CHAPTER - IV

RESEARCH METHODOLOGY

4.1 Research Design

Reliability and validity of the research require the planning of inquiry i.e. the detailed strategy of how the research will be conducted. It depends on two aspects of research designing: first, specifying what to find out, i.e., properly posing the problem to be studied and second, determining how to do, i.e., collecting data through scientific and appropriate methods, applying effective techniques of data analysis and rationale and meaningful deduction(s). In other words, a research design is not highly specific plan to be followed without deviation but a series of guide-post to keep one headed in right direction. In this project, the research design is primarily based on the research methodology to achieve the aims and objective of the study. The methodology of this study constitutes types of study, universe of the study, sampling design including sample and sample size, construction of schedule and questionnaire, data collection, analysis of the data, interpretation of results and reporting of findings.

4.2 Type of Study

The present study is an exploratory research. Exploratory research is often conducted when a problem is not clearly defined or its real scope is not clear. This research is also undertaken when there is not enough information available about the research subject. In certain cases it is undertaken to provide a basis for future research, for example to define certain concepts, to formulate hypothesis or to operationalise variables.
Exploratory research to a great extent relies on secondary research such as reviewing available literature and/or data, or qualitative approaches such as informal discussion or more formal approaches through interviews, focus groups, case studies etc. Young described three methods of investigation in an exploratory research:

(i) Review of related social sciences and investigation through available literatures.
(ii) Survey of people who have experienced problems.
(iii) Analysis of insights stimulating examples.

Thus, exploratory research is a broad ranging, purposive, systemic undertaking designed to maximize the discovery of generalization leading to description and undertaking of an area of social or psychological life. It is a distinctive way of conducting research; a special methodological approach and a pervasive personal orientation of the explorer. The emergent generalization are many and varied, they include descriptive facts, folk concepts, social process, beliefs and belief system. This methodology is an attempt to unearth a theory from the data rather than a pre-disposed hypothesis.

The purpose of the present study is to find out the causes of variation in the acceptance pattern of the family planning among the married couple of three different ethnic communities of Goalpara district.

4.3 Universe of the Study:

In research, the term “universe” is use to designate the entire set or objects or individuals of concern to a research study, from which sample is drawn. In simple words, we can define universe as a large number of objects or individuals who are related to the specific problem under investigation. In this project, married couples within the reproductive age group 15-49 year belonging to Assamese Caste Hindus, Boro Kachari tribe and Muslim
population spreading in nine villages of Goalpara district of Assam constitute the universe of the study.

Table 9: List of selected villages constituting the universe of the study

<table>
<thead>
<tr>
<th>Name of the villages</th>
<th>Revenue circles of Goalpara District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Khara</td>
<td>Dudhnoi</td>
</tr>
<tr>
<td>Thekasu Part I</td>
<td>Dudhnoi</td>
</tr>
<tr>
<td>Thekasu Part II</td>
<td>Dudhnoi</td>
</tr>
<tr>
<td>Sialmari</td>
<td>Dudhnoi</td>
</tr>
<tr>
<td>Dohela</td>
<td>Matia</td>
</tr>
<tr>
<td>Sutarpara</td>
<td>Matia</td>
</tr>
<tr>
<td>Uportola</td>
<td>Matia</td>
</tr>
<tr>
<td>Darrangiri</td>
<td>Rangjuli</td>
</tr>
<tr>
<td>Madang</td>
<td>Rangjuli</td>
</tr>
</tbody>
</table>

4.4 Sampling Design

A large population cannot be studied in its entirety for reasons of size, time, cost or inaccessibility. The basic purposes of sampling are:

(i) Population in many cases may be so large scattered that a complete coverage may not be possible.

(ii) It offers a high degree of accuracy because it deals with a small number of persons.

(iii) In short period of time valid and comparable results can be obtained.

(iv) It is economical since it contains fewer people.

The principle behind sampling is that we seek knowledge about the total units (universe or population) by observing a few units (called sample) and extend our inferences about the sample to the entire population. Since the
focus of the present study is to study family planning practices and causes of
variation among the three different ethnic groups of Goalpara district, a
household survey was conducted to generate maximum information. The
sampling method used in this study was mainly purposive, because the
selection of the villages was based on the population composition, comprising
the three target population. Although after selection of study areas, simple
random sampling method was employed for selecting the respondents.

4.5 Sample and the Size

A sample is an aggregate of people, objects or elements drawn from a
larger population. This sample must be the valid representation of the
population having same basic characteristics of the population from which it
is drawn. The goal of scientific research is to identify and collect data from
these samples and then to generate resources and valid conclusion
(Weathington et.al.). In defining population from which the sample is taken, it
is necessary to identify a target population and sampling frame. The target
population is one which includes all the persons (or units) from which the
information is required. For making the target population operational, the
sampling frame needs to be constructed. It should be noted that sampling
frame is not a sample, rather it is the operational definition of the population
that provides the basis for sampling. Thus, the sample frame reduces the
number of total population and gives us the target population. For the present
study a large number of indicators are to be considered pertaining to ever
married women in the reproductive ages of 15-49 years. For each three
communities 300 respondents are selected to constitute the sample size.

4.6 Selection of the Respondents

Selecting right respondent for collection of data is the most important
aspect of the research. In this study the criteria for selecting respondent were
fixed. For collection of information on family planning the respondents are
ever married couples of child bearing age i.e. 15 to 49 year. Both husband and
wife or either one of them, preferably wife was chosen as respondent. The respondents to be interviewed are selected with equal probability in each area using systematic sampling.

4.7 Methods of Data Collection

Data collection technique allows us to systematically collect information about our objects of the study and about the settings in which they occur. In the collection of the data we have to be systematic. For the purpose of data collection the instrument suitable for operation of research is used. In this study the main tool of data collection was the questionnaire. The fieldwork for the study was carried out in between July 2009 and June 2010 in three phases. In first phase, the fieldwork was carried out among the Boro Kachari and the Assamese Caste Hindus and in last phase, the data were collected from Muslim population.

4.8 The Questionnaire

A comprehensive questionnaire was developed, encompassing almost all aspect of the study. For the study two types of questionnaire was framed i.e. Household questionnaire and Couple questionnaire. The household and the couple’s questionnaire consist of 45 questions and sought information on different aspects of the family planning behavior of the three populations. The Household questionnaire contains questions on family size, occupation, educational qualification, marital status related questions like age at marriage, history of retrospective births, caste and religion, household amenities like electricity, water supply, drainage system, radio, television, newspaper, etc. The couple questionnaire was designed in such a way that easy and factual questions were placed in the first part. The first part of the questionnaire consist of questions pertaining to family characteristics, that includes birth order, succeeding birth intervals, desire for children, number of living and
death children, sex preferences, abortions, etc. whereas, the last part deals with focal questions related to family planning. It includes:

(i) Questions on attitude, practice and knowledge of family planning, used and disused of contraceptives and the types of contraceptives used.

(ii) Questions on the role of family members, including husband in determining the family planning behavior of the couple.

(iii) Questions on information related to causes of acceptance and rejection of family planning.

(iv) Question on the accessibility of the family planning centers, place of delivery etc.

(v) Questions on the role of health workers, mass media, etc. in propagating awareness about family planning.

However, there are certain sensitive issues which cannot be answered through questionnaires and interview schedule. Such information was collected by ensuring the confidentiality of the data obtained. The questionnaire was printed in both Assamese and English for better communication with the respondents.

4.9 Pretesting of the Questionnaire.

To design a perfect questionnaire it is almost impossible. Many issues and topics of family planning are sensitive and confidential. Therefore, maximum care was taken to design the question formats to improve the response and accuracy on the queries of the topics. Instead of short questions, in sensitive topics, long questions were placed to make the respondents more comfortable. Therefore, to determine the effectiveness of the questionnaire, it was pretested before the beginning of the actual field work. Participating in pretest which involves an interview setting with the respondents was carried out in five families of each community. The questions were asked to the respondents and their reaction is recorded. Based on the feedback, few
questions are omitted and few are added to improve the functionality and efficiency of the questionnaire.

4.10 Techniques of Data Analysis

Data collection is always followed by data analysis. It is a method of converting raw data into meaningful statements in order to achieve the answers of the research questions. Information gathered in the field survey always varies in nature and quantity. Therefore before analyzing the data, data processing is the important part of research work which involves checking and editing data. Checking of data was carried out to the maximum possible extent in to make the study error free. Though editing of data was started during field work, yet most of the coding and editing like translating answers into numerical values, forming categories, assigning numbers to various categories etc. are done after completion of field work.

Distribution of data is another important part of data processing. In this study frequency distribution which involves comparison of frequency and percentage distribution was carried out as per requirement of the research work. After editing and distribution of data, the data were arranged into tabular form for further statistical analysis. In this study 54 tables are presented for proper understanding of the research question.

The data analysis actually starts after tabulation of data. The data analysis was carried out by using basic statistics. In this study, simple statistical techniques such as Chi square test have been applied to measure the association of the variables.

Chi-square test is used to determine whether there is an association between statistically generated expected frequencies and the observed frequencies in one or more categories. The level of significance is set at 0.05. The chi-square is manually computed by applying formula
\[ \chi^2 = \sum \frac{(f_o - f_e)^2}{f_e} \]

Where, \( \chi^2 \) is the chi-square value
\( f_o \) is the observed frequency
\( f_e \) is the expected frequencies and
\( \sum \) is the total sum.

After the application of chi-square, the calculated results are compared with the tabulated degree of freedom. If the calculated value is higher than the tabulated value, then the hypothesis is accepted and if it is less than the table value, the hypothesis is rejected.

Degree of freedom (df) are the number of values in a distribution that are free to vary after any static. The df are equal to the number of independent observation (n) or the number of parameters in the data, minus the number of parameters estimated. From a contingency table, the formula for calculating degree of freedom is
\[ \text{Df} = (C-1)(R-1), \] where, C is the total number of columns and R is the total number of rows.