CHAPTER 4
DESIGN OF THE STUDY

The design of the study is of survey type with features as detailed in the following sections. To point out pertinently, sub-sections have been used as and when necessary for better description.

4.1 STATISTICAL DESIGN

This study is primarily a survey with a multivariate statistical design. Attitude towards women's education (WE) is the dependent variable and the independent variables are, attitude towards women (W), traditionalism (T) educational facilities (C) and socio economic status (S).

Statistical techniques like correlation, multivariate regression (Linear) analysis, tests of significance like F-ratio and t-tests have been employed in order to determine the contributory or causal association, if any, of the independent variables viz., W, T, C and S with the dependent variable WE. Lastly, F-ratio (FR), t or z values have been used in appropriate contexts to test the significance of skewness and kurtosis of the distributions in respect of the variables, the group differences with respect to the criteria of sex, caste, region (rural-urban) etc for the variables.

4.2 TOOLS

The study has had to employ five tools. One to assess attitude towards women's education, one to assess attitude towards women, the third to assess traditionalism, another to assess awareness of facilities and the fifth to assess socio economic status of the respondents.

The researcher consulted some existing literature available to find scales or inventories suitable for the study (Pareek and Rao, 1974), Pestonjee and Shaw and Wright(1967)). The existing tools failed, however, to cover all the variables. Further, those available, excepting Kulshrestha's(1981) SES Scales seemed not very suitable for the study, keeping in view, the nature of the target population who belong to an interior backward part of the country. So, all these tools had to be constructed by the researcher. Thus, in this study, of the five tools employed, four have been constructed by the researcher. To assess socio economic status, Kulshrestha's Urban (1987) and Rural (1980) scales on socio-economic status were found suitable because the author of both the scales was the same.
person. Thus, in this study, a) three Likert type attitude scales were prepared to assess attitude towards women's education, attitude towards women and traditionalism. b) A scale was prepared to assess awareness of educational facilities or, simply, educational facilities available in the area. Further, Kulshrestha's Urban (1987) and Rural (1980) SES Scales in Hindi version were used.

4.21 Item selection for the three attitude scales and the scale on facilities

Items for the first three inventories as also an educational facilities scale, have been prepared under the guidance of Dr. P. Som, Reader in Education, C.U. Opinion was also taken of a body of experts consisting, apart from Dr. P. Som, of Dr. S. Pramanick, Professor of Sociology, C.U, Dr. J. Roy, Head of Department of Education, C.U, Dr. S.P. Bhattacharya, Dr. D. Sanyal, Dr. T.R. Mazumdar and Dr. P.K. Chakraborty, all Readers in Education, Calcutta University.

Three points have been kept in mind in preparing the items-

i Simple language
ii Simple situation
iii Bias free statement

Initially, 40 items were prepared for attitude towards women's education, 60 items for attitude towards women, 32 items for traditionalism and 6 items each having 8 sub items for facilities. On the basis of the experts' opinion as also with a view to making positive and negative items balanced as far as possible, the revised scales consisted respectively of 38, 52 and 32 items. The items for the facilities, however, were not changed.

To point out pertinently, items were prepared in English and were translated into Hindi, to suit the target population.

Item Analysis - For item analysis, the researcher administered all the four scales on a sample of 200 students of an Intermediate College. Their scores were taken for each item and then, based on the magnitude of the total scores, their respective scores were arranged. For the three scales other than 'facilities' the High (H), and Low (L) groups were identified. Following the 27 percent rule, each group consisted of 54 persons. The t values were then calculated for each item, using the formula.
\[ t = \frac{X_H - X_L}{\sqrt{\frac{S_H^2}{N_H} + \frac{S_L^2}{N_L}}} \] for \( df = N_H + N_L - 2 \) 

(Edwards, 1957)

where, \( X \) = mean of the scores of \( H \) group for an item

\( X_L \) = mean of the scores of the \( L \) group for the item

\( S_H \) = SD of the scores of the \( H \) group for the item

\( S_L \) = SD of the scores of the \( L \) group for the item

In this case,

\( N_H \) = Number of cases in \( H \)

\( N_L \) = Number of cases in \( L \)

\( N = N_H + N_L = 54 \)

Items having \( t \) values not insignificant at .05 level of significance were rejected (Tables 4.1 through 4.3). Items retained in the final form of tests are, Attitude towards

Women's education - 36
Attitude towards women - 50
Traditionalism - 32.

**RESPONSE MODE**

The subjects respond to each item in the three attitude-scales, by ticking one of the five Likert type alternatives—Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD). For the scale on 'C', the subjects have to tick either 'Yes' or 'No' depending on the availability of the educational facility mentioned.
SCORING

Items are scored on the basis of a scoring key (Appendix). In case of unfavourable items, the alternatives are weighted in the order 1 (Strongly agree) to 5 (Strongly disagree), and in case of favourable items, each item alternative is assigned a weight ranging from 5 (Strongly agree) to 1 (Strongly disagree). For the scale on 'C', the answer 'Yes' is weighted 1 and the answer 'No' is weighted 0 (zero).

To point out pertinently, high scores in WE, W and T scales are to denote favourable attitude towards Women's education and women, but less liberal more tradition bound attitude. Theoretically, the range of scores for the scales should be:

<table>
<thead>
<tr>
<th>Scale</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>WE</td>
<td>36</td>
<td>180</td>
</tr>
<tr>
<td>W</td>
<td>50</td>
<td>250</td>
</tr>
<tr>
<td>T</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>C</td>
<td>0</td>
<td>40</td>
</tr>
<tr>
<td>S (Rural)</td>
<td>11</td>
<td>90</td>
</tr>
<tr>
<td>U (Urban)</td>
<td>10</td>
<td>320</td>
</tr>
</tbody>
</table>

RELIABILITY AND VALIDITY

The three attitude scales as also the scale on 'facilities' have content as also consensus validity of a body of experts. The respective internal consistency reliabilities of the three attitude scales have been computed by using the coefficient (Nunnally, 1981) given for a K item test:

\[ r = \frac{K}{K - 1} \left(1 - \frac{\sum i s_i^2}{S^2}\right) \]

where:

- \( r \) = the test-retest reliability
- \( K \) = the number of items
- \( \sum i s_i^2 \) = the variance of an item
- \( S^2 \) = the variance for the test

The values are found to be 0.83, 0.80 and 0.77 respectively. The test-retest reliabilities of the scale obtained, after an interval of one month. On a sample of 100 are 0.74, 0.76 and 0.72 respectively. For the scale on 'C', the test-retest reliability taken on a sample of 100 after an interval of one month is 0.78.

4.22 SOCIO ECONOMIC STATUS SCALE (RURAL)

As pointed out in section 4.2, Kulshrestha's Urban (1987) and Rural (1980) SES Scales were found suitable as the author of both the rural and urban scales was the same person, and almost the same number and type of indicators or variables have been considered in both the scales.
**RURAL SCALE**

The scale is designed to measure the socio-economic status of rural families. It contains 20 items. The scale collects information regarding the following component variables:

1. Parental and Siblings' occupation
2. Parental and Siblings' education
3. Economic indicators
4. Cultured indicators,
and 5. Psychological indicators.

**STANDARDIZATION**

The scale has been standardized on a total sample of size 1900 at successive stages and locale was some parts of the state of Uttar Pradesh, particularly the western and northwestern parts.

**RESPONSE MODE**

The subject is supposed to tick (√) the correct answer for due information. Each item contains a number of choices. Whichever choice is applicable to the subject, is marked with a tick.

**SCORING**

The scoring key summarizes the informations recorded on the scale. The weightage of each item is given on the transparent key which is used in a most convenient manner. The key is put on the scale and the scores mentioned above each box ticked are added. At the end of the scale, the scores for all the pages are added as the Grand Total.

**RELIABILITY**

The reliability as calculated during standardization by using test-retest method within a short interval of one month on 50 villagers.

**VALIDITY**

The scale has content validity, as the items of the scale are collected as a result of interviews with the farmers, other villagers, experts etc., and thus the universe of the concept was covered widely. Pareek and Trivedi's Socio-economic Status Scale (Rural) was also applied to 50 villagers. The coefficient of correlation was .81 and this indicates the concurrent validity of the scale (Kulshrestha, 1980).
NORMS

The manual indicates assigning the categories the norms were calculated by administering the scale on 500 villagers near Delhi. The distribution of the sample ranges - 2.5 \( \bar{S} \) to + 2.5 \( \bar{S} \).

It was divided in sten units taking .5 \( \bar{S} \) as the unit. Then the socio-economic variable was divided into three categories. The 5 middle stens were taken to represent the average rural population and the extreme two were taken to represent upper and lower class rural families.

The converted standard score norms into raw scores are given below:

<table>
<thead>
<tr>
<th>Distribution of raw scores</th>
<th>Status Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 &amp; above</td>
<td>High</td>
</tr>
<tr>
<td>60 to 110</td>
<td>Average</td>
</tr>
<tr>
<td>below 60</td>
<td>Low</td>
</tr>
</tbody>
</table>

To point out pertinently, no mean and standard deviation for the normative group has been mentioned in the manual.

4.23 SOCIO-ECONOMIC STATUS SCALE - URBAN

This scale is designed to measure Socio-economic Status of urban families. It contains 20 items. Information is collected, regarding the following component variables.

- Parental and Siblings' occupation
- Parental and Siblings' general education
- Parental and Siblings' technical education
- Economic indicators
- Cultural indicators
- Psychological indicators

SAMPLE OF THE SCALE

It is indicated from the manual (Kulshrestha, 1987) that while revising the scale, it was administered first to 700 students of class X to graduate level of U.P only, and then to 1000 students of the same grade of Agra, Lucknow, Kanpur, Allahabad, Meerut and Dehradun and Agra.

RESPONSE MODE

This scale is a verbal scale. It can be administered individually as well as in groups also. The informations may also be collected through scriple interviews. If the subject himself fills the information he is supposed to put a tick (\( \checkmark \)) for the due information.
SCORING

The scoring key summarises the information recorded on the scale. The weightage of each item has been written on the transparent key which may be used in most convenient manner. The key is put on the scale and the scores mentioned above each box ticked, are added. The scores on each sheet are added to get a grand total of the scores.

RELIABILITY

The reliability of the scale was calculated by the test-retest method. The scale was administered on 100 subjects of Bikaner city, at two different times with an interval of 10 days. The coefficient of correlation was found to be 0.87.

VALIDITY

The opinion of 5 sociologists, 5 psychologists, 5 economists and 5 educationists was sought and they found the scale valid for the purpose. Thus, the scale possesses content and construct validity. The validity was also calculated by comparing the scale with Dr. Kuppuswami's and Pandey's socio-economic status questionnaire. The coefficient of correlations were found to be 0.57 and 0.89 respectively (Kulshrestha, 1987). Mean and S.D. for the normative group is not mentioned in the manual.

NORMS

The norms are given below:

<table>
<thead>
<tr>
<th>Distribution of Raw Scores</th>
<th>Cutting points in Sigma Units</th>
<th>Status Category (S.E.S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>223 &amp; above</td>
<td>+ 1.5</td>
<td>High</td>
</tr>
<tr>
<td>108 to 223</td>
<td>- .5 to + 1.5</td>
<td>Average</td>
</tr>
<tr>
<td>Below 108</td>
<td>- .5</td>
<td>Low</td>
</tr>
</tbody>
</table>
4.3 SAMPLING

As the study attempts at probing into the nature and determination of attitude towards women's education, the sample needs to represent the people of the area of Chamoli. For this a stratified random sampling design was necessary, but during field work it was felt that because of inaccessibility of the region, the usual time bar associated with Ph.D. registration, expenditure involved in a research project of this magnitude, and personal security of the researcher who is a woman, a compromise had to be made between the academic need and associated obstacles and a stratified sample of convenience was chosen for the survey, with the criteria of area (rural-urban), caste and sex.

4.31 SAMPLING PROCEDURE

The procedure is described in two broad steps as mentioned below:

Step 1 : Groups defined - Two broad categories of people have been considered in this study - urban inhabitants and rural inhabitants. The urban inhabitants can be defined as those people inhabiting the town of Chamoli like Karnprayag, Gopeswar, Simli, Gauchar and Joshimath. The rural group pertains to the people staying in villages. Both the urban and rural groups are further subdivided on the basis of sex, caste and status (student, non-student).

Step 2 : Sampling - Fully aware of the fact that social scientists seldom get voluntary co-operation from concerned corners, and also taking into consideration the remoteness and inaccessibility of the hilly terrain of Chamoli, help was taken from the Development Commissioner of Pauri, Sri M.P. Gairola, the Block Development Officer at Karnprayag, Srimati Bachchisa Devi and some volunteers posted in the farflung villages. The volunteers were properly educated about the nature and purpose of the study, the nature of the tools, procedures of test administrations and data collection by the researcher.
4.32 SAMPLE CHARACTERISTICS

Age of the sample ranges from 16 years and above up to 60.

Locale of the sample is the towns of Gauchar and Karnprayag and six villages in the Tehsils of Karnprayag, Joshimath and Chamoli. The castes covered in the sample are Brahmin, Rajput and other castes i.e., Doms, Baniyas and Khasiyas (Section 1.41). The sample composition is as given below:

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th></th>
<th>Urban</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Brahmin</td>
<td>67</td>
<td>65</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>Rajput</td>
<td>67</td>
<td>67</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>Other Caste</td>
<td>65</td>
<td>59</td>
<td>51</td>
<td>50</td>
</tr>
<tr>
<td>Students</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Total :</td>
<td>249</td>
<td>241</td>
<td>251</td>
<td>250</td>
</tr>
</tbody>
</table>

Grand Total : 991

4.4 ADMINISTERING OF TOOLS

For administering the tools, the researcher took verbal interrogation of those subjects who were illiterate and handed answer sheets to those who could read and write.

The following set of instructions were read out to the subjects: "This questionnaire attempts to assess your attitudes towards women's education, women, traditionalism and your awareness of the educational facilities available in your locality. There is considerable disagreement as to what these attitudes should be. So there is no right or wrong answers nor are the answers good or bad. Read or hear each statement carefully and decide what you feel about it. The first impression that occurs in your mind is the answer. If you strongly agree, please tick (√) the number corresponding to (Strongly Agree), and if you disagree, tick the number corresponding to (Disagree), and so on. For the scale on facility, you will tick against either 'yes' or 'no' depending upon the availability of the item. Your answers will be kept confidential. Be sure to respond to each item."
ADMINISTERING OF SESS

The subjects were given the following set of instructions as suggested in Kulshrestha (1980,1987) - "This questionnaire is intended to find some information about your family. The information given by you will be kept confidential. There are various choices given for each question. You are to tick only those answers that are relevant in your case".

Administration over, the answer sheets were collected. The whole process took some one to one and half hours. For the illiterate, the time required was about forty five minutes.

4.5 ADMINISTERING OF INTERVIEW

For the purpose of better insight into the attitudes of the people, a structured interview schedule, framed in consultation with Dr.P.Som, was administered to 500 subjects by the researcher herself. The questions of the interview are given in the appendix. The interviews were taken more as an informal conversation, in houses and verandahs of the subjects. The places where the researcher conducted interviews were Gauchar, Kaleswar, Langasu and Karnprayag.