3.1 METHODOLOGY & RESEARCH DESIGN

Method is defined as orderliness and regularity or habitual practice of them in action. Research methodology involves systematic procedures starting from the initial identification of the problem to its final conclusions. Its role is to carry on the research work in a scientific and valid manner. It provides the tools and techniques by which the research problem is attacked. It consists of procedures and techniques for conducting study. It involves such general activities as identifying problems, review of the literature, formulating hypothesis, procedures for testing hypothesis, measurement, data collection, analysis of data, interpreting results and drawing conclusions. Thus, it consists of all general and specific activities of research. Research Methodology and Research Design have the identical meaning of mapping strategy of research.

The researcher needs to decide about the research method that he could use in his study only while he makes his planning process. Every researcher uses research method to conduct his study and same is of utmost importance in the research process. A thorough study of review of related literature paves the researcher the way towards right research methodology which is a must in any research work. Different factors are looked for selecting appropriate research method. Mainly the field of the research, purpose, place where research is conducted, data gathering devices employed, control of factors, character of the data collected, forms of
thinking and so on. Research methodology is also known as Research Design which refers to the plan of action for carrying out research problem. Research design is the conceptual framework within which the whole research is accomplished.

Stated in simple language, a research design is a plan of action, a plan for collecting and analyzing data in an economic, efficient and relevant manner. Research design plans as to: what is to be observed, how is to be observed, when/where is to be observed, why it is to be observed, how to record observations, how to analyze/interpret observations, and how to generalize. A research design could be constructed either to test a hypothesis or to give a cause-effect relationship to a situation. Whatever be the nature of the design, the following four general rules should be followed in planning a design: (1) Define the nature and scope of the problem, (2) Specify the related variables, (3) Exclude the variables not relevant to the study and (4) Start from a logical hypothesis.

George J. Mouly has classified research methods into three basic types: (1) The Descriptive Survey Method, (2) The Historical Method and (3) The Experimental Method.

### 3.2 METHOD OF THE STUDY

The present study has been conducted by applying the descriptive survey method of educational research. The nature of the present study best suits the said method because it is such a method which investigates into the conditions or relationships that exists, practices that prevail, beliefs, points of view or attitudes that are held, processes that are going on, influences that are being felt and trends that are developing. Descriptive survey method is designed to obtain pertinent and precise information concerning the current status of phenomena or attempts to describe and
interpret what exists at present and our present study has been demanded what
relations exist among different variables namely education of the rural people, their
family practices and consequently attainment of socio-economic status. Descriptive
survey method is concerned with the phenomena that are typical of the normal
conditions. It is an organized attempt to analyze, interpret and report the present
status of a social institution, group or area. It deals with a cross-section of the
present that is, present time, not the present moment. It seeks to answer the question,
“what are the real facts with regard to the existing conditions”.

The compound adjective ‘normative study’ is applied to this method in order to
suggest the two closely related aspects of this kind of study. The word ‘survey’
indicates the gathering of the data regarding current conditions. The word
‘normative’ is used because surveys are frequently made for the purpose of
ascertaining which is the normal or typical condition or practice. This method is
restricted not only to fact finding but may often result in the formulation of
important principles of knowledge and solution of significant problems concerning
local, state, national and international issues. Descriptive survey method is more
than just a collection of data; they involve measurement, classification, analysis,
comparison and interpretation. This method collects and provides three types of
information: (1) of what exists with respect to variables or conditions in a
situations; (2) of what we want by identifying standards or norms with which to
compare the present conditions or what experts consider to be desirable, and (3) of
how to achieve goals by exploring possible ways and means on the basis of the
experience of others or the opinions of experts.
Descriptive Survey method investigates phenomena in their natural setting. Their purpose is both immediate and long range.

3.3 POPULATION OF THE STUDY

‘Population’ refers to “all those people with the characteristics which the researcher wants to study within the context of a particular research problem”. The sum total or the aggregate of all units/cases that conform to some designated set of specifications is called the population. A population could be all students in the college, all patients in the hospital, all households in the village and so on. A population may be a group of people, houses, students, cultivators, customers and so on. When the population is relatively large and is physically not accessible, researchers survey only a sample. Population may be finite and infinite. The students in a college is finite population while the population of the heights, weights or ages of the people in the country is infinite population.

Population of the present study constitutes all the households of Kamrup (R) District. Households of all the married couples with at least one biological child fall under the population of the present study. There are 280269 households and 1037 inhabited villages in Kamrup district.

3.4 SAMPLE OF THE STUDY & SAMPLING PROCEDURE

A finite subset of the population, selected from it with the objective of investigating its properties is called a sample. A sample is a portion of people drawn from a larger population. Sample is representative of the population only if it has same basic characteristics of the population from which it is drawn. According to Manheim, “a
sample is a part of the population which is studied in order to make inferences about the whole population”.

In order to select the final samples for the present study the investigator applied Multi-Stage Stratified Random Sampling and Purposive Sampling Technique. However the present study is subjected to considerable variation in different strata and in that case Proportional Stratification method does not work well. Hence, In this case Disproportionate Stratified sampling has been taken where an equal number of items from each stratum irrespective of size is taken (Saha, K. Pp. 136, 2012).

In the first stage, Kamrup (Rural) district was purposively selected for the present study. In the second stage, 5 development blocks out of the total 14 blocks and a total of 40 villages (a 4% of the total 1037 inhabited villages of Kamrup District and an 11% of the total 360 villages in the said 5 blocks) from these 5 development blocks have been selected purposively to collect the required primary data through sample survey. The sample blocks were selected purposively from all geographical directions and locations of the district so that they can better represent the entire district. The sample villages were selected on the basis of some socio-economic factors such as illiteracy, adult literacy, housing condition, family size practices, category of work and percentage of population below poverty line and these second hand information had been provided by the respective revenue circle offices and also taken from District Census Handbook 2011(Kamrup). The sample villages have been uniformly distributed to the sample blocks i.e. 8 villages were taken from each block. In the third stage, the final sample units i.e. the sample households were taken randomly from the sample villages. A total of 120 sample households, 80 from
educated stratum and 40 from illiterate stratum were taken randomly from each 8 sample villages belonging to the particularly selected blocks. 10 sample households from educated stratum and 5 from illiterate stratum (altogether 15 households) were selected randomly from each sample village. Accordingly a total of 600 rural households (out of the total 3000 households in the 40 sample villages) have been considered as final sample for the study. The following schematic diagram shows sample breakage in details.

Fig: 3.1 Schematic Diagram showing distribution of sample

Total sample 600
(sample villages : 40)

- Rampur Block, 120 (8 sample villages)
- Rani Block, 120 (8 sample villages)
- Bezer Block, 120 (8 sample villages)
- Chomoria Block, 120 (8 sample villages)
- Hajo Block, 120 (8 sample villages)

Educated (80) Illiterate (40)

Educated (80) Illiterate (40)

Educated (80) Illiterate (40)

Educated (80) Illiterate (40)

(Total number of villages in the sample blocks & percentage of villages taken for the study have been found as— Rampur Block-60, 13%; Chamaria Block-88, 9%; Rani Block-69, 12%; Hajo Block-91, 9% & Bezer Block-52, 15%).

Grand Total villages in the sample blocks : 360.

Number of villages studied : 40 i.e. 11.11%.
Area wise sampling plan of the present study along with the sample blocks, villages and the households could be shown in the following table.

**Table : 3.1   Area wise sampling distribution**

<table>
<thead>
<tr>
<th>Dev. Blocks</th>
<th>Rampur Dev. Block (middle)</th>
<th>Chamaria Dev. Block (South-west)</th>
<th>Rani dev. Block (South-west)</th>
<th>Hajo Dev. Block (North-west)</th>
<th>Bezara Dev. Block (North-east)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subdivisions</td>
<td>Guwahati</td>
<td>Guwahati</td>
<td>Guwahati</td>
<td>Guwahati</td>
<td>Rangia</td>
</tr>
<tr>
<td>Revenue circles</td>
<td>Palasbari</td>
<td>Chamaria</td>
<td>Palasbari</td>
<td>Hajo</td>
<td>Kamalpur</td>
</tr>
<tr>
<td>Villages</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final Sample Households</td>
<td>Total = 120</td>
<td>Total = 120</td>
<td>Total = 120</td>
<td>Total = 120</td>
<td>Total = 120</td>
</tr>
<tr>
<td></td>
<td>Edu = 80</td>
<td>Edu = 80</td>
<td>Edu = 80</td>
<td>Edu = 80</td>
<td>Edu = 80</td>
</tr>
<tr>
<td></td>
<td>Illit = 40</td>
<td>Illit = 40</td>
<td>Illit = 40</td>
<td>Illit = 40</td>
<td>Illit = 40</td>
</tr>
</tbody>
</table>

**Grand total of Sample (educated= 400, illiterate= 200) = 600**
STRATIFICATION OF THE VARIABLES STUDIED

As the population and the samples have been collected from heterogeneous groups, the variables of the study also possess the same characteristics and the investigator divided the population and samples into a number of homogeneous strata for the sake of convenience of the study. The division of the population into homogeneous strata is based on one or more criteria, e.g., size of the family, attainment of educational level, socio-economic status and so on.

The major stratification of the variables of the present study could be represented in the following schematic diagram.

Fig : 3.2  Schematic Diagram showing stratification of variables.
DISTRIBUTION OF SAMPLE ACCORDING TO COMPLETE

STRATIFICATION OF VARIABLES

The following table shows complete stratification of according to variables and their distribution.

Table : 3.2  Distribution of sample as per stratification of variable.

<table>
<thead>
<tr>
<th>Socio-Economic Conditions</th>
<th>Levels of Education</th>
<th>Small family</th>
<th>Large family</th>
<th>Total</th>
<th>All Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>Level- 1</td>
<td>03</td>
<td>05</td>
<td>08</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Level- 2</td>
<td>06</td>
<td>11</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level- 3</td>
<td>11</td>
<td>13</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Illiterate</td>
<td>02</td>
<td>09</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Average</td>
<td>Level- 1</td>
<td>25</td>
<td>35</td>
<td>60</td>
<td>215</td>
</tr>
<tr>
<td></td>
<td>Level- 2</td>
<td>38</td>
<td>47</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level- 3</td>
<td>40</td>
<td>30</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Illiterate</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Low</td>
<td>Level- 1</td>
<td>14</td>
<td>64</td>
<td>78</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>Level- 2</td>
<td>08</td>
<td>32</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level- 3</td>
<td>09</td>
<td>09</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Illiterate</td>
<td>28</td>
<td>86</td>
<td>114</td>
<td>114</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>209</td>
<td>391</td>
<td>600</td>
<td>600</td>
</tr>
</tbody>
</table>

3.5 RESEARCH TOOLS & COLLECTION OF DATA

Application of a wide variety of tools enhances the authenticity of research. In order to collect Primary Data for the present study the investigator first selected and developed the following tools.
(1) The Socio-Economic Status Scale (SESS, 2009) by Rajeev Lochan Bharadwaj has been adopted with minor modifications (for better reflection of socio-economic condition) to determine the scores of socio-economic status and educational levels of the samples and to classify them as Higher, Average and Low socio-economic status as well as to classify as educational level-1, level-2, level-3 & Illiterate.

(2) Self Structured Questionnaire for the educated samples to determine the scores on family size perception.

(3) Self Structured Interview Schedule for the illiterate samples to determine the scores on family size perception.

(4) Personal Interview Schedule for both the educated and the illiterate samples to get some personal information such as reasons of pursuing or not pursuing schooling, parental influence on schooling, wife’s age at marriage etc.

In order to select the sample villages, the investigator first personally visited the respective revenue circle offices and collected the village lists with detailed information about the villages, viz. total number of literate and illiterate population, housing conditions and percentage of population below poverty line.

Secondly, the investigator visited the respective Block Offices to collect the total number of households in the sample villages. The total number of households in the sample villages have been found 3000. Out of those 3000 households 20% i.e., 600 households have finally been selected as sample for the present study. Before administering the tools, the respondents were cleared about the purpose of collecting data and they were told that the responses would be kept strictly confidential so that they would respond the tools without any hesitation.
The investigator did not collect data for the present study from broken family. In the case of joint family, the investigator collected data separately from each couple.

3.5.i DESCRIPTION OF RESEARCH TOOLS: SOCIO-ECONOMIC STATUS SCALE (SESS, 2009)

The present Socio-economic Status Scale has been constructed with a view to seek an idea about distinct aspects of social and economic condition of the respondents integrally and also their educational levels. The Socio-economic Status is obviously a blending of the two status. Socio-economic Status would be a ranking of an individual by the society he lives in, in terms of his material belongings and cultural possessions along with the degree of respect, power and influence he wields. The present scale measures two types of status of the respondents separately and integrally, namely—The Ascribed status and The Achieved status.

The present scale of Socio-economic Status has been developed for both educated and illiterate people. It can be administered on illiterate people only by personal interviews.

At preliminary state fifteen areas of Socio-economic condition were selected with the careful study of the relevant literature and from some popular tests in the field. Finally the experts pointed only seven areas to provide the desired information. Social, Family & food consumption, Education, Profession, Caste, Total Assets and Monthly Income are the seven areas. The respondents were asked to give responses for father, mother and himself (case) separately in the scale. This made the investigator know about ascribed socio-economic status as well as achieved socio-economic status of the samples.

**Reliability of the scale:** In order to have reliability coefficient, test and retest method has been applied. The present scale was administered on a total of 200
sample and after a 21 days the scale was again administered on the same sample. The correlation between two scores was calculated by Spearman-Brown formula. 0.76 was found as the reliability coefficient correlation.

**Administration of the Scale** : Administration of the scale is very simple. It is a self-administering scale. Each educated respondent was given a questionnaire sheet and asked to fill the same as per the instruction given. In case of the illiterate respondents the investigator cleared the items/questions before them and as per their answer the investigator himself filled the questionnaire sheet for them. No fixed time limit has been given for the respondents to answer the scale. However, a respondent consumed about 10 to 15 minutes to answer.

**Scoring of the scale** : Scoring of the test is very easy and of a quantitative type. Scoring key given with the manual provides the weightage score for each item. The items have alternatives and have only one weighted score which is obtained from the one where ticked mark is present. The total scores of each separate area are summed up and put in the big boxes given at the end of each area. Scores so obtained are interpreted with the help of T-scores and categorized as higher, average and low socio-economic status accordingly as per the table 3.3 given in the manual.

**Table :3.3**  Showing the ranges of Socio-economic status scores

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Category</th>
<th>Ranges of Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Higher Socio-economic status</td>
<td>60 and above</td>
</tr>
<tr>
<td>2.</td>
<td>Average Socio-economic status</td>
<td>40 – 59</td>
</tr>
<tr>
<td>3.</td>
<td>Low Socio-economic status</td>
<td>29 - 39</td>
</tr>
</tbody>
</table>
(2) Self Structured Questionnaire to determine the family size perception scores

Questionnaire on people’s perception towards family size is self structured interval ratio scale to determine the perception scores on family size. Number of live children to the respondents is also determined with the help of this tool. The questionnaire contains 12 items. Perception about family size is judged high or better with higher marks against each item.

The questionnaire has been constructed for both educated and illiterate people. The same has been administered on illiterate people by personal interview only.

Initially 20 items were selected to determine the perception towards family size but finally 08 items were discarded for those items had been found vague by the experts. Thus 12 items became the final items for the final questionnaire because these items showed their representativeness and consistency in determining the scores on family size perception.

Content validity: The investigator considered the content validity of the self structured questionnaire to measure the perception of the rural population towards family size. For this purpose, the investigator turned to three subject matter experts to consider whether the questions of the questionnaire could really measure what it was intended to measure. The investigator administered the questionnaire only after the subject matter experts had approved the same as fit for measuring the perception of the rural population towards family size.

Reliability: In order to have reliability coefficient, test and retest method has been applied. The present questionnaire was administered on a total of 100 sample and after a 21 days the questionnaire was again administered on the same sample. The correlation between two scores was calculated by Spearman-Brown formula. 0.79 was found as the reliability coefficient correlation.
Administration: Administration of the present questionnaire is very simple. It is a self-administering questionnaire. Each educated respondent was given a questionnaire sheet and asked to fill the same as per the instruction given. In case of the illiterate respondents the investigator cleared the items/questions before them and as per their responses he/she filled the questionnaire sheet for them. No fixed time limit has been given for the educated respondents to answer the questionnaire. However, a respondent consumed about 10 minutes to answer.

Scoring: Scoring procedure is very simple, comprehensive and of quantitative type. In order to determine the scores of the respondents, each item is assigned one numeral. If the response is highly agree, he should get 9 marks, if he is moderately agree, he will get 5 marks, and if he is least agree, he will get 1 mark. The marks so obtained are vertically summed up to get the individual final scores.

Personal Interview Schedule: Personal Interview is a two-way method that takes place between interviewee and interviewer to get some personal information. This interview schedule was administered individually for the sake of the interviewee. This made them feel free to respond correctly. This interview schedule is structured type. There are common as well as separate questions for both the educated and the illiterate interviewee. Three questions each for the educated and the illiterate samples and two common questions for both type of samples are there. The questions were asked in Yes/No form. Personal information like reasons of pursuing or not pursuing schooling of the respondents, their parental influence on schooling, their age at the time of collecting data of the present study and wife’s age at marriage were collected.
from both types of respondents viz. educated and illiterate through personal interview.

3.6 STATISTICAL TECHNIQUES

Analysis of data has been regarded as the most vital part of research work. The researcher framed some objectives, set research questions and formulated some hypotheses which centre round the whole study. It is analysis of data which helps achieve the objectives, obtain answers to the research questions and test the hypotheses.

When the researcher collects data through different tools, then they are nothing other than raw data and of no use at all for the research study. The researcher therefore needs to organize, classify and tabulate the collected data so that he can apply them as per his purpose with the help of different statistical techniques.

A variety of statistical techniques are used in any research study. In the present study the investigator used some common statistical techniques as follows—

i) Percentage

ii) Mean or Average

iii) Chi-square test for difference of Nominal Variable

iv) Chi-square test based measure ‘Cramer’s V’ or “Cramer’s Phi”

v) T-test and

vi) ANOVA

2. Research Methods by Ram Ahuja, p. 433.
3.7 PROBLEMS ENCOUNTERED DURING DATA COLLECTION

The investigator had encountered with some problems during the time of data collection of the present study. Some of the problems of that sort are listed below—

(1) Most of the village heads have been found ignorant about the exact total number of villages in his revenue village. So the investigator had to follow-up many times.

(2) Most of the lowly educated as well as the illiterate HSES group respondents are not at all willing to respond the questionnaire and personal interview. While the investigator approached them for the said purpose, they enquired what they would get in return and showed their total reluctance.

(3) Another problem has been encountered that some households looked very poor but while filling the questionnaire they have been found put in higher income level and higher role player in the society i.e., higher socio-economic status group. In that case the investigator consulted the matter again to have the final responses.