Adam said, “This is now bone of my bones and flesh of my flesh: She shall be called woman, because she was taken out of man”.

(Genesis, 2, 23)

Jis Qadar Qadro Manzilat (importance) Aurton ki Mazhabe Islam Mein Ki Gayee Hai, Un Ke Huqooq (Rights) Aur Un Ke Ikhtiyarat Ko Mardon Ke Barabar Kiya Hai, Isquadar Aajtak Kisi Taraqqi Yafqa Mulk Mein Nahin.

(Sir Sayyed Ahmad Khan)

3.1 INTRODUCTION

Research is an academic activity and is an endless quest for knowledge and truth. It brings to light new knowledge or corrects previous errors and misconceptions and adds knowledge to the existing body. The knowledge obtained by research is scientific and objective and is a matter of rational thinking, understanding, common verification and experiences.

Research, thus is a deliberate effort directed towards the solutions of a well defined problem, to collect information, to analyze it and discover the cause and effect relationships between variables. Hence, research can also be defined as “The systematic and objective analysis and recording of controlled observation that may lead to the development of generalizations, principles or theories, resulting, in prediction and possibly ultimate control of events”.

A research design is a blue print on which are based the various research operations to be conducted. It refers to the systematic scheduling of the times at which treatments are administered to subjects and at which observations are made of the performance of the subjects. This careful scheduling of the
treatments and observations can be very helpful in reducing the threats to internal validity.

Thus a research design is not a replacement for careful measurement, careful analysis and careful reasoning. It is rather an important component of the research process – of the process of establishing cause and effect relationships, by combining careful research design with appropriate measurement analysis and reasoning, we can strengthen the validity of the conclusions we can draw from our research efforts.

3.2 NEED FOR RESEARCH DESIGN

In a research, the type of design employed is of vital importance and is of critical nature, because it converts strategy into operational plan on which the work is based. The observations obtained from a carefully planned and well designed research gives valid inferences. Selection of a research design mainly depends upon the aims and objectives of the study, the types of independent and dependent variables and the conditions under which it is to be conducted. The design also deals with the method of sampling, collecting the data, using different types of tools and the types of statistical techniques of analyzing the data.

Thus a research design is needed as it facilitates the smooth sailing of the various research operations thereby making research as reliable as possible, yielding maximal information with minimum expenditure of efforts, time and money. This acts as a blue print for the work to be conducted.

3.3 PURPOSE OF RESEARCH

(1) **Fundamental / Basic Research:** An approach which often leads to knowledge for knowledge sake, is the approach of basic research. It is
usually carried out in a laboratory or other sterile environment, sometimes with animals.

(2) **Applied Research** has most of the characteristics of fundamental research, including the use of sampling techniques and the subsequent inferences about the target population. Its purpose is to improve a product/process – testing theoretical concepts in actual problem situation. Most educational research is applied research, for it attempts to develop generalizations about teaching – learning processes and instructional material. The said research is an applied research.

### 3.4 TYPES OF EDUCATIONAL RESEARCH

(1) **Historical Research:** It describes “what was”. The process involves investigating, recording, analyzing and interpreting the events of the past for the purpose of discovering generalization that are helpful in understanding the past and the present, and to a limited extent, in anticipating the future.

(2) **Experimental Research:** It describes “what will be”, when certain variables are carefully controlled or manipulated. The focus is on variable relationships.

(3) **Descriptive Research:** It describes “what is”, describing, recording, analyzing and interpreting conditions that exist. It involves some type of comparisons or contrast and attempts to discover relationships between existing non-manipulated variables.

The descriptive research studies have the following characteristics:

(i) They involve hypothesis formulation and testing.

(ii) They use the logical methods of inductive – deductive reasoning to arrive at generalizations.
(iii) They often employ methods of randomization so that error may be estimated when inferring population characteristics from observations of samples.

(iv) The variables and procedures are described as accurately and completely as possible so that the study can be replicated by other research.

(v) They are non-experimental, for they deal with the relationships between non-manipulated variables in a natural rather than artificial setting. Since the events or conditions have already occurred or exist, the researcher selects the relevant variables for an analysis of their relationship.

Descriptive research can be divided into two broad categories: (i) Quantitative research, and (ii) Qualitative research.

(3a) **Quantitative Descriptive Research:** It uses quantitative methods to describe what is, describing, recording, analyzing, and interpreting conditions that exists. It involves some type of comparison or contrast and attempts to discover relationships between existing non-manipulated variables. Some form of statistical analysis is used to describe the results of the study. This research is a quantitative descriptive research.

(3b) **Qualitative Descriptive Research:** It uses non-quantitative methods to describe what is. Qualitative descriptive research uses systematic procedures to discover non-quantifiable relationships between existing variables. This research is also a qualitative descriptive research, since the data is also gathered by interviews.

The method of this research is ‘Normative Survey Method’.

The normative enquiry implies conclusions. It stands with a conclusion and hunts for evidence to support it (Horton and Hunt, op cit: 12). The normative method of investigation raises an issue in such a way that the
conclusion is implied and then looks for evidences to support it. This research is a normative investigation. A good deal of scientific research is normative, for it is a search for evidence to support a conclusion already assumed. It is a procedure for obtaining knowledge based on empirical observation and logical reasoning. Survey is a systematic study of a particular community or a group is made for analyzing the issue/problem.

The researcher has selected normative survey method because,

(1) Normative survey method served as a stepping stone to more precise investigation.

(2) At its most element stage, the survey concerned with determining the immediate status of a given phenomenon.

(3) Although the major purpose of descriptive research in education is to tell “what is”, many surveys do not go beyond a mere description of the existing situation.

(4) Normative survey was often carried out a preliminary step, which is followed by research employing more vigorous controlled and objective methods.

(5) It secured historical perspective through a series of cross sectional pictures of similar conditions at different times.

(6) Normative survey served as a direct source of valuable knowledge concerning human behaviour.

(7) It contributed to the advancement of knowledge in many ways.

(8) Its purpose was to prepare a background for constructive programme of educational research as also the removal of evil thinking.

(9) It suggested the course of future development and gives pertinent data to the planning for the future.

There are different steps followed in descriptive research: (1) Selection of the problem, (2) Statement and definition of the problem, (3) Identification of data, (4) Selection or development of tool, (5) Selection of the sample, (6)
Collection of data, (7) Analysis and interpretation of data, and (8) Writing of the research report

Descriptive research seeks to find answers to questions through the analysis of variables relationship. What factors seem to be associated with certain occurrences, outcomes, conditions, or types of behaviour because, it is often impracticable or unethical to arrange occurrences, an analysis of past events or of already existing conditions may be the only feasible way to study causation. It may be referred to as correlational research.

The present study is purely descriptive, partly historical and partly evaluative. The research grew out of findings of the survey and provides the historical context in which the issues related to Muslim women such as, education, literacy, social legislations, socio-economic status, Purdah, Shariat, etc. The researcher also tried to understand the present educational and socio-economical status of Muslim women in Mumbai city by considering what had happened in the past, by referring to what has published in the past about their conditions in different countries, state, by reviewing the literature published in part in various magazines, theses, dissertations, newspapers, books, etc.

This study evaluates the status and role of Muslim women within the framework of their Indian environment, their religion and existing female conditions.

3.5 VARIABLES

Variables are the conditions or characteristics that the experimenter manipulates, controls, or observes. The independent variables are the conditions or characteristics that the experimenter manipulates or controls in his/her attempt to ascertain their relationship to observed phenomena. In the present study, the educational and socio-economical factors are independent variables. Here the educational factors considered are the levels of education, training
(professional), streams, parent’s and husband’s education. Socio-economical factors are age, marital status, sects, domiciled status, type of family, earning status, levels of income (family and self), etc.

The dependent variables are the condition or characteristics that appear / disappear; or change as the experimenter introduces, removes, or changes independent variables. In the present study, the women empowerment is the dependent variable. The researcher will observe the effect of levels of education (self) and also their parents/husband’s education on women empowerment, and also to what extent, these factors (Independent variables) affect/influences the quantum of women empowerment.

**Independent Variables** are of two types treatment and attribute variables. Treatment variables are those factors that the experimenter manipulates and to which she assigns subjects. Attribute variables are those that cannot be altered by the experimenter. Such as age, sex, race and intelligence level, but the experimenter can decide to include them or reverse them as variables to be studied.

**Confounding Variables** are those aspects of a study that might influence the dependent variable and whose effect may be confused with the effects of the independent variables. Confounding variables are of 2 types:

(a) **Intervening Variables**: Certain variable which cannot be controlled or measured directly may have an important effect upon the outcome. These variable intervene between cause and effect.

(b) **Extraneous Variables** are those uncontrolled variables, that may have a significant influence upon the results of a study. Extraneous variables can be controlled by removing the variable or by randomization. Here the researcher has selected a group of individuals by stratified random sampling method who are representative of the population about which the researcher wishes to generalize.
3.6 **DESIGN OF THE STUDY**

Design is the blueprint of the procedures that enables the researcher to test hypotheses by reaching valid conclusions about relationships between independent and dependent variables. The various steps involved are:

1. **Selection of the Problem**: Researcher has selected a problem for investigation. The area is selected by the researcher.

2. **Statement and Definition of the Problem**: The problem is stated in the form of a statement.

3. **Identification of Data**: The data collected by the researcher is of quantitative and qualitative nature. The data collected is in the form of counts and responses also.

4. **Identification of Variables**: The independent variables and dependent variables are identified.

5. **Development of the Test** (Women Empowerment Scale): The following steps were adopted for preparing the women empowerment scale.

   (a) **Item-Pool**: The researcher after identifying the variables in the present study, constructed the women empowerment scale. For this purpose, the researcher prepared number of statements. The items were related to the six dimensions of empowerment. The following are the dimensions selected by the researcher: (i) Educational empowerment, (ii) Economical, (iii) Social, (iv) Political, (v) Religious, and (vi) Familial.

   There were initially 65 statements and 6 open ended question. The test is a 5 point rating scale and a Questionnaire.
(b) **Validity of the Test:**

(i) **Face Validity:** For establishing validity the researcher herself went through each and every item carefully, scrutinized each item for relevance and comprehensibility. Each and every item was also discussed with the guide.

(ii) **Content Validity:** The content validity of the test was determined by obtaining opinion of 5 experts (refer Appendix I - 1 to 5) from the field of education who had a background of sociology, religious studies (Islam), economics and education. The statements were discussed with the experts, relevant items were selected. The test was revised with certain modifications. Now, the scale contained 54 items and 4 open ended questions.

(c) **Pre-Pilot Study:** The test was administered to a group of 25 women from all the wards of Greater Bombay. The purpose was to retain statements which has the highest validity and reliability.

(d) **Item Analysis:** Item analysis carried out in order to determine the item validity. The items which are answered by majority and had high variation in responses were retained. The items which has low variation are modified or eliminated (in few cases).

(e) **Reliability of the Test:** A test is reliable to the extent that it measure consistently what it measures. In tests, that have a high coefficient of reliability, errors of measurement are reduced to minimum. The test was again administered on 25 women. Stratified sampling method are used for selecting women.

(f) **Pilot Study:** Having established the validity. The reliability of the tool by test and re-test method was calculated by Chronbachs
alpha. The Chronbachs alpha was 0.931 (for the rating scales with 45 statements). This indicates the external consistency of the test.

(g) **Final Form of the Women Empowerment Scale:** After establishing the reliability and validity, the final form of the test was (45 statements and 3 questions) prepared. The scale covers 6 dimensions of empowerment:

(i) decisions related to education (1 - 4)

(ii) decisions related to social aspects (7, 12, 15 - 17, 19 - 21, 25 - 26, 30 - 36, 39 - 41)

(iii) decisions related to political issues (24 and 44)

(iv) decisions related to economical behaviour (5, 6-11, 27, 45)

(v) decisions related to familial issues (13, 14, 18, 22, 23, 38, 40, 42, 43)

(vi) decisions related to religious issues (28, 29, 37)

The statements for different Dimension of Empowerment are given here (few of them),

1) **Educational Empowerment:**
   (i) freedom to choose a professional course
   (ii) freedom to choose a college

2) **Economical Empowerment:**
   (i) I am forced to earn money by doing feminine job
   (ii) I am free to choose any employment as per my choice.

3) **Social Empowerment:**
   (i) I express openly my view points without any fear.
   (ii) I attend social functions of my choice.
4) **Political Empowerment:**
   (i) I have the freedom to exercise my voting rights.
   (ii) I decide my voting behaviour on my own.

5) **Religious Empowerment:**
   (i) I (will) tolerate if my husband takes up another wife without my permission.
   (ii) I (will) fight for my Meher right and obtain it at any cost.

6) **Familial Empowerment:**
   (i) My parents consult me regarding my marriage
   (ii) I have the freedom of maintaining privacy in my family.

**Scoring of the Test** (for 45 statements): for all positive statements 4-3-2-1-0 and for all negative statements 0-1-2-3-4 weightages assigned. The total weighted scores (for each woman) calculated by adding up all the weightages for the entire (items 1 to 45) rating scale. And this is considered as a women empowerment score of each woman. The women are then placed in 3 levels of empowerment,

\[
\begin{align*}
\geq M + 1\sigma & \quad \text{High level of empowerment} \\
\text{Between } M + 1\sigma & \text{ & } M - 1\sigma & \text{Moderate level of empowerment} \\
\leq M - 1\sigma & \quad \text{Low level of empowerment}
\end{align*}
\]

(6) **Selection of Groups:** The researcher adopted the stratified random sampling technique to select the groups for the study. The researcher has selected women from all the 24 wards. The stratification factors are age, S.E. status, educational background, residence (ward-wise), sects, etc.
Table 3.1 gives details of the women which formed the sampling unit for the present study.

**TABLE 3.1**

**DETAILS OF THE SAMPLE WOMEN WITH RESPECT TO WARDS**

<table>
<thead>
<tr>
<th>Wards</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>34</td>
</tr>
<tr>
<td>B</td>
<td>28</td>
</tr>
<tr>
<td>C</td>
<td>19</td>
</tr>
<tr>
<td>D</td>
<td>23</td>
</tr>
<tr>
<td>E</td>
<td>158</td>
</tr>
<tr>
<td>F (S &amp; N)</td>
<td>85</td>
</tr>
<tr>
<td>G (S &amp; N)</td>
<td>46</td>
</tr>
<tr>
<td>H (E &amp; W)</td>
<td>55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wards</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>K (E &amp; W)</td>
<td>92</td>
</tr>
<tr>
<td>L</td>
<td>104</td>
</tr>
<tr>
<td>M (E &amp; W)</td>
<td>113</td>
</tr>
<tr>
<td>N</td>
<td>104</td>
</tr>
<tr>
<td>P (N &amp; S)</td>
<td>65</td>
</tr>
<tr>
<td>R (N, S &amp; C)</td>
<td>41</td>
</tr>
<tr>
<td>S</td>
<td>20</td>
</tr>
<tr>
<td>T</td>
<td>13</td>
</tr>
</tbody>
</table>

Women chosen from 3 stratas of society, 266 from lower income group (self), 87 from middle income groups (s), and 71 from higher income group (s) 576 from no income group (self). Also 373 from lower income group (f), 291 from middle income group (f), and 336 from higher income group (f). Selected sample consist of women from low income group are poor labourers, middle income group women are teachers, clerks, etc. and women from higher income group are lecturers, executives, doctors, engineers, etc.

(7) **Administration of Pre-Test**: The researcher personally administered the pre-test in the month of June 2005.

(8) **Administration of Post-Test**: From July 2006 to December 2006, the women empowerment scale was administered. The sheets were collected and scored by the researcher. The 3 open ended questions were also analyzed.
(9) **Statistical Technique for Analysis:** In the present study, 2 types of analysis adopted.

(A) **Descriptive Analysis:** The measures of descriptive statistics are:

1. Measures of central tendency (mean and mean combined)
2. Measures of variability ($\sigma$)
3. Standard error of mean (SEM)
4. Percentages for 3 open ended questions.

(B) **Inferential Analysis:** The present study involves the following statistical techniques:

1. ‘t’ test for independent groups
2. Analysis of variance (ANOVA)
3. $X^2$ test (Pearson’s $X^2$)

3.7 **SCALING**

Quantification has been defined as a numerical method of describing observations of materials or characteristics. When a defined portion of the material or characteristics is used as a standard for measuring any sample, a valid and precise method of data description is provided. There are four levels of measurement:

1. **A Nominal Scale:** It describes differences between things by assigning them to categories – such as teachers, professors, etc., and male and female. They are counted data. Such categories nationality gender, socio-economic status, etc. are examples. The researcher has calculated chi-square by using a nominal scale. The process is classified and counted.

2. **An Ordinal Scale:** They differ in amount/degree. It permits ranking of items/individual from highest to lowest. They are ordered as $1^{st}$, $2^{nd}$, etc., in ranks. The researcher did not ranked individuals.
(3) **An Interval Scale:** An arbitrary scale based on equal units of measurements indicates how much of a given characteristics is present. The difference in amount of the characteristics possessed by persons with score of 90-91 is assumed to be equivalent to that between persons with scores of 60-61. It indicates the relative amount of trait. But it does not have the capacity to measure the complete absence of the trait, and a measure of 90 does not mean that a person has twice as much of the trait as someone with a score of 45. The psychological tests and inventories are interval scores and have this limitation although they can be added, subtracted, multiplied and divided. The women empowerment scale prepared by the researcher is based on an interval scale. The researcher has calculated t-test and ANOVA.

(4) **A Ratio Scale:** This scale has the equal interval properties of an interval scale but, it has true zero and the numerals have the qualities of real numbers and can be added, subtracted, multiplied, and divided and expressed in ratio relationships. In this study, the scale used by the researcher is not a ratio scale since there is no true zero.

**Systematizing Data Collection**

To aid in the recording of information gained through observations, a number of devices have been extensively used. Checklists and rating scales provide systematic means of summarizing or quantifying data collected by observation.

(1) **Checklist:** It is a prepared list of behaviours/items. The presence/absence of the behaviour may be indicated by checking yes/no… The researcher has not prepared a checklist, as there is no yes/no responses.

(2) **Rating Scales:** This involves qualitative description of a limited number of aspects of a thing or of traits of a person. The classification may be set
up in 5/7 categories. The researcher has prepared a 5 point rating scale in such terms as (1) always, (2) frequently, (3) sometimes (occasionally), (4) rarely and (5) never. There are 5 forms of rating scales: (i) Numerical rating scale, (ii) Graphic rating scale, (iii) Standard scale, (iv) Rating by cumulative points, and (v) Forced choice ratings.

The researcher has prepared a numerical rating scale for the study. The observer is not provided with number which he has to use in making judgments. He has to report in terms of descriptive cues and then the researcher assigns numbers to them. In this, a sequence of defined numbers is supplied to the rater/observer. The rater assigns to each positive stimulus, an appropriate weightage in line with these definitions (e.g., always – 4, frequently -3, occasionally – 2, rarely -1, never – 0).

The analytical tool used to assess the status of women need to be further refined if they are to be assess the status of women in minority community. In many situations the status and role of women in minority communities can be mis-represented when only one or the other factor is taken into account. This study by considering all 3 determinants of status that Muslim women are Indian, Muslim and women – has gone beyond the stereotype that was based on two determinants – Indian and women.

3.8 QUESTIONNAIRE

The general category of inquiry forms includes data gathering instruments through which respondents answer questions or respond to statements in writing. A questionnaire is used when factual information is desired. The questionnaire are of two forms:

(1) The Closed Form: Questionnaire that call for short, check-mark responses are known as the restricted or closed form type. Here, respondent marks a yes/no, write a short response or check an item from a
list of suggested responses. The researcher has not prepared a closed form of questions.

(2) **The Open Form**: This form calls for a free response in the respondent’s own words. This form provides for greater depth of response. The researcher has prepared questions (3) of open form. The question No.46, 47 and 48 are open ended questions.

**Characteristics of a Good Questionnaire**

(1) It deals with a significant topic, one the respondent will recognize as important enough to warrant spending his / her time on. The significance should be clearly and carefully stated on the questionnaire.

(2) It seeks only that information which cannot be obtained from other sources such as school reports or census data.

(3) It is as short as possible, and only long enough to get the essential data.

(4) It is attractive in appearance, neatly arranged, and clearly duplicated or printed.

(5) Directions should be clear and complete. Important terms are defined. Each question deals with single idea and is worded as simply and clearly as possible. Avoid asking two questions in one.

(6) The questions are objective, with no leading suggestions as to the responses desired.

(7) Questions are presented in psychological order, proceeding from general to more specific responses.

(8) It is easy to tabulate and interpret.

3.9 **TECHENIQUE – INTERVIEW**

The interview is in a sense an oral questionnaire. Instead of writing the responses, the subject or interviewee gives the needed information orally and face to face. With a skill-full interviewer, the interview is often superior to other
data gathering devices. One reason is that people are usually more willing to talk than to write. After the interviewer gains rapport with the subject, certain type of confidential information may be obtained that an individual might be reluctant to put in writing. Another advantage is that the interviewer can explain more explicitly, the purpose of investigation and just what information she wants. The relationship between interviewer and subject requires an expertness and sensitivity that might well be called an art.

The researcher interviewed 10 eminent, dynamic and active Muslim women in Mumbai city (Appendix III). They belonged to different spheres. The researcher interviewed a (1) Municipal Counsellor, (2) A Gynaec, (3) educationist, (4) Director, (5) Legal advisor, (6) Advocate, (7) Retired Joint Secretary, (8) President of an NGO, (9) Entrepreneur, (10) An Engineer, to establish the social, economic, educational and political conditions of the Muslim community in different areas of Mumbai city. Then responses were recorded. The questions were such that the subject can answer in her own words at some length without fear/hesitation. The interview taken was a semi structured interview. The researcher specifically used this technique to develop an understanding of the Muslim community and the changes taken place over the years in the Society and in the lives of Muslim Women of Mumbai.

3.10(A) SAMPLE AND SAMPLING TECHNIQUES

A sample is a small proportion of a population selected for observation and analysis. By observing the characteristics of the sample, one can make certain inferences about the characteristics of the population from which it is drawn. Samples are chosen in a systematically random way, so that chance or the operation of probability can be utilized.

The researcher has chosen sample randomly from different strata of community. It is called the, Stratified Random Sampling.
In this type, the population is divided into smaller homogeneous groups to get more accurate representation. The true sample of the Muslim women would approximate same relative number from each socio-economic level of the whole community in the Mumbai city. The stratification takes into account women from different socio-economical stratum.

3.10(B) **COMPOSITIONS**

**TABLE 3.2**  
**PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO WARDS**

<table>
<thead>
<tr>
<th>Wards</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3.4</td>
</tr>
<tr>
<td>B</td>
<td>2.8</td>
</tr>
<tr>
<td>C</td>
<td>1.9</td>
</tr>
<tr>
<td>D</td>
<td>2.3</td>
</tr>
<tr>
<td>E</td>
<td>15.8</td>
</tr>
<tr>
<td>F</td>
<td>8.5</td>
</tr>
<tr>
<td>G</td>
<td>4.6</td>
</tr>
<tr>
<td>H</td>
<td>5.5</td>
</tr>
<tr>
<td>K</td>
<td>9.2</td>
</tr>
<tr>
<td>L</td>
<td>10.4</td>
</tr>
<tr>
<td>M</td>
<td>11.3</td>
</tr>
<tr>
<td>N</td>
<td>10.4</td>
</tr>
<tr>
<td>P</td>
<td>6.5</td>
</tr>
<tr>
<td>R</td>
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</tr>
<tr>
<td>S</td>
<td>2.0</td>
</tr>
<tr>
<td>T</td>
<td>1.3</td>
</tr>
</tbody>
</table>

**FIGURE 3.1**  
**DISTRIBUTION OF SAMPLE WOMEN WITH RESPECT TO WARDS**
### TABLE 3.3
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO AGE GROUPS

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td>391</td>
<td>39.1</td>
</tr>
<tr>
<td>Middle</td>
<td>306</td>
<td>30.6</td>
</tr>
<tr>
<td>Higher</td>
<td>303</td>
<td>30.3</td>
</tr>
</tbody>
</table>

### FIGURE 3.2
DISTRIBUTION OF WOMEN WITH RESPECT TO AGE GROUPS

- **Lower**: 30.6%
- **Middle**: 39.1%
- **Higher**: 30.3%
### TABLE 3.4
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO LEVELS OF EDUCATION

<table>
<thead>
<tr>
<th>Levels of Education</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>149</td>
<td>14.9</td>
</tr>
<tr>
<td>Primary</td>
<td>150</td>
<td>15.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>168</td>
<td>16.8</td>
</tr>
<tr>
<td>Higher Secondary</td>
<td>152</td>
<td>15.2</td>
</tr>
<tr>
<td>Graduate</td>
<td>218</td>
<td>21.8</td>
</tr>
<tr>
<td>Post-Graduate</td>
<td>163</td>
<td>16.3</td>
</tr>
</tbody>
</table>

#### FIGURE 3.3
DISTRIBUTION OF WOMEN WITH RESPECT TO LEVELS OF EDUCATION
TABLE 3.5
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO PROFESSIONAL COURSES

<table>
<thead>
<tr>
<th>Professional Course</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Done</td>
<td>402</td>
<td>40.2</td>
</tr>
<tr>
<td>Not done</td>
<td>598</td>
<td>59.8</td>
</tr>
</tbody>
</table>

FIGURE 3.4
DISTRIBUTION OF WOMEN WITH RESPECT TO PROFESSIONAL COURSES
TABLE 3.6
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO STREAMS OF EDUCATION

<table>
<thead>
<tr>
<th>Streams</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Streams</td>
<td>455</td>
<td>45.5</td>
</tr>
<tr>
<td>Science</td>
<td>162</td>
<td>16.2</td>
</tr>
<tr>
<td>Arts</td>
<td>229</td>
<td>22.9</td>
</tr>
<tr>
<td>Commerce</td>
<td>154</td>
<td>15.4</td>
</tr>
</tbody>
</table>

FIGURE 3.5
DISTRIBUTION OF WOMEN WITH RESPECT TO STREAMS OF EDUCATION
### TABLE 3.7A
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO HUSBAND’S EDUCATION

<table>
<thead>
<tr>
<th>Husband’s Education</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literate</td>
<td>575</td>
<td>57.5</td>
</tr>
<tr>
<td>Illiterate</td>
<td>113</td>
<td>11.3</td>
</tr>
</tbody>
</table>

### FIGURE 3.6A
DISTRIBUTION OF WOMEN WITH RESPECT TO HUSBAND’S EDUCATION
TABLE 3.7B
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO FATHER’S EDUCATION

<table>
<thead>
<tr>
<th>Father’s Education</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>03</td>
<td>0.3</td>
</tr>
<tr>
<td>Literate</td>
<td>687</td>
<td>68.7</td>
</tr>
<tr>
<td>Illiterate</td>
<td>310</td>
<td>31.0</td>
</tr>
</tbody>
</table>

FIGURE 3.6B
DISTRIBUTION OF WOMEN WITH RESPECT TO FATHER’S EDUCATION
### TABLE 3.7C
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO MOTHER’S EDUCATION

<table>
<thead>
<tr>
<th>Mother’s Education</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>03</td>
<td>0.3</td>
</tr>
<tr>
<td>Literate</td>
<td>493</td>
<td>49.3</td>
</tr>
<tr>
<td>Illiterate</td>
<td>504</td>
<td>50.4</td>
</tr>
</tbody>
</table>

### FIGURE 3.6C
DISTRIBUTION OF WOMEN WITH RESPECT TO MOTHER’S EDUCATION

- Literate: 49.3%
- Illiterate: 50.4%
- Non-Literate: 0.3%

Legend:
- -
- Literate
- Illiterate
### TABLE 3.8
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO TYPE OF FAMILY

<table>
<thead>
<tr>
<th>Type of Family</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear</td>
<td>568</td>
<td>56.8</td>
</tr>
<tr>
<td>Joint</td>
<td>432</td>
<td>43.2</td>
</tr>
</tbody>
</table>

### FIGURE 3.7
DISTRIBUTION OF WOMEN WITH RESPECT TO TYPE OF FAMILY

- 56.8%
- 43.2%
### TABLE 3.9
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO SECTS

<table>
<thead>
<tr>
<th>Sects</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunni</td>
<td>660</td>
<td>66</td>
</tr>
<tr>
<td>Shia – Bohra</td>
<td>160</td>
<td>16</td>
</tr>
<tr>
<td>Shia - Khoja</td>
<td>180</td>
<td>18</td>
</tr>
</tbody>
</table>

### FIGURE 3.8
DISTRIBUTION OF WOMEN WITH RESPECT TO SECTS

- Sunni: 66.0%
- Shia - Bohra: 16.0%
- Shia - Khoja: 18.0%
TABLE 3.10
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO DOMICILED AND MIGRATED STATUS

<table>
<thead>
<tr>
<th>Domiciled Status</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migrated</td>
<td>257</td>
<td>25.7</td>
</tr>
<tr>
<td>Domiciled</td>
<td>743</td>
<td>74.3</td>
</tr>
</tbody>
</table>

FIGURE 3.9
DISTRIBUTION OF WOMEN WITH RESPECT TO DOMICILED AND MIGRATED STATUS

74.3%
25.7%

Migrated
Domiciled
### TABLE 3.11
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO MARITAL STATUS

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>532</td>
<td>53.2</td>
</tr>
<tr>
<td>Unmarried</td>
<td>299</td>
<td>29.9</td>
</tr>
<tr>
<td>Widow</td>
<td>61</td>
<td>6.1</td>
</tr>
<tr>
<td>Divorcee</td>
<td>62</td>
<td>6.2</td>
</tr>
<tr>
<td>Separated</td>
<td>46</td>
<td>4.6</td>
</tr>
</tbody>
</table>

### FIGURE 3.10
DISTRIBUTION OF WOMEN WITH RESPECT TO MARITAL STATUS

- Married: 53.2%
- Unmarried: 29.9%
- Widow: 6.1%
- Divorcee: 6.2%
- Separated: 4.6%
### TABLE 3.12
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO EARNING STATUS

<table>
<thead>
<tr>
<th>Earning Status</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earning</td>
<td>405</td>
<td>40.5</td>
</tr>
<tr>
<td>Non-Earning</td>
<td>595</td>
<td>59.5</td>
</tr>
</tbody>
</table>

#### FIGURE 3.11
DISTRIBUTION OF WOMEN WITH RESPECT TO EARNING STATUS

- **59.5%**
- **40.5%**

- **Earning**
- **Non-Earning**
### TABLE 3.13
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO INCOME (SELF)

<table>
<thead>
<tr>
<th>Income (Self)</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No income</td>
<td>576</td>
<td>57.6</td>
</tr>
<tr>
<td>Lower income group</td>
<td>266</td>
<td>26.6</td>
</tr>
<tr>
<td>Middle income group</td>
<td>87</td>
<td>8.7</td>
</tr>
<tr>
<td>Higher income group</td>
<td>71</td>
<td>7.1</td>
</tr>
</tbody>
</table>

### FIGURE 3.12
DISTRIBUTION OF WOMEN WITH RESPECT TO INCOME (SELF)
TABLE 3.14
PERCENTAGE DISTRIBUTION OF WOMEN WITH RESPECT TO INCOME (FAMILY)

<table>
<thead>
<tr>
<th>Income (Family)</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower income group</td>
<td>373</td>
<td>37.3</td>
</tr>
<tr>
<td>Middle income group</td>
<td>291</td>
<td>29.1</td>
</tr>
<tr>
<td>Higher income group</td>
<td>336</td>
<td>33.6</td>
</tr>
</tbody>
</table>
3.11 **LOCALE OF THE STUDY**

In the beginning, Bombay was an integral part of the Indian mainland. According to geologists, volcanic activity caused earth movements in this region long before the dawn of history and even before the advent of man on earth. A fault in the crust along the west coast resulted in the land to the west of fault line sinking into the sea. The harbour and island of Bombay would never have come into existence but for this volcanic activity.

From the dimness of the stone age, emerged the historic age when the Koli people of Gujrat, successors to the stone age men, occupied the 7 islands. They brought with them their patron goddess Mummai. The temple of Mummai / Mumbadevi, once stood on the sight of the present V.T. (now Shivaji Terminus) in the central island which was called Mumbai. The Portuguese called it Bombaim, and the English pronounced Bombay. The temple was shifted to its present place in Mumbadevi. A marathon struggle ensured between the Arabian sea that flowed from the western shores onto the land upto a point still known as Paidhoni, and the Government of Bombay that tried to shut its entry by putting up embankment after embankment at Worli. The sea wall, Hornby’s gift to the city helped to recover 1/3 of the land submerged under sea. The eastern and western shores were connected. The breach between Sion and Mahim was filled by 1720. Colaba one of the original 7 islands was not connected to the others until 1838. The 7 island were from South to North: (1) Colaba, (2) Old women’s island, (3) Bombay, (4) Mazagaon, (5) Parel – Sewri – Sion, (6) Mahim, (7) Worli (Figure 3.14 & 3.15 – Map of Island of Bombay and (Bombay and Surrounding Country about 1680). The Causeway built in 1838, was the final attempt to weld the 7 Islands into one (Figure 3.16 – The 7 Island of Bombay and the reclaimed land), G.B. island remained separated from Bandra and Salsette, until 1845. A terrible tragedy occurred in the Bandra creek in 1837 when 20 ferry boats carrying passengers and animals capsized. The incident stirred the hearts of Lady Jeejeebhoy, who decided to construct the Mahim
FIGURE 3.14
MAP OF THE ISLAND OF BOMBAY
FIGURE 3.15
BOMBAY AND SURROUNDING COUNTRY (1680)
FIGURE 3.16
THE SEVEN ISLAND OF BOMBAY AND THE RECLAIMED LAND
Causeway. Lady Jamshedji Road thus bridged Bombay and Salsette (Figure 3.17 – Map: A – G.B., Island City).

Bombay (now renamed as Mumbai) has been described as the most ‘city like city in India’, often called the New York of the East. It is literally the “Gateway” to India. This city, the “urbs prime” of India ranked 6th among the urban agglomerations of the world in terms of population in 1990 and is expected to rank 1st by 2015 AD. It is a capital of Maharashtra, the city is also the financial capital of India and a leading industrial, commercial centre. A large share of the major economic activities of the country are concentrated in it. It has a diversified and vigorous manufacturing sector which in 1981 generated 8.6% of the nation’s industrial jobs and 14.5% of the value added by manufacture. The exploitation of the off shore is oil fields such as Bombay High and the city’s key role in naval defense have enhanced its significance in the national context. The city occupies a nodal position in terms of sea, air and land routes and handles more than ¼ of the country’s foreign trade. The port handles 45% of Indian sea borne trade and accounts for ½ the revenue derived from such trade. In terms of air traffic the city handles 58% of the country’s international traffic and 38% of the domestic traffic. Greater Mumbai consist of 24 wards (Figure 3.18 – City and Ward Limits – Greater Bombay).

Mumbai is the stronghold of India’s private enterprise is the most attractive centre for foreign investment. This is reflected in the concentration of national and multinational firms and financial enterprises which in turn has resulted in the concentration of decision making through which city dominates a large area. Mumbai has 150 year old University of Mumbai, BMMP (B.M.C.), TIFR, BARC, IITs, VJTI, TISS, Reliance, BEST, Railways, etc. – also Bollywood. Thus Mumbai is a nerve centre of the Indian economy and constitutes vital lever in the task of developing the whole Indian economy. The density of population (in 1981 and 1991) is shows in the Map (Figure 3.19 – G.B.: Density of Population).
FIGURE 3.17
GREATER BOMBAY – ISLAND CITY (MAP – A)
FIGURE 3.18
GREATER BOMBAY – CITY AND WARDS LIMITS
(MAP – B)
FIGURE 3.19
GREATER BOMBAY – DENSITY OF POPULATION
### TABLE 3.15
VITAL STATISTICS OF MUMBAI (2002-03)

<table>
<thead>
<tr>
<th>Statistics of Mumbai</th>
<th>City</th>
<th>Suburbs</th>
<th>Extended Suburbs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area in Sq. Kms.</td>
<td>68.71</td>
<td>210.34</td>
<td>158.66</td>
<td>437.71</td>
</tr>
<tr>
<td>Population in lacs (2001 Census)</td>
<td>22.53</td>
<td>61.98</td>
<td>34.63</td>
<td>119.14</td>
</tr>
<tr>
<td>Density of Population per Sq.Kms.</td>
<td>56.00</td>
<td>22.00</td>
<td>20.00</td>
<td>98.00</td>
</tr>
<tr>
<td>Total live birth registered in 2000</td>
<td>56,840</td>
<td>85,260</td>
<td>60,900</td>
<td>2,03,000</td>
</tr>
<tr>
<td>Total death registered</td>
<td>34.501</td>
<td>31.591</td>
<td>21.207</td>
<td>87,299</td>
</tr>
<tr>
<td>Infant death rate per 1000 live birth</td>
<td>48</td>
<td>34</td>
<td>42</td>
<td>-</td>
</tr>
<tr>
<td>Maternal death per 1000 live birth</td>
<td>0.17</td>
<td>0.11</td>
<td>0.14</td>
<td>-</td>
</tr>
<tr>
<td>Pupils</td>
<td>1,31,538</td>
<td>2,13,914</td>
<td>1,94,488</td>
<td>-</td>
</tr>
<tr>
<td>Municipal Primary School</td>
<td>358</td>
<td>440</td>
<td>393</td>
<td>1191</td>
</tr>
<tr>
<td>Aided School</td>
<td>111</td>
<td>147</td>
<td>123</td>
<td>381</td>
</tr>
<tr>
<td>Unaided School</td>
<td>172</td>
<td>248</td>
<td>125</td>
<td>545</td>
</tr>
<tr>
<td>Teachers in BMC</td>
<td>3,523</td>
<td>5,193</td>
<td>4,960</td>
<td>13,685</td>
</tr>
</tbody>
</table>

### TABLE 3.16
TOTAL POPULATION OF GREATER MUMBAI (CENSUS 2001)
(Total Population of Greater Mumbai = 1,19,14,398)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,07,514</td>
<td>H/E</td>
<td>5,79,123</td>
<td>P/S</td>
<td>4,36,907</td>
</tr>
<tr>
<td>B</td>
<td>1,40,481</td>
<td>H/W</td>
<td>3,36,051</td>
<td>P/N</td>
<td>7,89,645</td>
</tr>
<tr>
<td>C</td>
<td>1,90,672</td>
<td>K/E</td>
<td>8,06,360</td>
<td>R/S</td>
<td>5,79,954</td>
</tr>
<tr>
<td>D</td>
<td>3,78,602</td>
<td>K/W</td>
<td>6,94,151</td>
<td>R/C</td>
<td>5,09,503</td>
</tr>
<tr>
<td>E</td>
<td>4,37,393</td>
<td>L</td>
<td>7,74,812</td>
<td>R/N</td>
<td>3,63,991</td>
</tr>
<tr>
<td>F/S</td>
<td>3,95,627</td>
<td>M/W</td>
<td>4,08,077</td>
<td>S</td>
<td>6,91,107</td>
</tr>
<tr>
<td>F/N</td>
<td>5,26,839</td>
<td>M/E</td>
<td>6,73,871</td>
<td>T</td>
<td>3,30,050</td>
</tr>
<tr>
<td>G/S</td>
<td>4,57,095</td>
<td>N</td>
<td>6,14,945</td>
<td></td>
<td></td>
</tr>
<tr>
<td>G/N</td>
<td>5,90,609</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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The Municipal administrative wards and their boundaries are as follows:

(1) **A Ward:** (East) - Docks Area, Ballard Estate, Shahid Bhagatsing Road, P.D’Mello Road. (West) - Marine Drive. (North) - Anandilal Poddar Marg, Lokhmanya Tilak Marg. (South) – Colaba.

(2) **B Ward:** (East) - Harbour with Docks and P. D’Mello Road. (West) – Abdul Rehman Street and Ebrahim Rahimtulla Road. (North) – Ramachandra Bhatt Marg, Jinabhai Mulji Rathod Marg, upto Harbour. (South) – Norht side of Likmanya Tilak Marg.

(3) **C Ward:** (East) - Ebrahim Rahimtulla Road and Abdul Rehaman Street. (West) - Sea line between Anandilal Poddar Marg, Babasaheb Jayakar Marg. (North) – Moulana Shaukatalli Road, Trimbak Parshuram Street, Ardshir Dady Street, Vittahlbhai Patel and Babasaheb Jayakar Marg. (South) – Likmanya Tilak Marg, Vasudeo Balvant Phadke Chowk and Anandilal Poddar Marg.

(4) **D Ward:** (East) – Vitthalbai Patel Road, Ardshir Dadi Street, Trimkab Parshuram Street, Shukhlaji Street. (West) – Netaji Subhash Road upto (Government Printing Press), Dr. Pruandare Marg, Band Stands Walkeshwar Road, Bhagwandas Indrajit Road, Bhulabhai Desai Road, Haji Ali. (North) – Jehangir Boman Behram Road, Arthur Road (Western railway line), Keshavrao Karve Marg to Haji Ali. (South) – Babasaheb Jayakar Marg (Junction of Bhuleshwar Road), Crossing Maharshi Karve Marg upto Sea.

(5) **E Ward:** (East) – Sea, Reay Road. (West) – Sane Guruji Road, Western Railway, Jehangir Boman Behram Road, Shukhaji Street. (North) – Dattaram Lad Marg. (South) – Ramchandra Bhatt Marg, Wadi Bunder, Maulana Shaukatali Road.
(6) **F/South Ward:** (East) – Sea. (West) – Central Railway. (North) – Mumbai Marathi Granth Sangrahalaya Marg and Road No.26, Scheme 57, Sewree Wadala Estate. (South) – Dattaram Lad Marg and Sewree Road.

(7) **F/North Ward:** (East) – Thane Creek. (West) – Central Railway. (North) – N.G. Mankikar Causeway. (South) – Mumbai Marathi Granth Sangrahalaya Marg and Road No.26, Scheme 57, there after Straight line upto Creek.

(8) **G/South Ward:** (East) – Central Railway. (West) – Sea. (North) – Sayani Road. (South) – Bapu Khade Marg, Sane Guruji Marg.

(9) **G/North Ward:** (East) – Central Railway along with Lal Bahadur Shastri Marg. (West) – Sea. (North) – Mahim Creek. (South) – Kakasaheb Gadhil Marg.

**Suburban and Extended Suburban Areas:**

(10) **H/East Ward:** (East) – Mithi River, CST Road, Santacruz (East). (West) – Western Railway Lines. (North) – Vileparle Subway, Bandra. (South) – Mahim Causeway, Dharavi Link Road.

(11) **H/West Ward:** (East) – Western Railway Lines. (West) – B.J. Road, Carter Road, Danda, East of S.N.D.T. University Campus. (North) – BEST Depot, S.V. Road, South of Nallah Passing through LIC Quarters. (South) – Mahim Causeway.

(12) **K/East Ward:** (East) – Mithi River, Culvert on Sir M.V. Road. (West) – Western Railway Tracks. (North) – Bandrekarwadi, Ram Nagar, Pratap Nagar, Jogeshwari (East). (South) – Makrand Ghanekar Marg, Vile Parle (East), Subway.
(13) **K/West Ward:** (East) – Western Railway. (West) – Sea. (North) – Oshiwara Bridge. (South) – Danda Creek, Juhu Aerodrome, Milan Subway and S.V. Road Junction on East side of S.V. Road and Juhu Aerodrome on West Side of S.V. Road.

(14) **L Ward:** (East) – Tansa Pipe line towards Chembur side, Vikhroli and Ghatkopar Hills. (West) – Mithi River. (North) – Powai. (South) – Sion Creek.

(15) **M/East Ward:** (North) – Thane Creek. (South) – Arabian Sea. (East) – Thane Creek. (West) – R.C. Marg, Nirankari Math joining with RCF township and C.G. Road upto Panjrapole junction and along Waman Tukaram Patil Marg and Central Railway Line upto Subhash Nagar. Nallah along the creek upto Eastern Express Highway.

(16) **M/West Ward:** (North) – Nallah between Chembur, Ghatkopar and Somaiya College. (South) – Arabian Sea. (East) – R.C. Marg, Nirankari Math joining with RCF Township and C.G. Road upto Panjrapole junction and along Waman Tukaram Patil Marg and Central Railway Lines upto Subhash Nagar Nallah and then along Creek upto Eastern Express Highway. (West) – Tansa Pipelines.

(17) **N Ward:** (East) – Thane Creek. (West) – From Netaji Palkar Marg along Ghatkopar and Vikhroli Hills upto Varsha Nagar Off Parksite Colony. (North) – From the end of Varsha Nagar along the Western Boundary of Godrej Co., 17th Road (Parksite Colony) along Lal Bahadur Shastri Marg, meeting Vikhroli Station. (West) – Upto Vikhroli Station and long Pherozesha Godrej Marg upto the Nallah and Thane Creek, South to Kannamwar Nagar. (South) – Netaji Palkar Marg, Khalai Village, Nathani Street Yard, South of Chittaranjan Nagar, Hindu Cemetery upto the Nallah near Ghatkopar Pumping Station.

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(18) **P/North Ward:** (East) – Eastern Boundary of village Kurar. (West) – Arabian Sea beyond Manori and Madh Islands. (North) – Goraswadi – Valani Village, Marve Road, COD East of Railway Lines. (South) – Boundary of Goregaon – Mulund Link Road, Govind Nagar Road, further extended towards West Chinchaval Bunder Road.

(19) **P/South Ward:** (East) – Eastern Boundary of Village Aarey. (West) – Malad Creek. (North) – N.L.arg upto Chinholi level crossing. (South) – Oshiwara Bridge, Bandrekarwadi.

(20) **R/North Ward:** (East) – ‘T’ Ward Boundary – West side. (West) – Municipal Boundary, Creek. (North) – Municipal Boundary, Dahisar Check Naka. (South) – R/Central Ward Boundary, (North side) Devidas Lane, Ashokwan, 60 D.P. Road towards Nancy Colony and Road Touching to Borivali Dahisar village.

(21) **R/Central Ward:** (East) – Sanjay Gandhi Rashtriya Udyan. (West) – Gorai Kulvem Manori Road, Gorai and Kulvem Villages. (North) – Devidas Lane touching No Development Zone on West side of proposed fly over bridge at Devidas Road, proposed 60 feet D.P. Road, leading to Nancy Colony, Borivali (East), Ashokwan further dividing line of Village Boundary of Borivali and Dahisar. (South) – 90 feet D.P. Road, North-East creed on the east.

(22) **R/South Ward:** (East) – Damupada, Hanuman Nagar. (West) – Charkop Village. (North) – Mahavir Nagar, Poisar river upto Western Railway Lines, FCI Godwons and Samta Nagar. (South) – bandongari, Military Depot, Khajuria Talao Road, Lala Lajpat Rai Road, Ganesh Nagar, MHADA.

(23) **S Ward:** (East) – Eastern Express Highway from Mulund Goregaon Link Road upto level crossing, Vikhroli including Kannamwar Nagar. (West)
– along the Boundaries of “L” and “K” wards. (North) – Mulund Goregaon Link Road upto old Tansa Pipeline and further along the catchement area of Vihar Lake. (South) – Along the Nalla South of Kannamwar Nagar upto the culvery further along the Vikhroli level Crossing Road upto L.B.S. Marg and along the West side of LBS Marg towards south upto the compound wall of Godrej Co. and all along the compound wall and finally along the ridge line hills which separates Ghatkopar and Powai village.

(24) **T Ward**: (East) – Thane Creek. (West) – Vihar Lake and Tulsi Lake. (North) – Boundary line Brihanmumbai. (South) – Goregaon Mulund Link Road.

In the Regional context, the Primacy of Mumbai in Maharashtra is unchallenged and its share in the state economy is staggering. Though it accounts for only 0.12% of the area of the State, over 13% of the population, 37% of the urban population, 48% of the registered working factories and 52% of the average daily employment in industries of the state are located in it. 87% of the joint stock companies of Maharashtra in Mumbai.

Several government agencies and the municipal authorities are involved in the city renewal programmes like Municipal Corporation of Greater Bombay, MHADA, BRRB. The state owned authorities operating in Mumbai are MWSSB, MSRTC, MSEB, CIDCO, KDO, MTNL, MSIDC, private bodies like Reliance, etc.

The mode of transport called the “lifeline of Mumbai” are local trains (Central Railways, Western Railways and Harbour Railways), public buses run by BEST, cars, taxis, rickshaws are also available. The suburban traffic in Mumbai i.e., number of passengers are 1581.2 million in Mumbai (Source: Annual Railway Statistical Publications, 1982-83) and it is growing today enormously.
Mumbai, the most cosmopolitan of the Indian cities, is a blend of the native east with the colonial west, of elitist past. The people of Mumbai speak different languages like Marathi, Hindi, Urdu, English, Gujarati, south Indian languages, etc. Religionwise Hindu are 66%, Muslims 20%, Parsis 6%, and Christians 5% and Jews 1%. The language spoken by majority are Marathi. The Muslim speaks Urdu and Hindustani (a combination of Hindi and Urdu).

The Muslim areas in Mumbai and Mumbai suburbs are Dongri-Umerkhadi (Ward B), Tardeo-Byculla-Nagpada-Agripada (Ward E), Sewri (Ward F), Kurla (Ward L), Vikhroli (Ward N), Mahim (Ward G), Bandra (Ward H), Deonar and Trombay (Ward M).

Apart from all the best points of Mumbai, it is also one of the problematic city in India. It is now groaning under the pressure of a multitude of problems, some of which have assumed really alarming proportion like, housing are very expensive – Mumbai is the most expensive city after New York. Commuting / traveling, electricity, drainage, water supply – all because it is a overpopulated city.

Figures fail to convey adequately the actual degree of congestion experienced in some of the closely built-up sections which are characterized by old and dilapidated buildings, lacking in essential amenities, dark and narrow streets and above all, by a virtue absence of open spaces. It is in such environment that a vast majority of the inhabitants of Mumbai live.

3.12 HYPOTHESES

The research hypothesis is a formal affirmative statement predicting a single research outcome, a tentative explanation of the relationship between two/more variables. For the hypothesis to be testable, the variables must be operationally defined. Thus, the hypothesis focuses the investigation on a definite target and determines what observations, or measures are to be used.
(A) **Null Hypotheses**

At the beginning of their study, researchers state an affirmative scientific or research hypothesis as a prediction of the outcome that they propose to test. Most often, this research hypothesis suggest that a difference of some kind will occur. The hypothesis is stated in Null form. This is called a null hypothesis. It asserts that observed differences or relationships merely results from chance errors inherent in the sampling process. It relates to a statistical method of interpreting conclusions about population characteristics that are inferred from the variable relationships observed in samples. If the researcher rejects the null hypothesis, he/she accepts the research hypothesis, concluding that the magnitude of the observed variable relationship is probably too great to attribute to sampling error.

(B) **Non-Directional Hypotheses**

Research hypotheses are classified as being directional or non-directional. The hypothesis which does not specify the direction of expected differences or relationships is a non-directional research hypothesis. For example, the hypothesis, “There is a significant difference in the levels of empowerment. Among Muslim women of Mumbai with different levels of education” is a non-directional hypothesis. The researcher has prepared non-directional hypotheses in this study.

(C) **Directional Hypotheses**

The hypothesis which specify the direction of expected differences or relationship is directional hypothesis. The researcher has not prepared a directional hypotheses.

3.13 **DESCRIPTIVE ANALYSIS**

**Descriptive Statistical Analysis:** It limits generalizations to the particular group of individuals observed. No conclusions are extended beyond
this group, and any similarity to those outside the group cannot be assumed. The data describe one group and that group only.

**Inferential Analysis** always involves the process of sampling and the selection of a small group that is assumed to be related to the population from which it is drawn. The small group is known as the sample, and the large group is population. Drawing conclusions about population based upon observations of samples is the purpose of inferential analyses.

**Types of Data**

**Parametric and non-parametric data:** In the application of statistical treatments, two types of data are recognized.

1. **Parametric Data:** Data of this type are measured data, and parametric statistical tests assumes that the data are normally or nearly normally distributed. Parametric tests are applied to both interval and ratio scaled data. The data which was gathered by the researcher is parametric data. The researcher has calculated t-test and ANOVA.

2. **Non Parametric Data:** Data of this type are either counted or rated. They are distribution free tests, do not rest upon the more stringent assumption of normally distributed population. The non-parametric statistics \( X^2 \) was also found appropriate and thus \( X^2 \) calculated.

**Statistical Measures**

Several basic types of statistical measures (i.e., measures of central tendency, measures of variability and measures of relationship) are found appropriate in describing and analyzing data in a meaningful way.

(A) **Measures of Central Tendency:**

   (i) **The Mean:** It is commonly understood as arithmetic average. It is perhaps the most familiar, most frequently used and well
understood average. It is computed by dividing the sum of all the scores by the number of scores.

(a) **Mean for the ungrouped data:**

\[ M = \frac{\Sigma X}{N} \]

Where \( X \) = Scores

(b) **Mean for the grouped data:**

\[ M = \text{A.M.} + \frac{\Sigma f \chi'}{N} \times i \]

Where
- \( M \) = Mean
- \( \Sigma \) = Sum of
- \( \chi \) = Scores in a distribution
- \( N \) = Number of scores
- A.M. = Assumed mean
- \( f \) = Frequencies
- \( i \) = Interval

The researcher has computed mean in the study of women empowerment.

(ii) **Mean Combined:** The researcher has also computed mean combined. It is calculated by the formula:

\[ M_{\text{Comb.}} = \frac{N_1 M_1 + N_2 M_2 + \ldots + N_n M_n}{N_1 + N_2 + \ldots + N_n} \]

(iii) **The Median:** The median is a point (not necessarily a score) in an array, above and below which one-half of the scores fall. It is a measure of position rather than magnitude and is frequently found
by inspection rather than by calculation. The researcher has not calculated median, as it was not necessary to compute.

(iv) **The Mode:** It is a score that occurs most frequently in a distribution. It is located by inspection than computation.

The researcher has not calculated mode, as this was not necessary to compute.

(B) **Measures of Variability/Spread/Dispersion:**

The measures of variables is the scatter or spread of the separate scores around their central tendency.

(a) **Range:** It is a difference between the most extreme scores in a distribution. The researcher has not calculated range. As it was not necessary.

(b) **Variance:** The average of the squared deviations of the measures or scores from their mean is known as the variance.

The variance for ungrouped data is,

\[ \sigma^2 = \frac{\Sigma \chi^2}{N} \]

Whereas, \( \sigma^2 \) – variance of the sample
\( \chi \) - deviation of the raw score from mean
\( N \) = number of scores

Variance is also calculated by the formula:

\[ \sigma^2 = \frac{N \Sigma \chi^2 - (\Sigma X)^2}{N^2} \]

The researcher has calculated the variance.
(c) **Standard Deviation**: is a positive square root of the variance, is most frequently used a measure of spread / dispersion of scores in a distribution.

\[ \sigma = \sqrt{\frac{\Sigma (\chi - \bar{\chi})^2}{N}} \text{ or } \sqrt{\frac{\Sigma \chi^2}{N}} \]

The researcher has calculated \( \sigma \) for the said study. S.D is less affected by sampling error. The std. deviation is a very useful device for comparing characteristics that may be quiet different or that may be expressed in different units of measurement. It serves as a means of describing status or position of an individual in a group.

(C) **Std. Error of the Mean (SEM):**

An important principle known as the central limit theorem, describes the characteristics of sample means. If a large number of equal sized samples (greater than 30) is selected at random from an infinite population:

(i) The mean value of the sample means will be normally distributed.

(ii) The mean value of the sample means will be the same as the mean of the population.

(iii) The distribution of sample means will have its own \( \sigma \) (standard devision). This is in actuality the distribution of the expected sampling error, know as the std. error of the mean. It is computed by the formula:

\[ \text{SEM} = \sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}} \]
Where, \( \sigma_1 \) - Std. deviation of 1\(^{st}\) sample
\( \sigma_2 \) – Std. deviation of 2\(^{nd}\) sample
\( N_1 \) – Sample size of 1\(^{st}\) sample
\( N_2 \) – Sample size of 2\(^{nd}\) sample

3.14 INFERENTIAL ANALYSIS

This is also known as testing of hypotheses. It involves the use of statistical technique in order to arrive at conclusions about the nature of the data and the relationship between various aspects of the sample. Generalization arrived at through inferential analysis of the sample can be extended to infer population parameters. The present study involves the following statistical techniques for testing of hypothesis.

(A) Analysis of Variance: The ‘F’ test enables us to determine whether the sample means differ from one another (between group variance) to a greater extent than the test scores differ from their own sample means (within group variance) using the ratio.

\[
F = \frac{\text{Variance between Groups}}{\text{Variance within Groups}}
\]

The significance of the difference between means derived from independent or uncorrelated scores (one criterion of classification).

When there are more than 2 means to be compared. If the ‘F’ test refutes the null hypotheses, we may use the ‘t’ test to evaluate mean difference. If the ‘F’ test does not refute the null hypothesis there is no justification for further testing, as differences between means will not differ significantly unless there are number of them in which case one / two might by chance equal or approach significance.
\[ F = \frac{\text{Mean Squares (Variance) between Groups}}{\text{Means Squares (Variance) within Groups}} \]

(B) **t-Test for Independent Samples**: This is applied when the sets of measure from which the means are derived are uncorrelated.

\[
t = \frac{|M_1 - M_2|}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}\]

Where,
- \(M_1\) = Mean of the 1\(^{st}\) sample
- \(M_2\) = Mean of the 2\(^{nd}\) sample
- \(\sigma_1\) = Variance of the 1\(^{st}\) sample
- \(\sigma_2\) = Variance of the 2\(^{nd}\) sample
- \(N_1\) = Number of cases in the 1\(^{st}\) sample
- \(N_2\) = Number of cases in the 2\(^{nd}\) sample

It is also to be noted that, when \(N\) is small; the ‘t’ distribution lies under the normal curve, but the tails are higher then the corresponding parts of the normal curve. When \(N\) increases in size, the ‘t’ distribution approaches more and more closely to the normal form.

(C) **The \(X^2\) (Chi-Square) Test**:  

The \(X^2\) test represents a useful method of comparing experimentally obtained results with those to be expected theoretically on some hypothesis. The researcher has applied Pearson’s \(X^2\) test. The equation for \(X^2\) is stated as follows:

\[
X^2 = \sum \left( \frac{(fo - fe)^2}{fe} \right)
\]
Where,

\[ f_o = \text{Frequency of occurrence of observed or experimentally determined facts.} \]

\[ f_e = \text{Expected frequency of occurrence on some hypothesis.} \]

**The degrees of freedom:** In a distribution is the number of observations or value that are independent of each other, that cannot be deduced from each other. The concept of degrees of freedom is highly important in small sample statistics. It is crucial too, in ANOVA, when a statistics is used to estimate a parameter, the number of degrees of freedom (df) available depends upon the restrictions placed upon the observations. One df is lost for each restriction imposed.

\[ \therefore \text{df} = (r -1) (c - 1) \quad \text{r = Number of rows} \]

\[ \text{c = Number of columns} \]

The difference is found significant when probability is 0.05 or less (\( P \leq 0.05 \)).

The differences between observed and expected frequencies are squared and divided by the expected number in each case, and the sum of there quotient is \( 'X^2' \). The more closely the observed results approximate to the expected, the smaller the \( X^2 \) and the closer the agreement between observed data and the hypothesis being tested. Contrariwise, the larger the \( X^2 \) the greater the probability of a real divergence of experimentally observed from expected results. In Table E (\( X^2 \) table), we read \( p \), the probability that the obtained \( X^2 \) is significant. A ‘\( P \)’ of 0.05 means that should we repeat this experiment, only once in 20 trials would a \( X^2 \) of 6 (an example given) or more occur if the N.H. is true. The result may be marked significant (‘\( P \)’ with 2 ‘df’ is 5.991) at 0.05 level. Therefore may safely discard a N.H. wherever ‘\( P \)’ is .05 or less.
\(X^2\) is significant when \(X^2\) is greater than the ‘P’ at 0.05 level (for the calculated df). \(X^2\) is not significant when \(X^2\) is lesser than the ‘P’ at 0.05 level.

Therefore, we either reject / accept the hypotheses of equal probability of a normal distribution. If the \(X^2\) lies beyond the limits of the table, ‘P’ is listed simply as less than 0.01. The discrepancy between observed and expected values is so great that the hypothesis of a normal distribution must be rejected.

If \(X^2\) fall short of table values at 0.05 / 0.01 level and hence not significant, we retain the hypothesis, since the deviation of observed answers from expectations might easily be a matter of chance.

A further useful application of \(X^2\) can be made when we wish to investigate the relationship between traits or attributes which can be classified into two/more categories.

So, when \(X^2\) is not-significance, then the observed results are close to those to be expected on the hypothesis of independence and it can be concluded that there is no evidence of any real association between 2 traits within our group.

### 3.15 LEVELS OF SIGNIFICANCE

The rejection or acceptance of null hypothesis is based upon some level of significance (alpha level) as a criterion. In education, the 5 per cent (0.05), alpha (\(L\)) level or 0.01 level of significance is often used as a standard for rejection. It suggests a 95\% and 99\% probability that the difference was due to the experiential treatment rather than to sampling errors. The researcher has used 0.05 and 0.01 level of significance (whichever is applicable).
3.16 GRAPHIC REPRESENTATIONS

It is an aid in analyzing numerical data may often be obtained from a graphic or pictorial treatment of the frequency distribution. These devices catch the eye and hold attention when the most careful array of statistical evidence fails to attract notice. Therefore, the research worker utilizes the attention – getting power of visual presentation; and at the same time, seeks to translate numerical facts – often abstract and difficult of interpretation – into more concrete and understandable form.

Four methods of representing a frequency distribution graphically in general use: (1) Frequency polygon, (2) Histogram, (3) Cumulative percentage curve (ogive), and (4) Cumulative frequency graph.

The researcher used only the histogram for representing a frequency distribution graphically.

(1) Histogram/Column Diagram

In a histogram, the scores are assumed to be spread uniformly over the entire interval. Within each interval of a histogram the frequency is shown by a rectangle, the base of which is the length of the interval. In the said research the base (x-axis) is taken as demographic factors viz., levels of education, streams, sects, etc. The height of which is the number of scores within the interval (in this research, the y-axis is taken as the mean scores of empowerment (total) and then M.S.O. for different dimensions of empowerment.

While each demographic factor in a histogram is represented by a separate rectangle. It is not necessary to project the sides of the rectangle down to the base line. The area of each rectangle is a histogram is directly proportional to the number of measures within the interval. For
this reason, the histogram presents an accurate picture of the relative proportion of the total frequency from interval to interval.

(2) **The Pie Diagram**

It is presented in a circle. Each sector / part of the circle represents percentage of the trait. The pie diagram is useful when one wishes to picture proportion of the total in a striking way.

The researcher had made use of a pie diagram, to show the composition of women with respect to wards, levels of education, streams, father’s education, mother’s education, husband’s education, age, marital status, sects, domiciled and migrated status, earning status, income (self), and income (family).