enumerators and supervisor with the research and interview process. This included the following main points: 1) identifying and approaching the formal and informal village leaders; 2)explaining the purpose of the research to leaders and household heads of the sample households and soliciting their co-operation; 3)building rapport; 4)discussing the intent of each item of the questionnaire. Various lectures, discussion sessions, role-playing activities, and simulation games were designed for this purpose. Pre-testing also allowed all those involved in the data collection process to go trough a rehearsal of the actual process.

After training and pre-testing, the investigator visited district officials and leaders, village leaders and school officials of the sample district and the sample village panchayats. He explained the purpose of the study to solicit their consent and co-operation. At this time the enumerators and the supervisor were introduced to them. Following this, field data collection was initiated. Most of the data was collected during the months of June and July, 1986.

Consent Procedures

Since most of the respondents were illiterate and also were afraid to put their signature on paper, no consent form was developed. Instead, the following guidelines were developed for use by the investigator, the supervisor, and the enumerators:

a. Visit the sample household and try to build a rapport by an informal process of introduction.

b. Ask if the respondent has the time to spend being interviewed.

c. If she or he has the time, explain the purpose of the visit and the study.

d. Ask the prospective respondent if she or he is willing to participate in the interview.

e. Tell the prospective respondents that they can withhold any information or data they do not want to give.

f. Ask the adult respondent if he or she will allow the school-age girls of the household to also participate in the survey.

g. After getting permission from the guardians, tell the prospective school-aged girls in the household about the study and ask if they would be willing and able to participate in the survey.

h. Ask questions from the questionnaire, but do not pressure to the respondent to secure a response. Give each respondent enough time to respond and offer help in under-

standing the questions. Make no effort to lead the respondent to make any specific type of response.

i. After completing the questionnaire, the interviewer should thank the respondent and her family for their help with the survey and ask if they have any questions about the research.

Follow-Up

If all the sample respondents from a household could not be contacted during the first visit, another visit was arrange and made, with consent from the guardians. Since the sample size was larger than needed it was decided not to make more than one follow-up visit.

Response Rates

All together, 398 households, 540 school-age girls and 14 schools participated in the data collection process. The desired sample size was achieved; however, some elements of the information were not collected. In some cases, not all the school-age girls from a household could be contacted, or the father or mother could not be contacted because of commitments to their work. It is assumed that these missing elements have not significantly effected the research results.

Data Analysis

Data from the 540 school-age girls, 398 households, and 14 schools were collected for analysis on a microcomputer by using the Statpac (Walonick, 1985) statistical analysis package. Originally, it was proposed that SPSS (Nie, et al., 1975) would be used for data analysis, but the Statpac was chosen over other alternatives because of its ability to perform well on a micro-computer. It was also selected because it has a program for Probit Regression Analysis, the data analysis procedure preferred in cases where the dependent variable, is dichotomous, i.e., a yes or no options.

All the data collected from the three different sources were assigned to the related school-age girl. A codebook and template was designed using the Stat-pac program to transform all the data from those sources into numerical data for computer entry. As all the data collected were quantifiable, they were recorded on floppy disks using direct key-board entry during the Winter of 1986/87. The codebook and data file check program was used to check the integrity of the codebook and the data file associated with it. The data records were submitted to frequency counts to detect any coding and entry errors. Also, printed records were checked randomly to ensure that the data were accurately entered.

The first part of the analysis included descriptive statistics such as frequency counts, percentages, measures of central tendencies, and dispersions to facilitate description

of the basic characteristics of the three group of respondents.

Stepwise Multiple Regression Analysis

In order to identify significant predictors of school attendance of school-age girls, regression equations were run using the step-wise multiple regression component of the Statpac program. Multiple linear regression, which examines the existence of a relationship between one dependent variable and two or more predictor or independent variables, help predict the value of the dependent variable in relation to predictor variables and examine relative influence of each independent variable on the dependent variable.

The Statpac manual states value of stepwise regression procedure as:

> "An important property of stepwise procedure is based on the fact that a variable may be indicated to be significant in an early stage and thus enter the equation and, after several other variables are added to the regression equation, the initial variable may be indicated to be insignificant. The insignificant variables are included in the final regression because of re-examination at every stage of the effects of variables incorporated into the model in previous stages. This method is often referred to as forward inclusion and backward elimination." (Walonick, 1985:203)

The algorithm used for analysis in this study, following Statpac, was as follows:

1. First, all variables from each block were entered into the regression equation.

2. The predictor variable which produced the greatest decrease in the residual sum of squares from all the remaining predictors whose entry was not inhibited by the F-to-enter was entered next.

3. The predictor that made the least increase in the residual sum of squares from among all (non-forced) predictors whose removal was not inhibited by the F-to- remove inhibiting rule was removed.

The program executed step 2 when it was not possible to execute step 3.

An overall F-test was performed for each block of factors to determine the probability that the true coefficient of multiple determination is zero. A probability of .05 or less was identified as the confidence level to reject the null hypotheses which were stated to mean that the regression equations did not improve the ability to predict the dependent variable.

Probit Regression Analysis

Another dependent variable in this study is the participation of school-age girls in formal schooling. This variable was assigned a value of 1 for participation and a value of 0 for non-participation. When the dependent variable is dichotomous Statpac recommends the use of probit regression analysis because of some inherent impropriety of multiple regression to predict or explain the phenomenon. (See

Statpac Manual, Walonick, 1985:205a). Probit regression was used in this study to predict the probability of participation using independent variables from different blocks of factors and to examine the influence and significance of each independent variable on the participation of girls in formal schooling.

The chi-square statistic was used to measure the overall significance of the equation in explaining the participation of girls in formal schooling. According to Walonick (1985:-205b), "This statistic is equivalent to the overall F-test in multiple regression and tests whether the set of independent variables, as a group, contribute significantly to the explanation of ... (the dependent variable) over and above the mean." A significance level of 5 percent was set as the rejection level for the null hypothesis for each block of factors.

Also, a table for the probit regression coefficients was constructed to estimate the significance of each variable. The probability value for each variable to be significant was set as .05 or less. The Statpac program uses T-Ratio analysis to obtain these probability values.

Analytical Design of the Study

It is hypothesized that educational participation and attendance in formal schooling are function of each block containing several factors. As for example, the relationship

of girl related factors to school participation could be shown as:

$$Y = b0 + b1x1 + b2x2 + b3x3 + b4x4 + \ldots \; bkxk + E$$

Where,

Y = school participation

x1 = age

x2 = birth order

x3 = helping with household work

x4 = home study

b0 = intercept

bi's= least sqares regression coefficients, and

E = error term

All together 12 regression equations - six each for participation and attendance - were run.

CHAPTER V

FINDINGS OF THE STUDY

The purpose of this study was to identify and predict the factors affecting the participation and attendance of girls in the formal schooling system in the hill area of Nepal. The findings are presented and discussed in the following nine sections: 1)rural schools; 2)rural school-age girls; 3)rural households; 4)effects of the school related factors; 5)effects of the girl related factors; 6)effects of the socio-cultural factors; 7)effects of the economic factors; 8)effects of the parental attitude and education; and 9)effects of the selected factors.

There were three data sources for this study. Fourteen schools took part in the study. Data and information from 398 households and 540 school-age girls were collected. A brief description of each data source is presented and discussed below.

Rural Schools

The establishment of schools in the rural areas of Nepal is a recent phenomenon. Until 1961, most of the schools were concentrated in urban and semi-urban areas. According to the sampling criteria of this study, all schools where the sample school-age girls were either attending or supposed to attend during the time of survey were included in the survey. Data

were thus collected from 10 primary schools, two lower secondary schools, and two secondary schools, making a total of 14 schools in all.

Primary school in Nepal comprises grades 1 through 5. Lower secondary school comprises grades 6 through 7, (both of the lower secondary schools in this study were composed of grades 1 through 7 running). In the same way, both of the secondary schools in the survey had grades 1 through 10, instead of the usual grades 8 through 10, as stipulated by the NESP (1971-76) for secondary schools.

Only four of the surveyed schools had been established for more than 25 years. Nine of the schools were established after 1971, when the New Education System Plan was launched. One of the objectives of this plan was to provide primary level schooling in rural areas. The findings of this study support the common assumption that expansion of rural education is a recent phenomenon. All the schools surveyed were public co-educational schools.

The average number of students at different levels of schooling were distributed as 102, 246 and 514 which in terms of class size were 20, 35, and 51 in primary, lower secondary and secondary levels respectively. The overall proportion of girls was found to be 35 percent. This fluctuated according to different educational levels. The data showed that 42, 26, and 33 percents of the three school populations, respectively, were girls. The percentage of girls in these three

schooling levels, from nation-wide data was reported in 1982 to be 28, 22, and 19 percent respectively.

The average number of teachers per primary level school was found to be less than five which is the minimum that is required to manage the five primary grades. The average for lower secondary schools was found to be seven teachers per school which is also the minimum number required to operate seven grades. The average for secondary schools was found to be 14 teachers. These schools were in a better position to manage the ten grades present in these schools and to manage additional teaching responsibilities.

The percentage of women primary teachers was found to be 32 which is very high compared to the national average of 9.2 percent (from 1981 data). Whereas, in the lower secondary level no women were found working as teachers. Fourteen percent of the secondary school teachers were women (compared to 9.1% in the national level for 1981).

Seventy one percent of the teachers had the required qualification for teachers at their level. Eighty one percent of the teachers were defined as locals but only 76 percent of the teachers had a similar background to their students. Fifty one percent of the teachers that were working during the survey had worked as teachers for more than five years. The percentages of trained teachers for the sample were 41, 21, and 57 for primary, lower secondary, and secondary levels respectively. These are low in comparison to

the national percentages of 36, 42, and 62 as reported in 1982 (Table 9).

Table 12

Selected School Characteristics

Features & Level	Primary (N=10)	Lower Secondary (N=2)	Secondary (N=2)	Total
Number of Years School Established				
1-5 years	3	0	0	3
6-15 years	5	1	0	6
16-25 years	1	0	0	1
26 or more	1	1	2	4
Number of Students				
Total	1017	492	1028	2537
Avg./School	102	246	514	181
Girl Students	423	129	335	887
	(42)	(26)	(33)	(35)
Number of Teachers	44	14	28	86
Avg./School	4.4	7	14	6.1
Female Teachers	14	0	4	18
	(32)	(00)	(14)	(21)
Qualified Teachers	34	8	19	61
	(77)	(57)	(68)	(71)
Local Teachers	36	14	20	70
	(82)	(100)	(71)	(81)
Experienced Teachers	24	8	12	44
	(55)	(57)	(43)	(51)
Trained Teachers	18	3	16	37
	(41)	(21)	(57)	(43)
Teacher Background Similar to Students	32	11	22	65
	(73)	(79)	(79)	(76)
Teachers' Language The Same Language	36	11	25	72
	(82)	(79)	(89)	(84)

Table 12 continued

Student/Teacher Ratio	23	35	37	30
Per Student Expenditure*	340	268	518	355
Range	151-452	265-270	490-545	151-545
Average Space per Student#	6.18	6.10	4.47	5.92
Range	2.1-10.3	4.35-7.85	4.13-4.8	2.1-10.3
Building Type				
Mud-stone	8	2	1	11
Brick	2	0	1	3
Cement	0	0	0	0
Availability of Instructional Materials				
Not at all	5	2	0	7
Very Little	2	0	0	2
A Little	3	0	2	5
Not Enough	0	0	0	0
Enough	0	0	0	0
Facilities for Extra-Curricular Activities				
Not at all	4	2	0	6
Very Little	4	0	0	4
A Little	1	0	2	3
Not Enough	1	0	0	1
Enough	0	0	0	0

(Numbers in the parentheses indicate percentage for that level) *(Rs.); #(sq.ft.).

Contrary to the recommendations of the NESP (1971-76) for student-teacher ratio to be 30, 25, and 15 for primary, lower secondary, and seconadry level respectively, the ratio for the survey schools were 23, 35, and 37. The student-teacher ratio of the sample schools increased from the primary to the secondary level, whereas the NESP recommended just the opposite. The ratios obtained were very different from the national ratios of 46, 18, and 30 respectively.

The average unit cost for school level education, referred to as per student expenditure, was Rs.355 per year, with a range of Rs.151 to 545. The per student expenditure

for primary, lower secondary, and secondary levels were Rs.340, 268, and 518 respectively. The highest range was in the primary level signifying high variability of this variable. In the same way, space available per student decreased as the level increased. There was more crowding in the higher level schools than in primary schools. The average space available per student was 5.92 sq. ft. Again, the variability with this factor was higher in primary schools than in secondary schools. All school buildings were constructed of either mud-stone (11) or brick (3).

Fifty percent of the sample schools did not have any instructional materials and the rest did not have sufficient materials to meet their needs. In the same way, almost half of the sample schools did not have any facilities for extra-curricular activities. Those schools which had some facilities for extra-curricular activities lacked the necessary materials and equipment to use them.

Rural School-age Girls (6-15 years)

Wide-spread poverty, the subsistence economy, growing population pressure, depleting natural resources, and lack of labor saving technologies places a burden on the adults and children alike. Children were usually found to be engaged in economically productive activities from an early age. The role of daughters was found to be crucial in this regard. As a child, girls take on a greater burden than boys. As day-

to-day survival is the family's primary and immediate concern, investment in the education of the children is not easily justified; the expected return requires a long-term perspective. Girls are more disadvantaged in this respect than boys because of a general lack of employment opportunities for women, even if they are educated, and because it is expected that they will become housekeepers.

Children are sent to schools if they can be spared from the household activities and if the household can afford the financial and cultural costs associated with school.

In the following section a brief description, based on survey data, of the character of rural school-age girls is provided. Variation in distribution of sample girls in different panchayat is caused by variations in the total number of households in each panchayat. The caste composition of the sample area is representative of the national character, for example, Newars are also included in the educationally advantaged upper class. According to the census (Central Bureau of Statistics, 1984), 58.4 percent of the national population are reported to be Nepali speaking people. Most of the non-Nepali speaking people are concentrated in the Terai and in the Mountains. Newars who are are also considered as non-Nepali speaking people are categorized as Nepali speaking people because few Newars can now speak the Newari language. Within the sample, 70.6 percent of the population can be considered as Nepali speaking.

Table 13

Selected Demographic Characteristics of the School-Age Girls.

Characteristics	Number	Percentage
1. Distribution by Panchayat		
a. Okhaldhunga	265	49.1
b. Jyamire	146	27.0
c. Andheri	129	23.9
2. Distribution by Caste and Ethnic Groups		
a. Upper Caste	380	70.4
b. Ethnic Groups	123	22.8
c. Lower Caste	37	6.9
3. Distribution by Mother Tongue		
a. Nepali Speaking	381	70.6
b. Other Language Speaking	159	29.4
4. Distribution by Age		
a. Primary School-Age (6-10)	285	52.8
b. Lower Secondary School-Age (11-12 Years)	85	15.7
c. Secondary School-Age (13-15 Years)	170	31.5
5. Distribution by Birth-Order		
a. First Born	161	29.9
b. Second Born	116	21.5
c. Third Born	98	18.1
d. Fourth or Higher Born	165	30.6

Age distribution within the sample is also quite close to that reported by the national census, where 54.6, 16.9, and 28.5 percent of school-age girls are distributed in primary, lower secondary and secondary levels.

Education Related Characteristics

Only 32.6 percent of the school-age girls in the sample were not attending school at the time of the survey, much fewer than the 72.77 percent that was reported in 1981 for the nation as a whole. The number and percentage of those

girls in the sample who were attending school decreased as the grade levels increased. However, it is interesting to note that 80 percent of the girls attending schools were concentrated at the primary level.

For fifty percent of the sample girls their age respective school was just one kilometer or less away from their homes, but one-fifth of the sample girls had to walk four or more kilometers to their schools. Primary schooling was found to be more accessible in terms of distance than other levels of schooling. More than 40 percent of the school-age girls had to cover three or more kilometer to attend the lower secondary schools, the percentage for the secondary

Table 14

Selected Education Related Characteristics

Characteristics	Number	Percentage
1. Participation in Schooling		
a. Participating	364	67.4
b. Not-Participating	176	32.6
2. Distribution by School Grade being Studied		
a. Not Going to School	176	32.6
b. Grade One	103	19.1
c. Grade Two	65	12.0
d. Grade Three	46	8.5
e. Grade Four	40	7.4
f. Grade Five	35	6.5
g. Grade Six	20	3.7
h. Grade Seven	16	3.0
i. Grade Eight	19	3.5
j. Grade Nine	12	2.2
k. Grade Ten	8	1.5
3. Distance to the Nearest Age-Respective School		
a. One Kilometer	270	50.0
b. Two Kilometer	119	22.0
c. Three Kilometer	41	7.6
d. Four or More Kilometer	110	20.4

Table 14 continued

4. Distance to the Nearest Primary School		
a. One Kilometer	352	65.2
b. Two Kilometer	114	21.1
c. Three Kilometer	49	9.1
d. Four or More Kilometer	25	4.6
5. Distance to the Nearest Lower Secondary School		
a. One Kilometer	180	33.3
b. Two Kilometer	138	25.6
c. Three Kilometer	45	8.3
d. Four or More Kilometer	177	32.8
6. Distance to the Nearest Secondary School		
a. One Kilometer	141	26.1
b. Two Kilometer	111	20.6
c. Three Kilometer	47	8.7
d. Four or More Kilometer	241	44.6
7. Times Grade Repeated		
a. Not Repeated	323	88.7
b. Once Repeated	35	9.6
c. Twice Repeated	6	1.7
8. Attendance Percentage of School Going Girls		
a. Less than 50 percent	47	12.9
b. 50-75 Percent	171	47.0
c. 76 or More Percent	146	40.1
9. Expenses for Schooling per Year (In Rs.)		
a. 050 - 199	51	14.0
b. 200 - 349	176	48.4
c. 350 - 499	51	14.0
d. 500 - 649	57	15.7
e. 650 - 799	18	4.9
f. 800 - More	11	3.0

school was 53 for the same category. Considering the difficult terrain of the sample area all of the sample schools could be considered as relatively inaccessible.

According to survey results, only a very small percentage of girls repeated classes once or twice, and none repeated for a third time. The distribution of girls in different grades indicated that the number of girls attending

school would drop drastically at grades two, three, and six. Almost 60 percent of all the girls in the sample who attended school attended for less than 75 percent of the school days.

Expenses for schooling were found to be quite high compared to the standard of living and economic level of the survey area. Expenses ranged between Rs.50 to 900, with Rs.312 the median expense per year. For more than 62 percent of the girls attending school, school related expense were less than Rs.350, but for almost a quarter of these girls it was more than Rs.500.

Reasons for Non-Participation in Formal Schooling

The main reason expressed by the respondent girls for not participating in formal schooling was preoccupation with the household work (71.6% of the non-participants), this was followed by taking care of the children (41.5%), and then by the inability of the parents to pay for schooling (40.9%). All of these three factors have an economic basis. As discussed already, children contribute significantly in the production process of the subsistence economy of the hill area of Nepal. Also, while older family members are engaged in various activities children are often required to look after the younger children. Girls are usually chosen because these activities provide an opportunity to train the girls for their expected future. Compared to the national average family income, the expense incurred in provision of formal schooling in the survey area was quite high. Therefore, it

was no surprise to learn that almost 41 percent of the girls not attending school explained this non-attendance by the inability of their parents to pay for their schooling. School was inaccessible for some of the respondent girls because either their parents did not allow them to continie to go to school some time after they had begun (36.9%), or their parents did not enroll them in school in the first place (34.1%). School distance was not a major factor for

Table 15

Reasons for not Participating in the Schooling as Expressed by Respondents not Attending Schools.

Reasons	Number	Percentage
a. Household work	126	71.6
b. Care for younger children	73	41.5
c. Could not pay for schooling	71	40.9
d. Lack of parents' permission	65	36.9
e. Parents did not admit to school	60	34.1
f. Very young	25	14.2
g. No felt benefit from schooling	22	12.5
h. School to far away	21	11.9
i. Health not good	12	6.8
j. Girls not sent to school from this village	8	4.5
k. Social reasons prevent girls to from going to school	6	3.4
l. Other reasons	11	6.3
Total Non-participant	176	32.6

non-participation in schooling. A girl's age or health, or the lack of relevancy of schooling and social reasons were also mentioned by the respondents as impending factors.

Rural Girls' Involvement in Household Activities

The findings from the respondents confirmed that rural girls were significantly involved in household activities. Only 13.5 percent of the respondents reported that they were not involved in any kind of household activities. The remainder were very much involved in household works. This work burden was reported to be as high as 90 hours per week, while median was 16.84 hours per week per girl. Table 16 highlights the contribution made by girls to household activities.

Table 16

Rural Girls' Involvement in Household Activities
(Hours per Week)

Hours per Week	Number	Percentage
00 Hours	73	13.5
01 - 10 Hours	136	25.2
11 - 20 Hours	97	18.0
21 - 30 Hours	72	13.3
31 - 40 Hours	55	10.2
41 - 50 Hours	39	7.2
51 or More Hours (up to 90 Hours)	68	13.6
Total	540	100.0

The kind of activities in which school-age girls were involved included farming, caring for younger children, carrying water, cooking, cleaning, washing, collecting firewood, etc. The number of girl respondents and their involvement in terms of median hours per week for a variety of tasks is presented in Table 17.

Table 17

Kinds of Household Activities Performed by the School-Age Girls and Median Hours Per Week.

Kinds of Household Activities	Number	Hrs./week
a. Caring for younger children	208	7.03
b. Fetching water	298	5.59
c. Caring for livestock	188	7.97
d. Farming	151	7.28
e. Cooking and doing dishes	215	6.28
f. Washing clothes/cleaning	177	4.18
g. Watching house and farm	190	5.68
h. Going for labor exchange	26	8.00

The number of school-age girls engaged in fetching water, cooking and doing dishes, and taking care of the younger children was high. But in terms of intensity of contribution, taking care of livestock and farming, including going for labour exchange (being it essentially a farming related activity) came on top.

Rural Households

Villages in Nepal are usually composed of a cluster of households which grow up around some prominent feature. Usually villages are surrounded by cultivated lands, forests, rivers, and hills. The settlement pattern of the villages are determined by the topographical conditions, socio-cultural conditions, and economy. Each village has its own distinct characteristics depending on social and cultural characteristics of the major inhabitants.

The following is a brief description of the major characteristics of the rural households as revealed by the survey data.

Demographic Characteristics

Out of the 398 sampled households, 68.3 percent were classified as belonging to the educationally privileged Brahmin, Chhetri, and Newar groups. Of the remaining 31.7 percent, 24.4 percent was classified as belonging to the ethnic groups, and the rest as untouchables. Nepali was spoken as the primary language by 73 percent of the sample households. Only 27 percent spoke other languages at home. The average family size was a little less than six members. Within the sample households, male and female members were almost equally distributed.

Forty three percent of the households had only two or less adult members and 38 percent had 3 to 5 adult members. The number of school-age children in the household ranged from one to six. It should be noted that households having no school-age girl were discarded from the sample. A majority of the households had only one or two school-age children, while 39 percent of the households had only one school-age girl child. Almost half of the households did not have any children aged 0-6 years, and a little more than 27 percent of the households had only one child in this category. Only one quarter of the households had two or more children six years and younger.

Table 18

Selected Characteristics of the Rural Households in the Survey Area

Characteristics	Number	Percent
1. Caste		
a. Educationally Privileged Castes	272	68.3
b. Ethnic Groups	97	24.4
c. Untouchables	29	7.3
2. Language Spoken at Home		
a. Nepali	291	73.1
b. Other Languages	107	26.9
3. Family Size		
a. 2 Members	7	1.8
b. 3-6 Members	243	61.2
c. 7-10 Members	128	32.2
d. 11 or More Members	19	4.8
4. Adult Family Members (16 Years and Above)		
a. 2 or Less Members	172	43.4
b. 3-5 Members	151	38.0
c. 6 or More Members	74	18.6
5. School-Age Children (6-15 Years)		
a. One Child	156	39.3
b. Two Children	116	29.2
c. 3-4 Children	115	29.0
d. 5-6 Children	10	2.5
6. Children 0-6 Years		
a. None	186	46.9
b. One Child	109	27.5
c. Two Children	79	19.9
d. Three or More Children	23	5.7

Selected Economic Characteristics

Four characteristics related to land ownership, yearly production from the land, number of large livestock owned and the total yearly aggregate income of the household were selected and presented in tabular form (Table 19).

Only a little more than five percent of the households were found to be landless. Almost two-thirds owned less than 10 ropanies of land, while nationally the figure is 50.29 percent (Acharya, 1987:39). A little more than 60 percent of the households reported that they produced less than 20 muri of grain annually.

Only a little more than a quarter of the households owned between 11-30 ropanies of land. Four percent of the households owned more than 30 ropanies (the maximum amount of land one can own according to the law). The mean amount of land owned by surveyed households is 3.66 ropani which, by most accounts is insufficient for subsistence farming. In terms of production, the mean grain production was 6.4 muri per household. Only 10 percent of surveyed households had 31-50 muri, and eight percent of the household indicated that they might have surplus production since they had produced more than 50 muri of grain. It can be deduced from the data that more than 80 percent of the households in the study area are not able to grow enough food to meet their minimum needs. This is also supported by the fact that there is a chronic food deficit in the survey area.

More than 11 percent of the households did not own any livestock. On average the rural household owned less than two units of livestock (the mean being 1.67). Only 17 percent of the households owned more than 11 units of livestock. One of the main reported activities of school-age

children was to care for household livestock. Almost one-third of the sample girls were engaged in this activity.

Table 19

Selected Economic Characteristics of Rural Households in the Hill Area of Nepal.

Characteristics	Number	Percent
1. Land Ownership In Ropani*		
a. None	22	5.5
b. 1-10 Ropani	247	62.1
c. 11-20 Ropani	89	22.4
d. 21-30 Ropani	23	5.8
e. More Than 30 Ropani	17	4.2
2. Total Yearly Food Grain Productions in Muri**		
a. None	22	5.5
b. 1-10 Muri	126	31.7
c. 11-20 Muri	117	29.4
d. 21-30 Muri	60	15.1
e. More Than 30 Muri	73	18.3
3. Number of Livestock Owned		
a. None	45	11.3
b. 1-5 Units	147	36.9
c. 6-10 Units	138	34.7
d. 11 or More Units	68	17.1
4. Yearly Aggregate Income in Rupees#		
a. < 1000 Rs.	9	2.3
b. 1001-5000 Rs.	91	22.9
c. 5001-10000 Rs.	104	26.1
d. 10001-25000 Rs.	137	34.4
e. 25001-50000 Rs.	45	11.3
f. More Than 50000 Rs.	12	3.0

Note: *19.7 Ropani = 1 Hectare
**1 Muri = 55 Kgs. (Ranges 50 Kgs. for paddy to 68 kgs. for maize).
#21.9 Rupees = $ 1.00 (Based on 1986 exchange rate).

A few households reported a yearly income of less than Rs. 1000, which is equivalent to less than US$.65 per person per month for a family of six. Almost 25 percent of the households' reported a yearly aggregate income of less than Rs.5000. On a per capita basis this is equivalent to an

average of US$0.07 per day per person (Rs.1.50 a day per person). Twenty six percent of the households reported earning between Rs 5000 to Rs.10000 per year. The average income for this category was Rs.3.50 (16 cents) per day per person. A little more than 34 percent of the households earned between Rs.10000 to Rs.25000, a per capita figure of Rs.8.50 (40 cents) per person per day. Only 14 percent of the households earned more than Rs. 25000 per year. Aggregate income data indicates that there was widespread poverty in the survey area. The percentage of the households below the poverty level was a little higher than the 43 percent as estimated for the country as a whole.

Educational Characteristics

Survey data showed that 25 percent of the households were absolutely illiterate, while no adult woman was literate in two-thirds of the households surveyed. In terms of literacy, the sample had a higher literacy rate than the national average. Table 20 clearly showed that adult women were disadvantaged at all levels of educational opportunity. Overall, one-third of the adult members of the households had been educated to primary level only. However, only 16.4 percent of the adult women of the households had received primary level schooling. Very few households (13) had women with college level education. In every category, for each woman educated at that level, at least three or more men

seemed to be educated. The imbalance in educational access and utilization is clear.

One-fourth of the sample households had adults with no formal education. In almost 37 percent of the households less than half of the adult population had had any kind of education. The literacy situation, as presented in Table 20 looks very poor in the survey area.

Table 20

Selected Educational Characteristics Households in the Hill Area of Nepal.

Characteristics	Number	Percent
1. Average Education Level of the Adults		
a. Illiterate	99	24.9
b. Up to Primary Level	125	31.4
c. Up to Lower Secondary Level	95	23.9
d. Up to Secondary Level	45	11.3
e. College Level	34	8.5
2. Average Education Level of the Adult Women		
a. Illiterate	264	66.5
b. Up to Primary Level	65	16.4
c. Up to Lower Secondary Level	38	9.6
d. Up to Secondary Level	17	4.3
e. College Level	13	3.3
3. Literacy Percentage of the Adults in the Households		
a. Illiterate	99	24.9
b. 25% or Less Literate	21	5.2
c. 26-50% Literate	126	31.7
d. 51-75% Literate	81	20.4
e. 75% or More Literate	71	17.8
4. Sample Girl's Father's or Male Guardian's Education Level		
a. Illiterate	154	38.8
b. Up to Primary Level	121	30.5
c. Up to Lower Secondary Level	16	4.0
d. Up to Secondary Level	91	22.9
e. College Level	15	3.8
5. Sample Girl's Mother's or Female Guardian's Education Level		
a. Illiterate	326	82.1
b. Up to Primary Level	46	11.6
c. Up to Lower Secondary Level	8	2.0
d. Up to Secondary Level	16	4.0
e. College Level	1	0.3

Assumptions were made in this study that the parental education level had a direct bearing on the girls' access and utilization of available educational facilities. Only 38.8 percent of the male guardians of the school-age girls were illiterate whereas the share of the illiterate female guardians was 82.1 percent. It was learned that 30.5 percent of the male guardians had somewhere between one to five grades of education, while the female guardians' share in this category was a mere 11.6 percent. Very few female guardians had been educated beyond the primary level, however, the percentage for male guardians in this category was more than 30.

Effects of the School Related Factors on Participation and Attendance

In this section, the effects of the measured school related factors on participation of school-age girls in formal education were examined by using the probit regression analysis, and on attendance by using the step-wise multiple regression analysis procedures. The extent of association between these dependent variables and the explanatory variables are described and interpreted, and the assumption made in the null hypotheses is discussed in the light of these findings.

Eighteen school related factors were used as explanatory variables. Data collected from the relevant schools were assigned to the appropriate school-age girls. Data for 540

sample girls in all 18 explanatory variables and two dependent variables were available.

Table 21 indicates that 67 percent of the school-age girls in the survey were participating in the formal schooling system. The attendance of attending girls was less than 50 percent with very high variability. In terms of differences in means between participating and non-participating girls; the factor related to percentage of female teachers working in the related school played a significant role. The mean percentage for participating girls was more than 23 percent and for non-participating it was 12 percent. The other factors with notable differences were: the percentage of the teachers having the same background as a majority of the people in the area; the percentage of local teachers; the percentage of teachers speaking the same language as the local people; per student expenditure; and space available for each student.

The correlation of the dependent variable, i.e. participation of girls in formal schooling with the explanatory factors like space available per student, percentage of the female teachers in the school, percentage of the teachers with backgrounds similar to the people in the area, percentage of the teachers speaking the same language as people in the area, and percentage of local teachers were positive and significantly high.

As mentioned in the literature review section, availability of space played a significant role in girls' par-

ticipation. The more room available for girls and boys to sit separately (without touching or mixing with each other) the more possibile it was for the parents or guardians to send the girls to school. It is interesting to note that significant pedagogical factors like teachers' qualification, training, and experience had little association with the participation of girls in formal education. Rather, teacher related factors were more social in character, for instance locality, similarity in language spoken, and background had a more significant correlation with the dependent variable.

Teacher-student ratio and existence of special programs for girls in the school related negatively to the participation variable.

In a similar way, the dependent variable of school attendance percentage, related positively with explanatory factors like space per student, percentage of female teachers, percentage of the local teachers, and percentage of the teachers with the same background. These variables are also the ones that showed a positive correlation with the participation dependent variable. However, the percentage of qualified teachers in the schools was negatively associated with the attendance of the school going girls. The other explanatory factors with negative relationship to attendance were years of school establishment, existence of special education program for the girls, and the number of classes in the school. It would be premature to draw conclusion from these relationships because they were statistically weak.

Table 21

Means and Standard Deviations of School Related Factors to the Participating and Not-Participating Girls, and Their Correlations with the Dependent Variables

Variables	Mean DV=0	Mean DV=1	Standard Deviation	Correlation with DV=1	Correlation with DV=2
1. Educational Participation		0.67			
2. Attendance		47.66	35.64		
3. School Level	1.84	1.72	0.84	-.066	-.0004
4. Classes/Sections	6.48	6.46	2.45	-.005	.0471
5. Students per Teacher	30.65	29.23	6.69	-.100	-.0476
6. % of Female Teachers	12.41	23.47	29.50	.176	.1115
7. % of Qualified Teachers	77.72	78.14	22.54	.009	-.1007
8. % of Trained Teachers	42.63	43.60	43.05	.011	-.0012
9. % of Experienced Teachers	656.20	58.96	24.27	.053	-.0343
10. % of Local Teachers	85.30	89.28	17.84	.105	.0852
11. % of Teachers With Same Background	73.56	80.40	24.16	.133	.0779
12. % of Girl Students	36.98	38.33	11.95	.053	.0350
13. Per Student Expense	360.86	365.01	111.35	.017	.0212
14. School Building	1.05	1.05	0.21	.003	.0125
15. Space per Student (In Sq. Ft.)	4.91	5.96	2.14	.229	.2239
16. Instructional Materials (Sufficiency)	1.96	1.95	0.93	-.006	-.0657
17. Facilities for Extra-Curricular Activities	1.94	1.88	0.93	-.029	-.0375
18. Special Programs for Girls	0.30	0.21	0.43	-.092	-.0499
19. Number of Years School Established	22.55	21.44	10.65	-.049	-.0560
20. % of Teachers Speaking Same Languages	84.63	89.75	21.58	.111	.0577

DV=0 = Non-Participating Girls
DV=1 = Participating Girls
DV=2 = Attendance

Effects of the School Related Explanatory Factors on Attendance

One of the purposes of the study is to identify and determine the extent of effects of various school related explanatory factors on the attendance percentage of girls who are going to school. Step-wise multiple regression with the attendance percentage as the dependent variable and 18 school related explanatory factors as the independent or predictor variables was run. A summary of the resulting regression statistics is given below:

Table 22

Regression Statistics for School Related Factors on the Attendance of the School Going Girls.

1. Coefficient of Multiple Determination	= 0.1556
2. Coefficient of Multiple Correlation	= 0.3945
3. Standard Error of Multiple Estimate	= 32.9936
4. F-Ratio	= 12.2351
5. Degrees of Freedom	= 8 & 531
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

The program selected eight independent variables by entering the predictors that produced the greatest decrease in the residual sum of squares from all remaining predictors with F-to-enter value of 4.0. Space available for each student was entered as the first predictor variable followed by the number of classes, school level, percentage of qualified teachers, percentage of experienced teachers, school building type, number of years since school establishment,

and percentage of girls in the school. Through this process the coefficient of multiple determination rose from 0.0501 to 0.1556 and the coefficient of multiple correlation increased from 0.2239 to 0.3945. The coefficient of multiple determination indicates that only a little more than 15 percent of the variance in the attendance of school going girls could be explained by the joint effects of these independent variables. All of these explanatory variables were found to be significant at .01 level. The calculated F-Ratio is very high, being significant at .0001 level. It is clear from these findings that the fourth null hypothesis, "School related factors like space available per student, percentage of female teachers, per student expenditure, availability of instructional materials, etc. are not significant determinants of the attendance of girls at schools in the hill area of Nepal", can be rejected. Analysis indicates that the above factors significantly affect school attendance by girls.

Because of high intercorrelation (studying the simple correlation matrix output) among the independent variables another step-wise multiple regression analysis was run after highly correlated factors and the factor relating to availability of space were dropped. It was hoped that this process would bring forth another significant predictor factor. The predictor factors entered were: student-teacher ratio; percentage of female teachers; percentage of qualified teachers; percentage of trained teachers; percentage of local

teachers; per student expenditure; sufficiency of instructional materials; existence of special programs for girls; and the percentage of teachers with the same background as majority of the local population. This brought forth the percentage of the female teachers as another major factor that affected girls attendance, but it had weak explanatory power with a coefficient of multiple determination of 0.0124 compared to 0.0501 for space available per student.

Effects of the School Related Explanatory Factors on Participation of Girls in Formal Schooling

Since participation was a dichotomous (yes or no) variable probit regression analysis was run to identify relative effects of selected significant explanatory variables. This analysis was also used to measure the overall significance of the equation in explaining school participation. The probit regression coefficients of 18 school related factors on participation of girls in formal schooling were obtained. Number of classes, school level, and the number of years since school establishment were the three factors that were significant at .05 level (.01, .04, and .05 level respectively). But, only the number of classes showed a positive relationship with the dependent variable, implying that as the number of classes in a school increases so does the estimated probability of participation of girls in formal schooling. The other two factors showed a negative relationship with the dependent variable. After schools are estab-

lished for some time they become promoted to a higher level, it is quite natural, therefore, to have both of these factors exhibit the same kind of relationship with participation. This can be interpreted to mean that the longer a school has been established and the higher the school level, the less probable it is for girls to participate.

Table 23 shows that the effects of the school related predictor factors on the participation of girls is significant at .0001 level, this means that the school related factors, as a composite factor, had significant predictive validity. This leads to the rejection of null hypothesis (3): "School related factors like space available per student, percentage of female teachers, per student expenditure, availability of instructional materials etc. do not significantly determine the participation of girls and women in the formal school system in the hill area of Nepal." However, individual factors were not as significant, except for school level, number of classes, and the number of years since school establishment. The per student expense variable was shown to have a negative relationship with the dependent variable. Also, the percentage of girl students in school was positively related which signified that there was high probability of more girls participating if girls' percentage in the school was high.

Table 23

Probit Regression Coefficients of School Related Factors on the Participation of Girls in the Formal Schooling.

Factors	Coeff.	Standard Error	T-Ratio	Probability
Constant	0.226	1.764	0.128	0.898
School Level	-2.035	1.025	-1.986	0.047
Number of Classes	1.202	0.288	4.179	0.000
Students/Teachers	-0.050	0.076	-0.664	0.507
% of Female Teachers	0.002	0.011	0.197	0.843
% of Qualified Teachers	-0.009	0.012	-0.715	0.474
% of Trained Teachers	0.002	0.010	0.207	0.836
% of Experienced Teachers	0.004	0.014	0.289	0.773
% of Local Teachers	0.002	0.005	0.287	0.774
% of Teachers w/ same Background	0.012	0.024	0.520	0.603
% Girl Student in School	0.035	0.027	1.300	0.193
Per Student Expense	-0.008	0.005	-1.532	0.126
School Building Space Available per Student	-0.206	0.771	-0.267	0.789
	0.048	0.084	0.573	0.567
Availability of Instructional Materials	0.827	0.780	1.060	0.289
Facilities for Extra-curricular Activities	-0.482	0.522	-0.923	0.356
Existence of Special Programs for Girls	0.421	0.648	0.650	0.515
Number of Years since Establishment of the school	-0.062	0.03	-1.956	0.050
% of Teachers Speaking Local Language	-0.011	0.025	-0.448	0.654

Chi-square Statistic for Significance of Equation = 84.61914
Degrees of Freedom = 18
Significance Level for Chi-square Statistic = 0.0001

Effects of the Girl Related Factors on Participation and Attendance

Nine girl related factors were identified for collection of data from the school-age girls. These factors were analyzed to explain the extent of the relationship between the girl related factors and school attendance of the girls (using the step-wise multiple regression analysis), and between the girl related factors and the participation of girls in formal schooling (by using the probit regression analysis procedures).

Table 24

Means and Standard Deviations of the Girl Related Factors for Participating and Non-Participating Girls, and Their Correlations with the Dependent Variables

Variables	Mean DV=0	Mean DV=1	Standard Deviation	Correlation with DV=1	Correlation with DV=2
1. Birth Order	2.55	2.99	1.81	.115	.0940
2. Age in Months	126.89	122.09	35.26	-.064	-.0347
3. Distance to Age Respective School	2.85	2.04	1.87	-.201	-.1726
4. School Grade Being Studied	---	3.51	2.64	.624	.6232
5. Times Grade Repeated	----	0.13	0.32	.190	.1516
6. Grade Dropped	0.42	----	0.72	-.273	-.2539
7. Helping with Household Works in Hours	37.74	15.37	20.37	-.515	-.4689
8. Helping in Earning Activities	0.06	0.01	0.17	-.135	-.1189
9. Home Study	----	0.96	0.48	.915	.8611

DV=0 = Non-Participating Girls
DV=1 = Participating Girls
DV=2 = Attendance

Table 24 indicates that there are significant differences in the average hours spent on household work by the

participating and non-participating girls. The mean hours per week spent by the girls not participating in schools was close to 38, whereas for girls participating in schools it was almost 15 hours a week. School-age girls who were not participating in schools were a little older than those participating in schools. The girls who did not participate in the school would have had to walk an average of almost 3 kilometers to school. For participating girls the average distance to schools was two kilometers. More girls who were not going to school were engaged in income earning activities than those who were going to schools.

Home study and the grades being studied were positively correlated to both the dependent variables. Birth order of girls was also positively correlated with both the dependent variables signifying that the later (in terms of order) the girl was born the better the chances of her being admitted to school and the better the chances of her attending the school regularly. The major factor contributing to high negative correlation with both the dependent variables was household work. The other factors showing a significant negative correlation were: dropping from the grade, distance to age respective school, and helping with income earning activities.

Effects of the Girl Related Explanatory Factors on Attendance of the School Going Girls

A step-wise multiple regression analysis was run with nine girl related explanatory factors to examine the overall

effects of these factors on the attendance percentage of girls attending school. A summary of the results is given below:

Table 25

Regression Statistics of the Girl Related Factors on the Attendance of the School Going Girls

1. Coefficient of multiple Determination	= 0.7669
2. Coefficient of Multiple Correlation	= 0.8757
3. Standard Error of Multiple Estimate	= 17.2549
4. F-Ratio	= 587.7747
5. Degrees of Freedom	= 3 & 536
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

Three explanatory factors, home-study, school grade being studied, distance to age respective school were entered into the regression analysis. The correlation between home study and attendance was 0.86, which indicates a very close relationship between these two variables. Also, those two variables had 74 percent variance in common. Entering the two explanatory variables, school grade being studied, and distance to age respective school into the equation increased the coefficient of multiple determination from 0.7415 to 0.7669, indicating that this combination explains about 77 percent of the variance in common with attendance. The combined effect of these factors showed a very high significance level, at .0001. A very high F-Ratio yielded that those factors as predictors are very highly significant at 0.0001 level. These findings allowed the rejection of null

hypothesis (2): "Girls related factors such as age, birth order, helping in household work and so on are significant determinants of the attendance of girls and women in the formal school systems in the hill area of Nepal".

Another step-wise multiple regression analysis was run to determine the explanatory power of the other factors. The significant factors from the previous analysis and some highly inter-correlated factors were dropped from the equation, and only five explanatory factors were entered in the regression model. From this regression, the variable, helping with the household work emerged as a significant explanatory factor with the coefficient of multiple correlation of 0.47 and a coefficient of multiple determination of 0.22, signifying that 22 percent of the variance between the predictor and the predicted is common. The second factor entered in the model was age of the girls, this increased the coefficient of multiple determination to 0.25. Both of these factors were significant at the 0.0001 level and they explained 25 percent of the variance of the dependent variable. The F-Ratio of 90.43, with degrees of freedom of 2 and 537, indicated that the explanatory power of these factors was significant at the 0.0001 level.

Effects of the girl Related Factors on the Participation of the Girls in Formal Schooling

The probit regression coefficient analysis showed that there were no significant factors among the girl related

factors to explain participation. This is mainly because of a high constant (p. 0.981) caused by very high intercorrelations among the explanatory factors (as shown by the simple correlation matrix output). However, a very high chi-square statistic, 681.7562 with 9 degree of freedom, indicates that the set of independent variables as a group contributed highly and significantly to explain the participation of girls in formal schooling. This means that girl related

Table 26

Probit Regression Coefficients and Statistic of the girl Related Factors on the Participation of Girls.

Factors	Coefficient	Standard Error	T-Ratio	Probability
Constant	-4.707	194.513	-0.024	0.981
Birth Order of the Girl	0.027	23.716	0.001	0.999
Age of the Girl	-0.006	1.973	-0.003	0.998
Distance to Age Respective School	-0.044	36.748	-0.001	0.999
School Grade Being Studied	10.189	92.136	0.111	0.912
Times Grade Repeated	-0.124	160.742	-0.001	0.999
Grade Dropped	-0.214	447.727	-0.001	0.999
Helping with Household Work	0.001	2.763	0.000	0.999
Helping in Earning Activities	-17.662	Very High	-0.000	1.000
Study at Home	0.265	79.069	0.003	0.997

Chi-square Statistic for Significance of Equation = 681.7562
Degrees of Freedom = 9
Significance Level of Chi-square Statistic = 0.0001

factors, especially helping with household work and distance to be walked to school discouraged girls from participating in formal schooling. This finding led to the rejection of

null hypothesis (1): "Girls related factors such as age, birth order, helping in household work, and so on, are not significant determinants of the participation of girls and women in formal schooling in the hill area of Nepal."

Effects of the Socio-Cultural Factors on Participation and Attendance of the Girls in Formal Schooling

Data and information for 21 socio-cultural factors were collected and assigned to the respective school-age girls. Step-wise multiple regression analyses were run to examine and determine the extent of explanatory and predictive power of these factors on attendance of girls attending school, and a probit regression analysis was run for the same purpose, with participation as a dichotomous dependent variable.

Table 27 indicates that the main differences in means between participating and non-participating girls in the formal schooling were found to be with the predictor variables, such as, percentage of school age girls going to school, and percentage of school age children going to school. As both these factors directly contribute to participation, this result was expected. The means for family education related factors are significantly high for those girls participating in schooling. Family literacy, education level of adults and adult women contributed to both participation and attendance. In terms of occupation related characteristics, occupations other than agriculture and wage labor had higher means for the participating girls than for

non-participating girls. Higher means in caste and language for the participating girls signify that there were more girls from higher castes participating in formal schools. Means for other family related characteristics were not that different for participating and non-participating girls and they were not considered to be significant contributors. However, means for children-adult ratio and the number of 0-6 years old children were a little bit higher for non-participating girls than for participating girls.

Percentage of school age girls going to school and percentage of school age children going to school emerged as highly associated factors for both the dependent variables. This situation is expected because they both contribute to participation itself. High correlation with attendance indicated that as more children and/or girls start participating in the schools, there is more chance for the girls to attend school regularly. The other factors which are significantly associated with the dependent variables are family literacy as well as average education level of the adults. Average education level of adult women also had a high correlation, but this was much less than the overall family education level. As presumed by various studies, caste also played a significant role, looking at its correlation with both the dependent variables, it can be assumed that the lower the caste group the less the chance for girls to go to school. Attendance for lower caste girls who were attending school, was shown to be less. Family occupations, except for

Table 27

Means and Standard Deviations of the Socio-Cultural Factors for Participating and Non-Participating Girls, and Their Correlations with the Dependent Variables

Factors/Variables	Mean DV=0	Mean DV=1	Standard Deviation	Correlation with DV=1	Correlation with DV=2
1. Caste	2.35	2.77	0.61	.324	.3291
2. Language Spoken	0.65	0.73	0.46	.088	.0998
3. Agriculture Occupation	0.97	0.92	0.24	-.083	-.0652
4. Business as Occupation	0.01	0.12	0.27	.190	.1663
5. Industry as Occupation	0.00	0.01	0.04	.030	.0173
6. Wage Labor as Occupation	0.03	0.04	0.18	.004	-.0278
7. Services as Occupation	0.18	0.42	0.47	.233	.2454
8. % of Adult Earners	98.19	95.03	11.99	-.124	-.1259
9. Average Education Level of the Adults	1.46	3.84	2.61	.426	.4182
10. Average Education Level Adult Women	0.36	1.77	2.29	.290	.2999
11. Literacy Percentage of the Adults	27.78	57.95	32.94	.430	.4140
12. Family Size	6.35	6.62	2.22	.057	.0685
13. School Age Children	2.36	2.46	1.24	.037	.0567
14. School-age Children-Adult Ratio	92.88	87.64	57.87	-.119	-.0175
15. % of School-age Children attending School	24.97	94.20	38.12	.852	.7935
16. School-Age Boys	0.69	0.62	0.79	-.043	-.0148
17. % of School-age Boys attending School	34.94	41.48	48.19	.064	.0190
18. School-Age Girls	1.66	1.83	0.98	.081	.0832
19. % of School-Age Girls attending School	11.80	94.48	42.87	.905	.8442
20. % of School-Age Girls in Family	77.01	79.57	24.96	.048	.0162
21. Children 0-6 Years old	0.98	0.75	0.91	-.121	-.1091

DV=0 = Non-Participating Girls
DV=1 = Participating Girls
DV=2 = Attendance

agriculture, had positive correlations with the dependent variables. As there were not that many households which had occupations other than agriculture it would have been very difficult to draw any definitive conclusions from this. But from the analysis of the available data, it seems that something about agricultural occupations may discourage girls from attending school. Conversely, families engaged in services and business showed a higher level of female attendance.

The number of children under 6 years of age exhibited a negative relationship with attendance.

Effects of the Socio-Cultural Factors on Attendance

A step-wise multiple regression was run with all 21 socio-cultural factors to estimate the extent of association the combination of these factors could provide to explain the attendance percentage for girls attending school in the survey area. A summary of the results is provided in Table 28.

Table 28

Regression Statistics of the Socio-Cultural factors on the Attendance of the School Going Girls

1. Coefficient of Multiple Determination	=	0.7126
2. Coefficient of Multiple Correlation	=	0.8442
3. Standard Error of Multiple Estimate	=	19.1223
4. F-Ratio	=	1334.1821
5. Degrees of Freedom	=	1 & 538
6. Probability of Chance	=	0.0001
7. Response Percent	=	100.00

Only one variable, percentage of school-age girls going to school, was used by the program to estimate regression statistics. The analysis indicated that 71 percent of the variance was explained by this factor alone. Also, the predictive relationship was very significant (0.0001 level). Therefore, null hypothesis (6): "Socio-cultural factors like caste, language, family size, family educational levels, number of children, etc. have no significant bearing on determining school attendance of girls and women in the hill area of Nepal", was rejected. However, since the predictor was a contributor to the dependent variable, another step-wise multiple regression was run without the above predictor. The results of this analysis are presented in Table 29.

Table 29

Regression of the Socio-Cultural Factors Dropping the Percentage of School-Age Girls Going to School

1. Coefficient of Multiple Determination	= 0.6409
2. Coefficient of Multiple Correlation	= 0.8005
3. Standard Error of Multiple Estimate	= 21.4173
4. F-Ratio	= 318.8154
5. Degrees of Freedom	= 3 & 536
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

Three variables, percentage of school age children going to schools, percentage of school-age boys going to schools, and professional and non-professional services as family occupations were entered into the regression analysis. The main factor, contributing 63 percent of the variance, was the percentage of school age children going to school. The other

two factors increased the coefficient of multiple determination from 0.6297 to 0.6409. This combination accounted for 64 percent of the variance in the attendance percentage. Both regression analyses showed that socio-cultural factors were highly significant in explaining and predicting the girls' attendance percentages. All three factors were found to be significant, ranging from 0.0001 to 0.03.

Since the percentage of school age children going to school also directly contributes to participation and to some extent to attendance, another step-wise multiple regression was run without the above two factors, and other highly intercorrelated factors. The results of this regression are provided in Table 30. This shows that this combination of factors: langauge spoken at home; family occupation (agriculture, business, industry, and wage labor); average education level of the adults, average education level of the adult women; literacy percentage of the adults; family size; number of school children; school-age children/adult ratio; percentage of school-age boys going to school; and the total number of children under 6 years old, had 44 percent association with the attendance percentage of the girls. Almost 20 percent of the variance could be explained by these factors. The factors entered in the step-wise multiple regression were average education level of the adults, literacy percentage of the adults, and the total number of children under 6, in that order. The coefficient of multiple determination increased from 0.1749 to 0.1978. All these

factors were significant at the .05 level. The acquired predictive relationship was significant at the 0.0001 level.

Table 30

Regression Statistics of the Selected Socio-Cultural Factors on the Attendance

1. Coefficient of Multiple Determination	= 0.1978
2. Coefficient of Multiple Correlation	= 0.4448
3. Standard Error of Multiple Estimate	= 32.0082
4. F-Ratio	= 44.0650
5. Degrees of Freedom	= 3 & 536
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

Effects of the Socio-Cultural Factors on the Participation

Out of the 21 socio-cultural factors, only two factors related to the percentage of school-age girls and school-age children going to school turned out to be significant in explaining participation. Both of these factors are direct positive contributors to participation. It can easily be assumed that as more children go to school, the chances for girls' participation increases. If more school-age girls go to school their participation will be automatically high. The following Table .. shows that the socio-cultural factors as a group contributed very highly to participation. Because of a very high chi-square statistic (549.5363) at .0001 significance level, null hypothesis (5): "Socio-cultural factors like caste, language, family size, family educational levels, number of children etc. do not work as significant factors in

determining the participation of girls and women in formal schooling in the hill area of Nepal", was rejected.

Table 31

Probit Regression Coefficients and Statistics of the Socio-Cultural Factors on the Participation.

Factors	Coefficient	Standard Error	T-Ratio	Probability
Constant	-3.933	2.596	-1.515	0.130
Caste	-0.115	0.291	-0.393	0.694
Language Spoken at Home	-0.035	0.370	-0.094	0.925
Agriculture as Family Occupation	1.100	1.117	0.984	0.325
Business as Family Occupation	0.000	1.104	0.000	1.000
Industry as Family Occupation	1.264	129.987	0.010	0.992
Wage Labor as Occupation	0.807	1.302	0.620	0.535
Services as Family Occupation	0.092	0.345	0.266	0.790
Percentage of Adult Earners	-0.007	0.014	-0.470	0.638
Average Education Level of Adults	0.125	0.105	1.190	0.234
Average Education Level of Adult Women	0.034	0.090	0.378	0.705
Adult Literacy Percentage	-0.006	0.007	-0.941	0.347
Family Size	-0.004	0.157	-0.027	0.979
Number of School Age Children	0.126	Very High	0.000	1.000
School Age Children/Adult Ratio	0.006	0.005	1.109	0.268
Percentage of School-age Children Going to School	0.019	0.010	1.957	0.050
Number of School Age Boys	-0.007	Very High	-0.000	1.000
Percentage of School-age Boys Going to School	-0.001	0.001	-0.107	0.915
Number of school-age girls	-0.443	Very High	-0.000	1.000
Percentage of School-age Girls Going to School	0.040	0.008	5.170	0.000
% of School-age Girls	0.007	0.025	0.273	0.785
Number of Children <6 Years old	-0.006	0.245	-0,023	0.981

Chi-square Statistic for Significance of Equation	= 549.5363
Degrees of Freedom	= 21
Significance Level of Chi-square Statistic	= 0.0001

Effects of the Economic Factors on the Participation and the Attendance of the School-Age Girls in Formal Schooling

Data from different sources were collected for eight economic related factors and assigned to each school-age girl. Step-wise multiple regression analyses was run to examine the extent of explanation and prediction these factors provided for attendance percentage of school-going girls. Probit regression analysis was run for the same purpose since participation of girls in schooling is a dichotomous variable. Table 32 provides data from this analysis, it shows that for all levels of schooling, girls who were not attending school lived farther away from school than girls who were attending school. The difference in the means was especially prominent for the secondary level. In terms of land ownership and production, the means for girls attending school were higher than for girls not participating in the school. This becomes even more significant when means for yearly income are also examined. There was a vast difference in yearly income for the households of girls attending school (Rs.18230.78) and those for girls who were not (Rs.8401.47). Basically, households having better income tended to send their girls to schools. The mean expenditure for schooling which, had to be borne by the family was Rs.330.00 which is quite high for the average annual income in Nepal and the study area. As students moved to the higher levels of schooling costs increased, and therefore, low-income households can not afford to send their children to

school. When choices between boys and girls have to be made it is usually that the girl is dropped first.

Table 32

Means and Standard Deviations of Economic Factors for Participating and Non-Participating Girls in Schools, and Their Correlations with the Dependent Variables

Factors	Mean DV=0	Mean DV=1	Standard Deviation	Correlation with DV=1	Correlation with DV=2
1. Distance to Primary School	1.77	1.46	0.94	-.159	-.1538
2. Distance to Lower Secondary School	2.89	2.63	1.84	-.066	-.0479
3. Distance to Secondary School	4.59	3.11	2.42	-.287	-.2717
4. Land Owned*	8.99	10.94	12.41	.074	.0920
5. Production#	16.14	23.24	22.58	.147	.1787
6. Livestock	6.42	6.66	5.59	.021	.0458
7. Income**	8.40	18.23	20130.73	.229	.2421
8. Schooling Cost	0.00	330.14	224.08	.618	.5954

* = in ropani; # = in muri; ** = in 1,000 Rs.
DV=0 = Non-Participating Girls
DV=1 = Participating Girls
DV=2 = Attendance

The cost for schooling was positively and highly correlated with both dependent variables. This gives a misleading picture because it could be interpreted that higher schooling costs lead to increased participation of girls and to more regular attendance. However, if we look at income related figures it becomes clear that participation or regular attendance in school is mainly a function of household economy. Distance to any level of schooling showed a negative effect on participation as well as regular attendance in schooling.

Effects of the Economic Factors on the Attendance

Stepwise multiple regression analyses were run with eight economic factors against attendance percentage of girls who attend school, to estimate their effects. Results of the regression analyses are summarized below:

Table 33

Regression Statistics for Economic Factors on Attendance of Girls Attending School

1. Coefficient of Multiple Determination	= 0.3810
2. Coefficient of Multiple Correlation	= 0.6172
3. Standard Error of Multiple Estimate	= 28.1175
4. F-Ratio	= 109.9697
5. Degrees of Freedom	= 3 & 536
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

Table 33 indicates that the relationship between these economic factors and attendance was almost .62 which can be interpreted as explaining 38 percent of the variance of this variable. The F-Ratio obtained was highly significant at the 0.0001 level, and therefore, the obtained relationship can be attributed to the considered factors. Since the F-Ratio was significant at .0001 level, null hypothesis (8): "Economic factors like total yearly income, number of animals, size of land holding, distance to various levels of schools, schooling cost, etc. do not significantly affect school attendance of the girls in the hill area of Nepal", was rejected.

The three economic factors: expense for schooling; yearly income; and distance to secondary school, were entered

by the program. Distance to secondary school, was significant at .01 level, and the other two factors were significant at .0001 level.

Another stepwise multiple regression was run dropping the cost for schooling, and land and livestock ownership because they were intercorrelated with the agricultural production variable. The results of the regression are presented below:

Table 34

Regression Statistics for Selected Economic Factors on the School Attendance of Girls

1. Coefficient of Multiple Determination	= 0.1154
2. Coefficient of Multiple Correlation	= 0.3397
3. Standard Error of of Multiple Estimate	= 33.5814
4. F-Ratio	= 35.0283
5. Degrees of Freedom	= 2 & 537
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

Distance to secondary schools and yearly income were entered into the step-wise multiple regression analysis. Only seven percent of variance for the attendance variable was explained by the distance to secondary school, but combined with the yearly income, more than 11 percent of this dependent variable's variance was explained. Both of these explanatory variables were significant at .0001 level.

Effects of the Economic Factors on the Participation

From the probit regression analysis of nine economy related factors with participation of girls in schooling, three factors: cost of schooling; annual family income; and participation in household work, emerged as significant factors (.001, .002, and .048 significance level respectively).

Table 35

Probit Regression Coefficients and Statistics for Economic Factors on the Participation.

Factors	Coefficient	Standard Error	T-Ratio	Probability
Constant	-0.384	0.301	-1.278	0.201
Distance to Primary School	0.049	0.086	0.565	0.572
Distance to Lower Secondary School	-0.002	0.041	-0.049	0.961
Distance to Secondary School	-0.054	0.039	-1.370	0.171
Total Land Owned	-0.004	0.012	-0.344	0.731
Productions from Land	-0.010	0.011	-0.870	0.384
Number of Livestock	-0.010	0.018	-0.518	0.605
Total Annual Income	0.000	0.000	3.045	0.002
Cost for Schooling	0.006	0.001	10.676	0.000
Participation in the Household Work	-0.390	0.197	-1.978	0.048
Chi-square Statistic for Significance of Equation	= 318.5509			
Degrees of Freedom	= 9			
Significance Level for Chi-square Statistic	= 0.0001			

Since schooling costs are charged to only those participating in school, cost can only be interpreted for those attending schools. This led to there being a very high positive relationship with participation. It is apparent from Table 35

that the higher the family income level is, the better the chance for a girl to participate in the schooling. Conversely, involvement in the household work affected participation in formal schooling negatively. Also, the greater the distance a girl has to travel to attend school, the less likely it is that she will participate in formal education. The economic factor as a group contributed highly and significantly to the participation variable (chi-square= 318.5509 with 9 degrees of freedom, and a .0001 significance level). Thus null hypothesis (7): "Economic factors like total yearly income, number of animals, size of land holding, distance to various levels of schools, schooling cost, etc., do not significantly affect the participation of girls in formal schooling system in the hill area of Nepal" was rejected.

Effects of Parental Education and Attitude on Participation and Attendance of the School-Age Girls in Formal Schooling

Data related to the Sample girl's father or male guardian and mother or female guardian in relation to their education and attitude towards modernity and girls' education were collected and assigned to each girl. Step-wise multiple regression analyses were used to examine the extent of predictive relation of percentage attendance of girls who were attending school at the time of the survey. Probit regression analysis was used to examine the relationship between participation of school-age girls in the formal schooling system. Six explanatory or predictive factors were

used in these regression analyses. Table 36 presents the descriptive statistics and simple correlation coefficients for the dependent variables with the explanatory factors.

The mean for father's education for participating girls (4.88) was far higher than for the non-participating girls (1.61). Almost all the fathers or male guardians of the participating girls had at least a fifth grade education on average. For non-participating girls, this value was less than a second grade education on average. Almost the same was the case for the mother's or female guardian's education level. All the non-participating girls' mothers or female guardians were almost illiterate.

Table 36

Means and Standard Deviations of Parental Education and Attitudes with Participating and Non-Participating School-Age Girls, and Their Correlations with the Dependent Variables

Factors	Mean DV=0	Mean DV=1	Standard Deviation	Correlation with DV=1	Correlation with DV=2
1.Father's Ed.	1.61	4.88	4.17	.369	.3707
2. Mother's Ed.	0.12	1.21	2.27	.226	.2198
3. Male Head's Modernity Attitude	7.58	8.45	4.05	.101	.1101
4. Male Head's Attitude Towards Girl's Ed.	11.20	13.12	5.37	.168	.1733
5. Female Head' Modernity Attitude	6.95	7.38	3.06	.066	.1113
6. Female Head's Attitude Towards Girl's Ed.	10.15	11.72	5.09	.144	.1648

DV=0 = Non-Participating Girls
DV=1 = Participating Girls
DV=2 = Attendance

In terms of attitude toward modernity and girl's education, male scores were a little bit higher than female scores in all aspects. Also, scores relating to the participation of girls were slightly higher than for non-participating girls.

All six factors were positively correlated with the participation and attendance of the girls in the formal schooling. However, father or male guardian's education level played a significant role in girl's participation and attendance (.37) in formal schooling. This was followed by mother's or female guardian's education level. Educational characteristics were more important determinants than the attitudinal characteristics.

Effects of Parental Education and Attitude Related Factors on the Attendance of Girls Attending School

Step-wise multiple regression analyses were run to estimate the extent of relationships between the combination of explanatory factors and the attendance percentage of the girls attending school. This regression analysis also helped explain the effect that these factors had on attendance. Data collected from the questionnaire were assigned to each girl and a summary of obtained regression statistics is presented in Table 37.

Father or male guardian's education and male household head's attitude towards girl's education were entered into the regression. The combination of these factors had a

Table 37

Regression Statistics of Parental Education and Attitude Related Factors on Attendance

1. Coefficient of Multiple Determination	= 0.1541
2. Coefficient of Multiple Correlation	= 0.3926
3. Standard Error of Multiple Estimate	= 32.8387
4. F-Ratio	= 48.9128
5. Degrees of Freedom	= 2 & 537
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

multiple correlation of .39, explaining a little more than 15 percent of variance in the attendance percentage variable. This relationship was significant at the .0001 level, that is, the result had not been a function of chance factors. Father's education was significant at the .0001 level, and male attitude towards girls' education at the .002 level. The F-Ratio of the overall equation was significant at the .0001 level which allowed for the rejection of null hypothesis (10): "Parental education and attitudes towards girls' education and modernity related factors do not significantly affect school attendance of the girls in the hill area of Nepal".

Another stepwise multiple regression analysis was done after dropping father's education to elicit another relatively more significant factor. A summary of the results is presented in Table 38.

Table 38

Regression Statistics of Mother's Education and Parental Attitudes on the Attendance

1. Coefficient of Multiple Determination	= 0.0728
2. Coefficient of Multiple Correlation	= 0.2698
3. Standard Error of Multiple Estimate	= 34.3810
4. F-Ratio	= 21.0739
5. Degrees of Freedom	= 2 & 537
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.00

Two explanatory factors, mother's education and male household head's attitude towards girl's education, were entered into the regression. The combination of thesefactors explained seven percent of the variance for the attendance percentage variable. Both factors were significant at .0001 level. The obtained F-Ratio was significant at .0001 level indicating that the obtained relationship was not the result of chance factors.

Effects of the Parental Education and Attitudes Towards Modernity and Gilrs' Education on the Participation of Girls in Formal Schooling

Six explanatory factors were entered into the regression equation to estimate probability of their predictive effects on the participation of girls in formal schooling. Father's education level was highly significant at the .0001 level for predicting the participation of girls in formal education. The higher the level of the father's education, the better

the chances for the participation of daughter in school. Mother's education was also significant at .02 level. However, mother's education level was less predictive than father's education level. Additionally, father's attitude towards girls' education was significant at .006 level.

Table 39

Probit Regression Coefficients of Parental education and Attitude Related Factors on the Participation.

Factors	Coefficient	Standard Error	T-Ratio	Probability
Constant	-0.321	0.209	-1.537	0.124
Father's Education	0.123	0.019	6.473	0.000
Mother's Education	0.148	0.067	2.198	0.028
Modernity Attitude of Male Household Head	-0.026	0.020	-1.342	0.179
Male Household Head's Attitude about Girls'Education	0.038	0.014	2.762	0.006
Modernity Attitude of the Female Household Head	-0.013	0.024	-0.550	0.583
Female Household Head's Attitude towards Girls' Education	0.014	0.014	1.013	0.311

Chi-square Statistic for Significance of Equation = 103.8081
Degrees of Freedom = 6
Significance Level of Chi-square Statistic = 0.0001

The regression equation was significant at .0001 level. The data indicates that parental education and attitude related factors definitely affected the participation of girls in formal schooling. Therefore, null hypothesis (9): "Parental education and attitudes towards girls' education and modernity related factors do not significantly predict the participation of girls in formal schooling in the hill area of Nepal", was rejected.

Effects of the Selected Composite Factors on the Attendance and the Participation of the Girls in Formal Schooling

Twenty-one selected factors were entered into the regression analyses to estimate the extent of explanation and prediction of attendance percentage and participation of the girls in formal schooling. Step-wise multiple regression analyses were run to estimate the attendance percentage of the girls attending school. The selected factors entered as predictors were father's or male guardian's education, mother's or female guardian's education, age of the girls, distance to age respective school, distance to primary school, distance to secondary school, school grade being studied, helping with household work, average education level of the adults, literacy percentage of the adults, percentage of school age children going to school, percentage of school age girls going to school, the total number of children under 6 years old, yearly aggregate income, percentage of female teachers, percentage of qualified teachers, percentage of local teachers, space available for each student, male household head's attitude towards girls' education, female household head's attitude towards girls' education, and cost for schooling. As the descriptive statistics and correlation coefficients were already discussed and presented in the tables in earlier sections, they will not be repeated here. Results of the regressions analyses, however, are discussed below.

Table 40

Regression of the Selected Factors
on the Attendance of the Girls going to school

1. Coefficient of Multiple Determination	= 0.7772
2. Coefficient of Multiple Correlation	= 0.8816
3. Standard Error of Multiple Estimate	= 16.9329
4. F-Ratio	= 265.0858
5. Degrees of Freedom	= 7 & 532
6. Probability of Chance	= 0.0001
7. Response Percent	= 100.0000

Seven factors, with the percentage of girls going to school as the lead factor, were entered into the regression equation. The lead factor explained more than 71 percent of the variance of the dependent variable, attendance percentage of the girls (RSQ= 0.7126). The other six factors increased the coefficient of determination to 0.7772. The other factors forced were: school grade being studied, age of the girls, percentage of qualified teachers, space available per student, percentage of female teachers, and helping with the household work. All the above factors were significant at the .0001 level, except helping with the house hold work and percentage of female teachers which were significant at the .034 and .004 level respectively. The F-Ratio of the overall equation was significant at .0001 level leading to the rejection of null hypothesis (12): "Selected factors from the five blocks -girl related, school related, socio-cultural, economic, and parental education and attitude related - do not significantly affect the school attendance of the girls in the hill area of Nepal".

Another stepwise multiple regression was run after dropping the following variables: percentage of school age girls going to school and the percentage of school age children going to school. Nine factors were then entered into the model with cost for schooling accounting for 41 percent of the variances in the attendance (RSQ=.4097). The other major factors which contributed to the coefficient of determination were: helping with the household work; percentage of qualified teachers; and age of the girls. These variables increased the coefficient by .0859, .0490, and .0448 respectively. The other factors were school grade being studied, space available per student, yearly income, percentage of female teachers, and father's education. These factors accounted for 66 percent of the variances in the attendance (RSQ=.6591). All these factors were significant at the .05 level.

When cost for schooling was dropped from the model the remaining factors explained 40 percent (RSQ= .4007) of the variance with the lead factor, helping with household work explaining 22 percent of the variance (RSQ=.2190). The other factors entered were literacy percentage of adults, percentage of qualified teachers, age of the girls, space available per student, percentage of female teachers, father's education, and yearly aggregate income. Again, another regression analysis was run after drooping the coefficient of multiple determination, which could explain only a little more than 30 percent of variance in the

attendance percentage of the girls (RSQ=.3060). The leading factor in this equation was average education level of the adults (RSQ= .1749). The other factors entered were, space available per student, distance to secondary school, percentage of female teachers, yearly income, male household head's attitude towards girls education, number of children under 6 years, father's education, percentage of qualified teachers, literacy percentage of the adults, and at the end, the average education of the adults was removed.

Effects of the Selected Factors on the Participation of Girls in Formal Schooling

The factors presented in Table 41 were entered into the equation for probit regression analysis in order to identify the factors that significantly explain girls' participation in schooling. Cost for schooling, and helping with household activities were significant at the .0001 level. However, helping with the household work was negatively associated. Space available per student, caste association, and annual aggregate family income were significant at the .001, .008 and .024 level respectively and all of the factors were positively associated with participation. Percentage of female teachers had a negative effect in this regression equation.

Thus, the obtained chi-square which was significant at .0001 level led to dropping the assumption made in null hypothesis (11): "Selected factors from the five blocks -

girl related, school related, socio-cultural, economic, and parental education and attitude related - do not significantly predict the participation of the girls in formal schooling in the hill area of Nepal".

Table 41

Probit Regression Statistics
Selected Factors on the Participation

Factors	Coefficient	Standard Error	T-Ratio	Probability
Constant	-1.844	0.793	-2.327	0.020
Male Guardian's Education	0.016	0.035	0.458	0.647
Female Guardian's Education	0.028	0.079	0.360	0.719
Age of the Girls	-0.001	0.004	-0.161	0.872
Distance to Age Respective School	0.037	0.067	0.550	0.582
Distance to Primary School	0.076	0.114	0.664	0.507
Distance to Secondary School	-0.041	0.057	-0.719	0.472
Helping with Household Work	-0.034	0.006	-5.592	0.000
Caste	0.386	0.145	2.669	0.008
Average Education Level of the Adults	-0.002	0.084	-0.028	0.978
Adult Literacy Percentage	0.005	0.005	1.142	0.253
No. of Children 0-6 Years	-0.036	0.105	-0.348	0.728
Aggregate Annual Income	0.000	0.000	2.251	0.024
Percentage of Female Teachers	-0.007	0.004	-1.663	0.096
Percentage of Qualified Teachers	-0.006	0.004	-1.417	0.156
Percentage Local teachers	-0.002	0.006	-0.426	0.670
Space Available/Student	0.172	0.053	3.231	0.001
Male Household Head's Attitude about Girls' Education	0.028	0.020	1.423	0.155
Female Household Head's Attitude about Girls' Education	0.009	0.020	0.472	0.637
Cost for Schooling	0.006	0.001	8.873	0.000

Chi-square Statistic for Significance of Equation = 423.2365
Degrees of Freedom = 19
Significance Level for Chi-square Statistic = 0.0001

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

A brief overview of the purpose, procedures, and findings of the study is presented in the first section of this chapter. Then, a discussion of the research questions pertaining to the effects of the independent variables on attendance and participation of girls in the formal school system are highlighted, and some conclusions are reached. The third section of this chapter deals with recommendations for formulating policies to increase participation and attendance of the girls in the schooling. Finally, the limitations of this study and recommendations for future research in this area are presented.

Summary

Education of girls or women, at least at the primary level, has been regarded as an integral component of programs that provide for basic human rights and to ensure social justice. It is also assumed that unless all of a population of a country get at least a minimum level of education, there will be problems in improving quality of life, eliminating hunger, poverty, diseases, oppression, and abuse of human rights. Development of a country and of its inhabitants is not possible without education. Numerous studies have found a positive relationship between education of women and in-

creased agricultural productivity, decline of fertility rates, and reduced infant mortality (Jayavera,1983). Since women are often the pillars of the family, as well as heavy contributors toward the well being of society, there is a great need for girls and women to be given equal access to education.

In spite of the above realization, girls and women in many low income countries have been denied access to education. Reasons for this are numerous, they include: a range of socio-cultural factors; lack of facilities; lack of time and opportunities; prevalence of a negative attitude towards the education of women; a perceived irrelevance of education for women; and dire poverty. Rural women are often more disadvantaged in terms of educational opportunities that urban woman, and the complexities of this are often poorly understood. Rural areas generally lack educational facilities, which results in a lack of access and opportunities to education for the rural population as a whole, and girls and women in particular (UNESCO, 1975).

Smock (1981) finds that there were considerable sex disparities in access to education in four of the five developing countries he studied. In the case of Nepal, a majority of the school-age girls do not attend school. It can be assumed that this is caused by unequal educational opportunities. This inequality is a function of various factors including socio-cultural norms, economic disparities,

household needs, parental attitude, and historical precedents. A study encompassing various perspectives of inequality of educational opportunities was warranted. Through this kind of study it was assumed that " ... we may gain more insight into, or at least a new perspective on, the inequality of educational opportunity problem ... if we try to devise a theory accounting for a wider range of data" (Boudon, 1973:220).

Inequality of educational opportunity has various connotations relating to the assessment of patterns of educational provision, differential effects in educational achievement, and linkages between education and mobility. This study mainly focusses on educational provision. However, it is recognized that access or provision and utilization are different factors. Local school-age populations will not necessarily make use of the school facilities available just because they exist. Understanding the issue of participation in formal education is more complex than physical opportunities. As Nelson (1979:108) states, "There needs to be more comparative and detailed research into attitudes to girls' education and the structural constraints on their attendance at different levels of schooling."

This study was designed with this in mind, it intended to identify and investigate questions about girls' education in the rural setting. The purpose of this study was to

identify and determine factors that predict girls' participation and attendance in the formal schooling system in the hill area of Nepal. The main sample was composed of school-age girls living in a rural hill area in Nepal. Data and information from three survey populations, namely, rural households, rural school-age girls, and rural schools were collected. A quasi-multi stage cluster and random sampling procedure was used to identify the survey population. All together 398 rural households, 540 school age girls, and 14 rural schools were visited, and necessary data and information were collected through face-to-face interviews using survey questionnaires. The collected data were analyzed using statistical software and a personal computer, and the necessary descriptive and inferential statistics were investigated in an effort to explain factors related to the research problem. Specifically, attendance in the schools was investigated using step-wise multiple regression, and factors related to participation in the formal school system were examined using probit regression analysis.

A summary of findings related to each of the five research questions is presented below:

Research Question No. 5: What are the personal and situational characteristics of the survey population, i.e., school-age girls, rural households, and rural schools, in the hill area of Nepal?

1. Establishment of schools, which lack minimum educational facilities and were crowded in terms of space and student-teacher ratio, in the rural area was a recent phenomenon. The per student expenditure ranged from Rs.151 to Rs.545 with a median expense of Rs.355 which is high for nearly all the households of the study area.

2. The proportion of the sample girl students in the three main levels of education, primary, lower secondary, and secondary, was found to be 42, 26 and 33 percent respectively. Of the sample, 33 percent of the school-age girls were found to be not participating in the formal schooling system.

3. There were an insufficient number of teachers at the primary level in the sample schools. The percentage of qualified teachers for all three levels was found to be 70, 43 trained teachers, 51 experienced teachers, and 21 female teachers. Almost three-fourth of the teachers were local or having the same background as the people of the study area.

4. A little more than two-thirds of the sample population was consisted of the educationally advantaged upper caste group with Nepali language being spoken at home. Of the sample girls, 52.8 percent were in primary school (ages 6 to 10), and 31.5 percent were in secondary school (age 13 to 15). Almost 30 percent of the surveyed girls were the first born, and 21.5 percent were second born girls.

5. The distribution of sample school-age girls who were participating in the school gradually decreased from 19.1 percent in the first grade to 1.5 percent in the tenth grade.

6. Only fifty percent of the girls lived within one kilometer of their age grade level respective schools. While almost one-fifth of them had to walk more than four kilometers to attend school. As the level of school increased the distance also increased.

7. Contrary to popular belief, only 10 percent of the sample survey population who attended school had to repeat grades.

8. Almost 50 percent of the girls who attended school, attended less than 75 percent of the required school days. Individual annual schooling costs borne by the family ranged from Rs. 50 to Rs. 900, with a median of Rs. 312 per year. Costs increased as the education level increased.

9. More than 86 percent of the school-age girls were involved in various kinds of household activities. Their labor contribution ranged from 3 to 90 hours with an average contribution of 16.84 hours per week. However, only three percent of the girls were engaged in income earning activities.

10. Main reasons expressed by the girls for not participating in the schooling were labor required for household activities (71.6%), followed by taking care of younger children (41.5%), inability to pay for schooling (40.9%),

parents' unwillingness to send girls to school (36.9%), and parents not admitting girls to school (34.1%).

11. Average family size was found to be six members with male and female adult members evenly distributed. Most of the households had one or two school age children but maximum was six. Thirty nine percent of the households had only one school age girl child. Fifty percent of the households had no children less than six years old.

12. Five percent of the households owned no land, 62 percent owned less than 10 ropanis, and only 10 percent owned more than 20 ropani. The average amount of land owned by surveyed household was 3.66 ropanies. More than eighty (81.7) percent of the households produced less than 30 muri of grains annually. Mean grain production was 6.4 muri per household. On average, each household owned less than two units of livestock.

13. Annual household income was very low, indicating severe poverty in the area. More than 50 percent of the households were below the poverty level set by the Government of Nepal (Rs.10,500 as of 1987), and only 14.3 percent earned more than Rs. 25,000 annually.

14. One quarter of the households had no educated person in the family. Almost two-thirds of the households had no literate adult women, while 38.8 percent of the male guardians and 82.1 percent of the female guardians of the sample girls were illiterate.

Research Question No. 3: To what extent do the five blocks of factors explain the nature of school attendance for the girls in the survey area in the hill area of Nepal?

A summary of the regression statistics, which partially answers this question is presented in Table 42. These statistics were obtained by step-wise multiple regression using percent attendance of the girls attending school as the dependent variable, and various factors as the explanatory variables.

1. Parental education and attitude related factors accounted for only 15 percent of variance for this dependent variable. However, the F-Ratio was found to be significant at the .0001 level.

2. Girl related factors explained almost 77 percent of this variables variances. The predictive relationship between the girl related factors and the attendance percentage was found to be quite high, at a significance level of .0001.

3. Socio-cultural factors accounted for 71 percent of this variables variances, indicating a fairly significant predictive relationship. The F-Ratio was high with a significance level of .0001.

4. Thirty eight percent of the variances of this variable was also explained by the combination of economic factors. The obtained F-Ratio from this equation was significant at the .0001 level.

5. School related factors were found to account for only a little more than 15 percent of the variances of this variable. The F-Ratio was significant at the .0001 level.

6. Selected factors from the five blocks of factors could not account for a little more than 22 percent of this variables variance. Also, this relationship was significant at the .0001 level.

Table 42

Summary of Regression Statistics on Attendance

Factors	Coefficient of Determination	F-Ratio	Degrees of Freedom	Probability
1. School Related	0.1556	12.2351	8 & 531	0.0001
2. Girl Related	0.7669	587.7747	3 & 536	0.0001
3. Socio-Cultural	0.7126	1334.1821	1 & 538	0.0001
4. Economic	0.3810	109.9697	3 & 536	0.0001
5. Parental Education and Attitude	0.1541	21.0739	2 & 537	0.0001
6. Selected Factors	0.7772	265.0858	7 & 532	0.0001

7. The findings from step-wise multiple regression with various blocks of factors on attendance percentage for the girls who where attending school at the time of the survey, showed that all six blocks of factors affected attendance. All F-Ratio from the regression equations were significant at the .0001 level.

Research Question No. 2: To what extent do the five blocks of factors explain the status of the girls' participation in the formal schooling system in the hill area of Nepal?

Since the participation of girls in the formal schooling system was measured as a dichotomous variable, probit regression analysis was used with various blocks of the explanatory factors to examine predictive relationships. An attempt was made to answer the above research question by using the predicted probabilities and the observed levels of participation(1) and non-participation(0). According to Walonick (1985):

> If the dependent variable is well explained by the set of independent variables, we expect: (1) the frequencies in the first row of the table (observed value of DV=0) to be clustered in the first few columns, and (2) the frequencies in the last row of the table (observed value of DV=1) to be clustered in the last few columns (p. 205c).

Table 43 presents the frequency distribution of the observed values of the dependent variable versus its predicted value based on the set of independent variables.

1. Based on the above discussion and the results presented in Table 43, it can be concluded that the girl related factors explained the participation of girls in formal schooling very well.

2. The participation of the girls in formal schooling was explained well by the sets of socio-cultural factors, the selected factors, and the economic factors.

3. Parental education and attitude, and school related factors were not very good predictors for the participation of girls in formal schooling.

Table 43

Predicted Probabilities (in Intervals of 0.1) by Observed Value (0 or 1).

Observed:		0-.09	.1-.19	.2-.29	.3-.39	.4-.49	.5-.59	.6-.69	.7-.79	.8-.89	.9-1
1.	Parental Education and Attitude										
	0	0	0	4	24	34	58	29	10	9	8
	1	0	0	2	6	33	58	75	50	48	92
2.	School Related Factors										
	0	0	9	1	7	36	67	9	16	30	1
	1	0	2	0	6	21	90	20	41	169	15
3.	Girl Related Factors										
	0	176	0	0	0	0	0	0	0	0	0
	1	0	0	0	0	0	0	0	0	0	364
4.	Socio-Cultural Factors										
	0	138	6	2	4	5	5	4	6	5	1
	1	1	2	1	4	4	7	8	14	9	314
5.	Economic Factors										
	0	0	65	59	28	7	0	4	0	8	5
	1	0	1	7	10	14	19	25	29	63	196
6.	Selected Factors										
	0	95	21	15	11	11	3	8	4	1	7
	1	0	2	0	6	7	13	20	27	45	244

observed 0 = non-participating
observed 1 = participating

Research Question No.1: What are the relative significance of different factors in determining the participation and attendance of girls in the formal school system in the hill area of Nepal?

1. Space available per student in the school was positively correlated (.2239) with attendance followed by the percentage of female teachers (.1115) and the percentage of local teachers (.0852). Percentage of the qualified teachers was negatively correlated (-.1007), as was availability of instructional materials (-.0657), and the existence of the special programs for girls (-.0499) to attendance percentage.

2. Space available per student (.229), percentage of the female teachers (.176), and percentage of the teachers with the background similar to that of the community (.133), were some of the factors that were positively associated with the participation of the girls in the formal education system. Number of students per teacher (-.100), existence of special programs for girls (-.092), and school level (-.066) were negatively associated factors to the participation of girls in formal schooling.

3. Among the socio-cultural factors, percentage of school-age girls going to school (.8442), and the percentage of school-age children going to school (.7935) were highly positively associated with attendance. Family education related factors and caste affiliation (.3291) were also positively associated. Percentage of adult income earners in

the family (-.1259), number of children under six years of age (-.1091), and agriculture as the primary family occupation (-.0652), were negatively associated with the attendance percentage.

4. As above, the percentage of school-age girls going to school (.905) and the percentage of school-age children going to school (.852) were highly positively correlated with the participation of girls in formal education. Family education related factors and caste affiliation (.324) also positively affected participation. Percentage of adult income earners (-.124), number of children under six years of age (-.121), the school-age children to adult ratio (-.119), and agriculture as the primary family occupation (-.083), were the factors which negatively affected the participation of girls in formal schooling.

5. Study at home (.8611), and school grade being studied (.6232) were two major girl related factors that were positively associated with attendance. Helping with household activities (-.4689) and distance to age respective schools (-.1726) were negatively related to attendance.

6. As above, study at home (.915), and school grade being studied (.624), were two major factors positively related with the participation variable. Helping with household activities (-.515), and distance to age respective schools (-.201) were found to be factors that discouraged the participation of girls in formal schooling.

7. Cost of schooling (.5954), annual income of the family (.2421), and the amount of grain production (.1787), were some of the economic factors that were positively related to attendance. Whereas distance to secondary schools (-.2717), and distance to primary schools (-.1538), were both negatively associated with this variable.

8. Cost of schooling (.618), annual income of the family (.229), and the amount of annual grain production (.147) positively affected the participation variable. Distance to schools: secondary level (-.287), primary level (-.159), and lower secondary level (-.066); worked as discouraging factors to the participation of girls in formal schooling.

9. All the parental education and attitude related factors positively affected the attendance of the surveyed girls. Education related factors, like male guardian's education (.3707), and female guardian's education were more highly related to the attendance variable than the attitude related factors. Male guardian's attitude towards girl's education (.1733) affected this variable more than female guardian's attitude towards girl's education.

10. Male guardian's education and attitudes were more closely associated with the participation of girls in formal schooling than the female guardian's education and attitudes. Male guardian's education (.369), and female guardian's education (.226) were more significantly associated with the

participation of girls in formal eduction than the attitude related factors.

Research Question No.4: Which factors, identified as significant determinants of participation and attendance, may offer policy makers opportunities to maximize girls' participation and attendance in formal schooling system in the hill areas of Nepal?

Answers to this question are presented in the section related to recommendations.

Conclusions

Based on the findings of the study, eleven primary conclusions were derived. These conclusions are stated and explained in the following section.

Conclusion No. 1: All the five blocks of factors - school, girl, socio-cultural, economic, parental education and attitude related- and the selected factors affect the participation and attendance of girls in the formal schooling system.

Regression statistics showed that all the factors affect the girls' participation and attendance. The statistics from the regression equations were significant at the .00 level indicating that the tested relationships were not caused by the chances. However, the explanatory power of different equations were not equal.

The selected factors could explain almost 78 percent of the variances of the attendance variable. In terms of the blocks of factors, the girl related factors and the socio-cultural factors had a high association with the attendance variable with more than 87 percent and 84 percent of the actual value predicted respectively. Economic factors explained only 38 percent of this variables variances. School related factors, and the parental education and attitude related factors were poor predictors of attendance, each explaining only a little more than 15 percent of this variables variances. (See Table 42).

In terms of explaining and predicting participation of girls in the formal schooling system, the girl related factors followed by the socio-cultural factors were significant. Those factors could explain the participation almost perfectly. Regression equations with the selected factors and the economic factors also explained and predicted the participation variable well. However, as in the case of attendance, school related factors, and parental education and attitude related factors provided poor explanation of the participation variable. (See Table 43).

The above conclusions are important in terms of understanding the nature of the problems related to the participation and attendance of girls in the formal schooling system in the hill area of Nepal. However, in terms of deriving some conclusions to make practical recommendations, the above

conclusions did not help much, because each factor in each block had a differential effect on the equation. Therefore, it was necessary to draw the following conclusions on the basis of the effect of the most significant factors on the attendance and participation variables.

Conclusion No.2: Rural schools, many of which were established within the last 25 years, are crowded, poorly equipped, and not easily accessible to school-age girls.

Establishment of schools in rural areas of Nepal is a recent phenomenon. Expansion of education suffered at the hands of the Rana regime, since it was opposed to any kind of educational effort, especially for the rural areas. After the fall of the Ranas, in 1951, efforts to spread education started, but to a great extent this was concentrated in urban and more accessible rural areas. It is interesting to learn that the number of years a school had been established, was negatively associated with the participation and attendance variables. Only four schools had been established for more than 25 years and three of these were higher level schools with all the grades beginning from grade one.

A high student teacher ratio and lack of space per student are common conditions in rural schools. According to Nepalese socio-cultural norms, this situation is not conducive to encouraging the participation of girls. Many parents fear that the mixing of girls and boys in crowded schools will lead to relationships that have not been

arranged by the parents, or even worse, relationships between children of different casts or ethnic groups. (Shrestha and Gurung,1973). This problem is compounded by the fact that a majority of the school-age girls in the study had to walk two or more kilometers to attend the schools.

Space available per student varied from school to school, ranging from 2.10 to 10.30 sq. ft. per student. The average student teacher ratio was 30 for all the school levels. However, the absolute ratio tended to increase as the level increased.

Almost half of the schools had no instructional materials or facilities for extra-curricular activities. Others had a minimum of what was required.

Conclusion No.3: School-age girls from rural areas are heavily burdened with household work, and this negatively affected both their attendance and participation in the formal schooling system of the study area.

Very few school-age girls (13.5%) were not involved in any kind of household work. Otherwise, the burden on rural girls was rather heavy, the median number of hours spent on work was 16.84 hours per week. Girls who were not attending school contributed an average of 37.74 hours per week, more than twice the 15.37 hours contributed by girls who were going to school. More than 32 percent (compared to 27% nationally) of the sample school-age girls were not participating in the schooling. Girls in the study who were

attending school generally had a low level of attendance, with 60 percent of these girls attending less than 75 percent of the school days. Participation of the girls in formal education also decreased gradually as the grade level increased.

Conclusion No.4: Rural households are generally poor, illiterate, and primarily engaged in subsistence agricultural activities.

Rural households in the study area were primarily engaged in subsistence agriculture. Means for the households of participating and non-participating girls, who had agriculture as a primary occupation, were 92 and 97 respectively. A small number of households, 5.5 percent, had no land, those households were excluded from the above calculations. From this, it can be concluded that almost all the households of the non-participating girls belonged to a subsistence economy. Average land holding was 3.66 ropani per household with six family members. The mean annual grain production per household was 6.4 muri (435 kgs.). Fifty-one percent of the households earned less than Rs.10,000 as their aggregate income putting them within a level of absolute poverty. This figure was high compared to national figures that place "42.55 percent of the Nepal's families (with an average of 5.26 members each) [with] an income of less than Rs.10,667 each and so ranked below the poverty line" (Nepal Press Digest, 1987).

Twenty five percent of the households had no literate adults, and 66.5 percent of the households had no literate adult women.

Conclusion No.5: School distance, and crowding in terms of space available per student and student teacher ratios were significant factors in influencing the participation of girls and their attendance in formal schooling.

Distance to any kind of school had negative effects on both participation and attendance variables. Since secondary schools were generally farther away from a majority of the survey population than other levels, its association with participation and attendance was more significant. All the school levels including age respective schools were more distant for the non-participating girls than for those participating in formal education. All non-participating girls, especially those who were at the secondary level, were disadvantaged because distance to school was detrimental in terms of travelling time and loss of labor (Bowman and Anderson, 1982; and UNESCO, 1983), and inadequate protection (Rao, 1983). This finding was contrary to findings from Lockheed and Jamison (1979) because their study was conducted in the Terai where schools were relatively accessible and Shrestha (1976) who simply asked the question. Both of these studies were conducted in Nepal.

Space available per student was a major school related factor that affected the participation and attendance of

girls. If attendance increased, i.e., girls not currently attending school start going to school, space per student would become a more serious issue. It is probable that some parents are aware of this situation and have possibly used this consideration as reason to keep their daughters out of school. Another factor related to crowding is the student teacher ratio. It can be assumed that more space per student and lower student teacher ratios would lead to better participation and attendance of girls.

Conclusion No.6: Older schools with experienced, well qualified and trained teachers did not show a greater tendency to positively encourage the participation and attendance of girls.

The above factors had a negative effect on the attendance of girls. Even though the relationships were weak, these negative relationships were unexpected. It is generally expected that experienced, well qualified and trained teachers would encourage and motivates girl (and students in general) to attend schools regularly. But the findings of this study did not support this general belief.

However, the teacher related factors were positively related to the participation variable. The number of years a school had been established was negatively associated with the participation variable signifying that longer establishment did not encourage girls to participate in formal education. This relationship was too weak to accept Bowman

and Anderson's (1982) contention that status patterns of participation of girls are affected by how long schools have been present in a society.

Conclusion No. 7: Percentages of the female teachers, local teachers, teachers with backgrounds similar to that of the community, and teachers speaking the same language as the population positively relates to the participation and attendance of girls in formal schooling.

All of the above teacher related factors were positively associated with the participation and attendance variables. Shrestha (1978), Schuler (1981), Smock (1981), UNESCO (1975) all found that girls' participation and attendance would be linearly correlated with the presence of the female teachers. In terms of the teacher quality, the presence of the female teachers turned out to be a major factor in accelerating girls' participation and attendance in formal schooling. As postulated by Schuler (1981), teachers who had both backgrounds and languages similar to the local communities would contribute to improving the participation of girls in formal education.

Conclusion No. 8: School-age girls' involvement in the household activities and income generating activities discouraged them from participating in formal education and attending school regularly.

The average levels of involvement of girls in household work for participating and non-participating girls were 15.37

and 37.74 hours per week respectively. Twenty percent of the variance in the attendance variable was explained by the involvement in household work. Negative correlation denotes that involvement of girls in household work did not allow them to participate in formal schooling and attend school regularly. As assumed by the literature (McSweeny and Freedman, 1982; Acharya and Bennett, 1981; Shrestha and Gurung, 1973; Schuler, 1981; Molnar, 1981; Ashby, 1985; Liddle and Joshi, 1986; and Bowman and Anderson, 1982) the first and foremost reason for girls not to participate in formal schooling and not to attend regularly, was their preoccupation with household activities. Girls are kept away from school because their labor is needed at home. The kinds of activities that girls were involved in varied, they included, taking care of the children, being involved in agricultural work, taking care of livestock, fetching water, cooking and cleaning, washing, collecting fuelwood and fodder, being involved in exchange labor, etc.

Very few girls were involved in income generating activities. Their involvement in such activities had a negative effect on their participation and attendance in the formal schooling system.

Study at home as a factor, was highly associated and significant with the dependent variables. School grade being studied was also highly associated with the participation and attendance variables. It can be assumed that if school-age

girls were studying at home, other household members would not interfere in these activities. Most probably families would encourage girls that were serious in their effort to get educated.

Conclusion No. 9: Caste, family occupation, family education levels, proportion of school-age children or girls participating in school affected the participation and attendance of girls.

Caste had a positive relationship with both the dependent variables. The higher the caste, the better the chance for the girls to participate in formal school and to attend school regularly. Upper caste groups like Brahmin, Chhetri, and Newars have a history of being educationally privileged, and these finding were not a surprise. Shrestha and Gurung (1973), and Acharya and Bennett (1981) had found that the ethnic groups who had been more open to the education of girls and who had a liberal attitude towards women's freedom, provided better opportunities for girls to be educated. Both of these studies postulated that conservative Indo-Aryan groups would not positively support the education of girls and women. However, data from this study does not support this conclusion. It seems that, at least, lower caste groups are disadvantaged in terms of participating in education, not the higher caste groups.

Agriculture and wage labor as a family occupation did not positively influence to the participation and attendance

variables. Families involved in services or business work as their primary occupation had a greater tendency for allowing girls to participate in formal education and attend school regularly. Parents of these households were found to be better educated and more affluent than other households. Therefore, it would be difficult to say definitively whether occupation alone affected these variables or not. However, because education influences the occupations that people choose it is probable that further study will show the details of these relationships. Smith and Cheung (1982) found similar kinds of relationships in rural areas in the Philippines.

The average education level of adults, adult women and the literacy percentage of the adults were positively related with both the dependent variables. The study confirms the findings of Ashby (1985), CERID (1984), Shrestha and Gurung (1973), Bowman and Anderson (1982), and Smith and Cheung (1982).

Percentage of school-age girls or children going to school had a very high positive and significant relationship in determining the participation and attendance of girls in schooling. Children already participating in school are role models for younger children, motivating them to also go to school.

Conclusion No. 10: Cost of schooling and aggregate family income were significant factors in determining participation and attendance of girls in the formal schooling system.

The economic condition of the survey area was found to be miserable with more than 50 percent of the population below the government's stipulated poverty level. This condition significantly effected the participation and attendance variables. Acharya and Bennett (1981) postulated that the more an economy is oriented towards subsistence farm production, the stronger the perception that women do not need to come into contact with the outside world and that they do not need to be educated. The difference in the means for aggregate yearly income of those households sending and not sending their girls to school were Rs.18230 and Rs.8401 respectively. The difference between these two was more than two times. This factor was positively related to both participation and attendance variables. This indicated that the higher economic level is, the more probable that a girls will get the chance to go to schools and attend regularly.

Interestingly enough, schooling costs were less positively related to participation and attendance, than the level of household income. Since cost was entered only for those girls who were participating in the school, this was expected. Girls attending school generally came from families with higher than average aggregate incomes. However, more than 40 percent of the girls who were not participating in

formal schooling explained their non-attendance as the result of their parents inability to pay schooling costs. This finding was not different from the findings of Bennett (1981), Acharya and Bennett (1981), Smock (1981), and Shrestha and Gurung (1973). If the opportunity cost of schooling1 were included in this studies regression model, the cost factor would most likely be a major determinant of the participation and attendance variables. This was the assumption made by all the studies mentioned above as well as Ashby (1950), and Lockheed and Jamison (1979).

Conclusion No. 11: Parental education factors were more significant in explaining participation and attendance of girls in the formal schooling system than parental attitudes towards modernity and girls' education.

Both male and female guardians' or parents' mean education levels were higher for participating girls than for non-participating girls. Male guardian's education was detrimental in affecting decisions related to girls' participation in formal schooling. Female guardian's or mother's education level could explain more of the dependent variables variance than any of the attitudes related factors. Therefore, paternal educational factors were much more significant in determining girls' participation and attendance than attitudinal factors. This was postulated by Bowman and

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1 Distance to school, time and labor lost while in school, relevance of schooling to future employment, etc.

Anderson (1982), and Shrestha and Gurung (1979). There could be several explanation for this phenomena. Since there are few literate adult women, adult men's education became a more significant determinate of dependant variables. Also, as education of girls is related to decision involving the outside world, long term investments and are far reaching in nature, it came under the domain of male decision makers. It should be noted that almost all the female guardians or mothers of the non-participating girls were illiterate. Therefore, it can be assumed that a minimum education for female guardian or mothers is required to trigger the participation of girls in formal schooling.

In terms of effects of attitude related factors on the participation and attendance of the girls in schooling, they were all positively related. Thus it can be concluded that parents having a positive attitude towards girls' education and modernity would help increase the probability of girls' participation and attendance in schooling. Male guardian or father's attitude towards girls' education was a better predictor than the mother's.

Recommendations

Based on the findings, the previous discussions, and on the conclusions, the following seven recommendations are presented.

1. There is need to adopt alternative structures and flexible policies for maximizing the participation and attendance of the girls in the formal schooling system in the hill area of Nepal.

Unless schools are easily accessible, girls' participation and attendance can not be maximized. To encourage non-participating girls to participate, schools need to be accessible to them. However, current government policies regarding the approval to establish schools requires that a certain number of students be present, that certain kinds of buildings must be built, that certain instructional materials be available, and that a certain amount of spaces per student be allocated. In remote rural areas, it is difficult if not impossible to meet all these requirements. Since school building type, and availability of instructional materials and student spaces were not shown to be significant factors for the participation of girls, these should not be used as major criteria for approving the establishment of new schools. Schooling facilities should be made available in remote areas and for unprivileged groups, even if there are not enough students, only one room, and only one teacher, schools should be established. A school with sufficient space could be built using locally available materials, importing expensive material from urban centers is not necessary. This may encourage people of all economic and social levels to believe that education is within their

reach. This may also help solve problems related to over crowding, which was shown to be a negative factor for the participation of girls in formal education.

There is little possibility for drastic changes in the socio-economic system in the rural areas of Nepal in near future. Therefore, considering the household's need for children to contribute in the household activities, schooling schedules should be made flexible to accommodate the changing seasonal labor requirements of specific rural areas. The rigid central policy of operating school from 10 AM to 4 PM, and to having winter vacations is not conducive to the needs of households in the hill areas of Nepal. Both the annual and daily schedule should be left to local management, so that it would more accurately reflect the needs of the communities being served by the schools.

2. There is need to decentralize school management related to general administration and budgetary matters. Local school and community people could be made more responsible for their own education system.

Current government policy, which gives local people the responsibilities to maintain their schools but does not give any authority to make policy and budgetary decisions inhibits local initiative and creativity. It is the District Education Officer who makes most of the decisions, this official even disburses monthly salaries to the teachers. In some cases teachers have to walk four or five days to get their

pay. All textbooks, materials, scholarships, and other resources are also distributed by the district education office. Mistrust of the ability of local people to manage these things is evident. This situation is not conducive to local participation; it also does not motivate people to open new schools or make improvement in existing ones. If more management responsibilities were transferred to local populations, it is possible that more parents would start sending their daughters to school.

If local people are involved in management decisions, it is possible that they will hire more local teachers, which was found to be significant factor for positively influencing the participation and attendance variables.

As an incentive to hire women teachers, schools hiring women teachers should be provided with more grants-in-aid. It may be necessary to relax required qualification to hire women as teachers. At least in the primary level, 50 percent of the teachers should be women and other levels an effort should be made to have more women teachers.

3. There is need for introduce measures to reduce the pressure placed on girls by the amount of household work they are generally required to do.

The subsistence nature of agricultural activities requires that all members of a household work very hard, especially women and girls. Since agricultural practices in rural areas have not been accommodated by the introduction of

new and appropriate technologies, most households depend on age-old methods. Very little effort has been made to introduce time saving technology, or to make improvements in existing technologies. Shrinking land ownership, decreasing productivity of the land, changing climatic nature, and increasing population are all factors that make subsistence agriculture progressively more inhibiting for the participation of girls in formal education. Therefore, the need for child labor, especially that of girls, to contribute to household work becomes a survival necessity. However, it may be possible to introduce time saving technologies to lessen the burden on all household members, especially girls and women. Also, the establishment of community day care centers to look after young children while local people manage their own resources and girls attend school may be one means of improving the participation of girls in formal education.

4. There is need to promote functional adult literacy programs to help adults, who missed the opportunity to get educated, to achieve a minimal level of literacy.

The adult literacy program exists but often in name alone. It is clear from the preceding discussion that more educated family members and parents are, the greater the possibility for the girls to participate in schooling. Consciousness raising literacy programs may be a preferable way to influence this situation. However, the prevailing political situation is not suitable to this approach.

Therefore, a more functional type of literacy program, to accommodate the problems and needs of local populations should be encouraged.

5. There is need for identifying poor and disadvantaged households so that they can be provided with differential treatment in terms of incentives to send the girls to school. Free educational facilities and scholarships are suggested means of achieving this.

Even though equality in educational opportunities is well justified, rural societies are not able to benefit even from available educational facilities, and they need to be treated differently than urban areas. It may only be necessary to offer disadvantaged group special assistance for a few years. Hopefully, once they see the benefit of education they will participate willingly without the need of incentives, even though support to poorer families will still be needed. Provision of free tuition, textbooks and other materials will help to a certain extent, but unless households are provided with some kind of incentive the loss of child labor will most probably jeopardize programs to encourage the participation of girls in formal education. As part of such an effort, existing rural industries and technologies need to be supported, since most of the educationally unprivileged groups are from the occupational groups. They have traditionally practiced age-old family occupation like tailoring, black-smithing, shoe-making, etc. By helping

to sustain and improve these occupations through training and the introduction of new technologies, the economic condition of these group could be improved. Such programs have the potential of bringing far reaching effect because they may minimize dependence on subsistence farming which was shown to negatively effect the participation of girls in formal schooling.

6. There is need for hiring more women and local teachers.

The percentage of women and local teachers in the schools were linearly positively related to the participation and attendance variables. Therefore, hiring of such teachers should be encouraged. Continuation of the Equal Access to Women's Education Program is justified in terms of its potential to provide women teachers for rural areas.

7. Girls attending school, should be encouraged to be engaged in more education related activities at home.

Study at home was shown factor determining girls' attendance at school. The more a girl was engaged in home study, the higher her rate of attendance was. Probably, parents were willing to let such girls study regularly in place of doing household work.

Limitations of the Study

Several limitations of this study are identified and briefly discussed below.

First, the study sample was not truly random. Because of limitation of time and money, a truly random sample was beyond the means of the study, as such, only one rural hill district, out of total of 75 was selected. Considering the varied geophysical conditions and the existence of diverse socio-cultural system, no district in Nepal can be considered as nationally representative, even the hill areas alone. The selection of the panchayats were also not truly random. Only one panchayat was randomly selected, the other two panchayats were selected because they were next to the randomly selected one. This led to a clustering of the schools and the survey population, because almost all of the sample girls were supposed to attend the same high school. Those who wish to generalize these findings to other areas should be aware of this fact.

Second, the reliability of the attitude related questionnaire was not estimated. However, the content of these questionnaires were based on other similar studies, one of which used standardized measures for modernity in their questionnaire. The content tends to reflect many western ideas about modernity and girls' education. It is very difficult to estimate whether such ideas are valid within the context of the rural Nepal since experimental studies to test this have not been done.

Interviewers were women who were native to Okhaldhunga district. However they were educated and semi-urban in

character having lived in the major urban center of this district, and therefore they differed significantly from the majority of rural women living in the study area. Using these sophisticated educated women may have affected the responses provided by respondents.

Lastly, more extensive analyses may have resulted in more precise findings, but this was beyond both the means and purpose of the investigator. The presented findings indicate trends rather than precise and exact numerical fact.

Recommendations for Future Research

In the process of doing this research, discovery of several areas of knowledge and procedural gaps were made. Improvements in such areas could lead to a better understanding of the problems and formulation of policies to solve them. Several recommendations related to this follow. Some were directly derived from the research while others were from more indirect sources, in all, they should be used as guidelines for further research on the topic.

1. Estimates on the validity and reliability of questionnaires similar to the ones used for this study should be made. This is especially important for attitude related questionnaires.

2. Conduct a nation-wide survey on this topic so that a representative sample can be achieved.

3. Carry out cross-cultural surveys using questionnaires and procedures developed in Nepal and elsewhere. This should enable comparisons between nations to aid further understanding of this issue in general.

4. Conduct a study using the same questionnaires and procedures with the school-age boys as the study sample to identify and explain sex related differential effects of the different factors for this population.

5. Conduct an ethnographic study in the study area to elaborate on the nature of effects of the significant factors identified by this study, and to identify indigenous education methods and systems that may contribute to further encouraging the participation of both girls and boys in formal schooling and to make education more relevant to rural populations.

6. Conduct a study to analyze similar data across caste and ethnic groups, different economic strata, language groups, and family related characteristics to assess differential effects of the factors on the different groups.

7. Conduct a study relating to the reasons of non-participation in formal schooling as expressed by different sample groups, i.e., male guardians, female guardians, and school-age girls, to further an understanding of their perceptions related to education.

8. Conduct a longitudinal study in an area where schools are newly established to examine whether date of

establishment, the introduction of women teachers, provision of free tuition and education materials, and gradual participation of girls in the schooling changes the attitudes of the rural people regarding girls' education and women's roles in the society.

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APPENDICES

APPENDIX 1

QUESTIONNAIRE FOR SCHOOL-AGE GIRLS

Direction: Fill in one form for each school-age girl in the household. Explain the purpose of the study, ask if she is willing to answer the questions. Explain her that she does not have to answer the question she does not want to.

1. Background Information

1.1 Serial No. of Household _____
1.2 Serial No. of the Girl _____
1.3 Girl's Age _____ Year ____ Month
1.4 Chronological Birth Order _____
1.5 Girl's Father or Male Guardian's Educational Qualification _____
1.6 Girl's Mother or Female Guardian's Educational Qualification _____

2. Educational Information

2.1 Do you go to school ? Yes ___ No ____

(If yes, ask the following questions. If no, go to question no. 2.6).

2.2 Name of the School _____.
2.3 Level of the School _____.
2.4 Grade being Studied _____.
2.5 How long does it take to go to School? ____ Minutes.

(Ask the following questions to those girls who are not going to school.)

2.6 Have you ever joined a school? Yes____ No ____
2.7 If yes, What grade have you completed? _____ Grade.
2.8 Why did not you go to school?
(Listen the response carefully and put (X) marks in appropriate boxes.)

( ) = because school is far away.
( ) = because parents could not pay school expenses.
( ) = because I was needed for domestic work.
( ) = because my health was not good.
( ) = because there is no benefit for girls going to school.
( ) = because parents did not enroll me in the school.
( ) = because parents did not allow me to go to school.
( ) = because there are socio-cultural restrictions.
( ) = because girls are not sent to school here.
( ) = because I had to take care of younger children.

( ) = because I was little or young.
( ) = other reason (specify) _____
(Ask the following questions only to those girls who are in or had been to school.)

2.9 Have you repeated any grade ? Yes _____ No ____
2.10 If yes, specify number of times repeated in each grade;

Grades	1	2	3	4	5	6	7	8	9	10	Total
Times											

(Calculate attendance of the school going girl from the school record.)

2.11 Total Number of School Days _____
2.12 Total Number of Days Attended by the Girl _____
2.13 Percentage of Attendance _____

(Collect the following information from the girl, but confirm from others and make you own judgement too.)

2.14 How far is your school? _____ Kilometer.
2.15 How much do you need for school related expenses?
_____ Rs.

3. <u>Activity Related Information</u>

3.1 Do you provide help in domestic activities?
Yes _____ No _____
3.2 If yes, what kind of works do you usually do? How many hours a week do you spend on them?
(Listen to the response carefully and put (X) marks on the following matching statements, estimate hours by asking various ways.)

( ) = Looking after the younger children. _____ Hours.
( ) = Carrying or fetching water. _____ Hours.
( ) = Collecting fodder and firewood. _____ Hours.
( ) = Taking care of the livestock. _____ Hours.
( ) = Doing farm related works. _____ Hours.
( ) = Doing cooking and dishes. _____ Hours.
( ) = Washing clothes and cleaning. _____ Hours.
( ) = Watching house and farm. _____ Hours.
( ) = Going for exchange labor. _____ Hours.
( ) = Other (specify) _____. _____ Hours.

3.3 Are you engaged in any kind of money making activities?
Yes _____ No _____

3.4 Do you spend time at home doing school related works?
Yes _____ No _____

APPENDIX 2

HOUSEHOLD QUESTIONNAIRE

Interviewer: _____
Date: _____
Checked by: _____
Date: _____

Direction: Ask the following questions to available oldest member of the household. Allow other member of the household to contribute to answering the questions except when questions related to attitudes are being asked. Explain the purpose of the study. Make sure that they are willing to provide time and information. Tell the respondent that he/she will be free not to answer any question which he/she does not want to.

1. General Information.

1.1 Household No. _____.
1.2 Village Panchayat _____
1.3 Ward No. _____
1.4 Name of the village _____

2. Family Related Information.

2.1 Caste
( ) Brahmin, Chhetri, Newar
( ) Ethnic Group
( ) Untouchables

2.2 What language is spoken at home among the family members?
( ) Nepali
( ) Language other than Nepali

2.3 Information on adult members (16 years and above) of the household.

S. No.	Identification	Age	Sex	Marital Status	Education	Occupation

2.3.1 Total Number of Male Members _____
2.3.2 Total Number of Female Members _____
2.3.3 Percentage of Adult Earners _____
2.3.4 Average Education Level of the Adults _____
2.3.5 Average Education Level of the Adult Women _____
2.3.6 Adult Literacy Percentage _____
2.3.7 Occupations in the Family;
( ) Agriculture
( ) Business
( ) Industry/Cottage Industry
( ) Wage Labor
( ) Services

2.4 Information on School-age Children (6-15 Years Old).

S. No.	Identification	Age	Sex		Education Level	School Going	
			Boy	Girl		Yes	No

2.4.1 Number of School_age Children _____
2.4.2 Percentage of School-age Children Going to School____
2.4.3 Number of School-age Boys _____
2.4.4 Number of School-age Girls _____
2.4.5 Number of School-age Boys Going to School _____
2.4.6 Number of School-age Girls Going to School ____
2.4.7 Percentage of School-age Boys Going to School ____
2.4.8 Percentage of School-age Girls Going to School ____
2.4.9 School-age Children-Adult Ratio -----

2.5 How many less than six years old children in the family? _____
Boys _____
Girls _____

2.6 Total Number of Family Members _____

3. Economic Information.

3.1 Information on Land Holding (In Ropani).

Type	Irrigated	Unirrigated	Fallow	Others	Total
a. Cultivated by the family					
b. Rented out					
c. Rented from					
Total					

3.2 Information on Annual Crop Production (In Muri) & Price.

Crops	Annual Production	Market Rate	Total(Rs.)
a. Maize			
b. Paddy			
c. Wheat			
d. Millet/Buckwheat			
e. _____			
f. _____			
g. _____			
h. _____			
Total			

3.3 Information on Livestock

Type	Number	Estimated Cost Income (Last Year)
a. Cow/Oxen		
b. Buffaloes		
c. Goats/Sheep		
d. Pigs		
e. _____		
f._____		
Total		

3.4 Information on Income Sources

Source	Annual Income (In Rs.)
a. Agriculture Produce	
b. Livestock Selling	
c. Business	
d. Salaries	
e. Wages	
f. Industrial Products	
g. Rent Collection	
h. Others	
Total Annual Family Income	_____Rs.

4. Are the school-age children engaged in income generating activities? Yes _____ No_____

5. Which are the nearest primary, lower secondary, and secondary schools from your house? How far are they?

Level	Name	Distance (In Km.)
a. Primary		
b. Lower Secondary		
c. Secondary		

QUESTIONNAIRE RELATED TO ATTITUDE

( ) Male
( ) Female

Direction: Identify the father and mother or male and female guardians of the school-age girls. Ask them if they have time and are willing to answer the following questions. Administer the questionnaire separately without any interference from other members of the household. It will be better to find a quiet place where other can not hear what has been said. Two sets of each questionnaire are provided, administer one each to male and female and mark (X) for identification. Tell them that they do not have to respond if they do not want to. Read the statement slowly and loudly, and ask them if they agree, disagree, or don't have any opinion. Listen the response carefully and check (X) the appropriate box representing the response.

6. Attitude Towards Modernity

		Agree	Don't Know	Disagree
6.1	A person can not be rich only by own efforts, he/she must be lucky too.	( )	( )	( )
6.2	Whenever I get sick I will go to the witchdoctor first.	( )	( )	( )
6.3	It is up to God whether some one can have a baby or not.	( )	( )	( )
6.4	I believe the ghosts and spirits exist.	( )	( )	( )
6.5	I don't care what happens in the world, because I have nothing to do with it.	( )	( )	( )
6.6	Recently, I cast my vote to the suggested by the village leader without knowing him and his activities.	( )	( )	( )
6.7	I don't believe that people have landed on the moon.	( )	( )	( )
6.8	I don't listen to radio and read newspapers but get news by gossiping with the people around.	( )	( )	( )
6.9	I was preordained to be as I am now before I was born.	( )	( )	( )
6.10	I do not like to be the first one to take the risk of using improved varieties of seeds, fertilizers, and other things suggested by the extension agents.	( )	( )	( )

6. Modernity Score for Male _____
7. Modernity Score for Female _____

8. Attitude Towards Girls' Education

		Agree	Don't Know	Disagree
8.1	I do not want to want to send any girl to school.	( )	( )	( )
8.2	Even if the girls get equal education to boys, they won't be able to utilize them as boys.	( )	( )	( )
8.3	If I have an educated girl-in-law I won't let her take a job among the men.	( )	( )	( )
8.4	Whether educated or not, a woman's place is home; so why should we bother to educate her?	( )	( )	( )
8.5	If I provide education to girls they will be uncontrollable.	( )	( )	( )
8.6	I don't think an educated woman can contribute to the development of our village.	( )	( )	( )
8.7	I agree with the statement " It is not good for a woman to mess around with village politics or problems.	( )	( )	( )
8.8	I won't let my son or brother to marry an educated woman.	( )	( )	( )
8.9	If I send girls to school, who is going to take care of cattle, children, and other household chores?	( )	( )	( )
8.10	A man's education is an investment but a woman's education is a waste.	( )	( )	( )

8. Score on Male Attitude towards Girls' Education _____
9. Score on Female Attitude Towards Girls' Education _____

APPENDIX 3

SCHOOL QUESTIONNAIRE

Direction: Explain the purpose of the study to the Head Master of the school and permission for getting information related to the school and the students.

1. **General Information.**

   1.1 Name of the School _____
   1.2 Village Panchayat _____
   1.3 Date: School Established on_____
   1.4 School Level:
   ( ) Primary
   ( ) Lower Secondary
   ( ) Secondary
   1.5 Number of Classes and Sections _____
   1.6 Type of School:
   ( ) Boys
   ( ) Girls
   ( ) Co-education

2. **Information on Teaching Staff.**

S. No.	Sex	Caste	Qualifi-cation	Language	Experience	Training	Local

   2.1 Number of Teachers _____
   2.2 Number of Qualified Teachers _____
   2.3 Percentage of Qualified Teachers _____
   2.4 Number of Female Teachers _____
   2.5 Percentage of Female Teachers _____
   2.6 Number of Trained Teachers _____
   2.7 Percentage of Trained Teachers _____
   2.8 Number of Teachers with More Than Five Years of Teaching Experience _____
   2.9 Percentage of Teachers with More Than Five Years of Teaching Experience _____
   2.10 Number of Local Teachers _____
   2.11 Percentage of Local Teachers _____
   2.12 Number of Teachers with the Ethnic/Caste Similarity to the Area Covered by the School _____
   2.13 Percentage of Teachers with the Ethnic/Caste similarity to the Area Covered by the School _____

2.14 Number of Teachers Speaking Local Dialect and Ethnic Languages of the Area _____

2.15 Percentage of Teachers Speaking Local Dialect and Ethnic Languages of the Area _____

3. Information on Students.

(From the school record transfer number of boy and girl students studying in each grade.)

Grade	1	2	3	4	5	6	7	8	9	10	Total
Boys											
Girls											
Total											

3.1 Percentage of the girl students _____

4. Income/Expenditure Information.

4.1 How much income the school had from various sources, last year?

S. No.	Items	Income (Rs.)
1.	Tuition Fees	
2.	Other Fees	
3.	Government Grant	
4.	Other Grants	
5.	Local Support	
6.	Other Sources	
	Total	

4.2 How much did the school spend on various items, last year?

S. No.	Items	Expenditure (Rs.)
1.	Salary/ Allowance	
2.	Stationary	
3.	Instructional Materials	
4.	Extra-Curricular Activities	
5.	Construction/Repair	
6.	Miscellaneous	
7.	Other Expenses	
	Total	

4.2.1 Per Student Expenditure _____ Rs.

5. Information on Physical Facilities.

5.1 Buildings.

S. No.	Types of Building			No. of Rooms		Remarks
	Mud/Stone	Brick	Concrete	Classroom	Others	

5.1.1 Overall Rating:
( ) Mud/Stone
( ) Brick
( ) Concrete

5.2 Classrooms.

S. No.	Measurement (Ft.)		Area	Grade	No.of Students
	Length	Breadth	Sq. Ft.		

5.2.1 Amount of Space Available per Student _____Sq. Ft.

6. Information on Educational Materials.

6.1 Ordinary Materials

Description	Yes		No	Remarks
	Sufficient	Insufficient		
1. Blackboard/Chalks				
2. Furniture				
3. Library Books/Magazines				
4. Maps/Charts/Posters				
5. Vocational/Prevocational Materials				
6. Science Equipments and Materials				
7. Laboratory/Workshop				
8. Reading Room				

6.1.1 Overall Rating on Availability of Instructional Materials:

( ) Not at all
( ) Very little
( ) Little
( ) Not enough
( ) Enough

7. Information on Availability of Extracurricular Facilities.

Description	Yes		No	Remarks
	Sufficient	Insufficient		
1. Play Grounds				
2. Sports Materials				
3. Recreational Facilities				
4. Equipments for Games and Sports				
5. Extracurricular Activities				

7.1 Overall Rating on Availability of Extracurricular Facilities:

( ) Not at all
( ) Very little
( ) Little
( ) Not enough
( ) Enough

8. Information on Attendance of the Students.

(Count total attendance of each student for the last session from the school record).

8.1 Total Number of School Days _____(Last Year).

No.	Student's Name	Class	Sex	Attendance

APPENDIX 4

UCHRIS LETTER

MICHIGAN STATE UNIVERSITY

OFFICE OF VICE PRESIDENT FOR RESEARCH
AND DEAN OF THE GRADUATE SCHOOL

EAST LANSING • MICHIGAN • 48824-1046

April 23, 1987

Mr. Narayan Kaji Shrestha
2150 Arundel Place
Okemos, Michigan 48864

Dear Mr. Shrestha:

After receiving a letter of explanation from Professor Ben Bonhorst, The Graduate School has reviewed your request for exemption from the University policy regarding research with human subjects in the Ph.D. dissertation written under his direction.

It is the direct responsibility of the graduate student to inform himself of the requirements attendant upon his program. In your case, however, the extenuating circumstances which Professor Bonhorst has described are sufficient to convince the review committee that an exception should be granted.

This letter is to be considered official notification of the exemption.

Yours sincerely,

Howard Anderson

Howard Anderson
Assistant Dean

HA/cbc

cc: Ben Bonhorst, Professor Emeritus, Dept. of Educational Administration
Henry Bredeck, Assistant Vice President for Research
John Cantlon, Vice President for Research & Graduate Studies
Judith Lanier, Dean, College of Education
Diana Pullin, Associate Dean, College of Education