CHAPTER 5

RESEARCH METHODOLOGY

5.1 Research Design

5.1.1 Introduction:

Decisions regarding what, where, when, how much by what means concerning an inquiry or a research study constitute research design. It is the conceptual structure within which research is conducted. It gives an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data.

A research design must at least contain

1) A clear statement of the research problem.
2) Procedures and techniques to be used for collecting data.
3) The population to be studied.
4) Methods to be used in processing and analysing data.

Research design thus is a blueprint with which researcher can carry out various research operations with maximum efficiency. Generally the overall research design is split up into four parts.

A) The Sampling Design: It is a definite plan for obtaining sample from a given population to be observed for the research.

B) The Observational Design: relates to the special circumstances under which the observations are to be made.

C) The Statistical Design: details about the methods of data collection and its analysis.

D) The Operational Design: defines the procedure to be followed and techniques to be used to carry out sampling, observational and statistical designs.

Preparation of research design is an important task as any error in it may upset the whole process of research work. In case of social science, research work is many times of a descriptive nature as it is mainly concerned with describing characteristics of a particular individual or of a group. From the point of view of the research design, in descriptive studies, the researcher must be rigid and must focus attention on his objectives and the methods and techniques of data collection and its analysis. This
rigid design must make enough provision for protection against bias and must maximize reliability.

The present study is of descriptive nature where the researcher has tried to find the answers to questions through the analysis of variables relationship. The variables under study are not within the control of researcher.

5.2 Statement of the Research Problem

Making available micro financial services through SHGs is seen to be an effective tool of women empowerment in Nasik. The present study on the women SHGs is taken up to explore the financial implications of micro financial services in Nasik (urban area) and pattern of development observed among women SHGs on selected parameters i.e. their profitability and productivity.

5.3 Title of the study:


5.4 Hypothesis:

An effective utilization of microfinance improved profitability and productivity of women SHGs in Nasik Municipal Corporation Area.

5.5 Variables:

This study intends to explore the relationship between effective utilization of micro financial services and profitability and productivity of women SHGs in Nasik. Hence, Independent Variables are ‘Micro Financial Services’ (made available in the study area) and ‘Women SHGs’, Dependent Variable is ‘Productivity and Profitability of Women SHGs’ that is observed during study period.

In the light of the objectives it was felt appropriate to adopt descriptive design for the study. Major part of the data is of qualitative nature. The effort is made to quantify it where ever possible. The study is descriptive in the sense; an attempt is being made to describe the financial implications of micro financial services through socio-demographic correlates, decision making process for improvement in productivity of microenterprise etc. included in the study. The study is taken up in Nasik Municipal corporation area (Urban) of Nasik District in the North Maharashtra.

5.6 Sampling Design

5.6.1’Population’ or ‘Universe’:

All items in any field of inquiry constitute a ‘Universe’ or ‘Population’. A complete enumeration of all items in the’ Population’ is known as a ‘Census Enquiry’.
It can be presumed that in such an inquiry, when all items are covered, no element of chance is left and highest accuracy is obtained. When the field of inquiry is large, this method becomes difficult to adopt because of the resources involved. Perhaps government is the only institution which can get complete enumeration carried out. E.g. Census conducted in a decade. Further, many a times it is not possible to examine every item in the population and sometimes it is possible to obtain sufficiently accurate results by studying only a part of total population. In such cases sample survey is carried out. The selected respondents constitute what is technically called ‘sample’ and the selection process is called ‘sampling technique.’ Algebraically, let the population size be ‘N’ and the sample size be ‘n’ (n < N). Thus ‘n’ of the total population is selected according to some rule for studying some characteristics of the population, the group consisting of these ‘n’ units is known as sample. Proper care should be taken in selecting sample. The sample selected should be as representative of the total population as possible in order to produce a miniature cross-section. In the present study, the urban women SHGs under Swarna Jayanti Shahari Rojgar Yojana (SJSRY) for BPL SHGs and APL SHGs nurtured by different NGOs in Nasik Municipal Corporation Area were the ‘Universe’ of the research study.

For sample selection, it was necessary to know the number of SHGs working in Nasik Municipal Corporation area. However, researcher decided to have approximate ‘Population’ or ‘Universe’ because of the following reasons.

1. An exhaustive list particularly of APL groups is neither available with any of the city / district officials nor with any NGO.
2. Besides, the pilot survey disclosed the fact that many of the groups existing in the official records had disintegrated or the members of many groups had joined the groups formed by independent NGOs.
3. Secondary data revealed at a glance that recently the SHGs were being formed in the whole district at a maddening pace as the number of women SHGs formed in the last two years has increased by more than 100% after revisions made in SJSRY in 2009. Since these SHGs were a few months old, these toddler saving and lending groups were not of much use in evaluation of financial implications of micro financial services on productivity and efficiency of microenterprises (income generating activities started by women SHGs).
4. Finding out the rate of demise of SHGs or blowing the air out of the balloon of the official records, which claimed highly inflated number of SHGs existing
in the city (study area) made no sense in the present context, and in fact, is an altogether new area of research. Moreover, looking at the erratic formation of SHGs the rate of demise was not at all surprising as it clearly implied a target based approach of the government agencies. This research study aimed at assessing the impact of micro financial services on women SHGs. Therefore, it was appropriate to identify the working SHGs beforehand and this compelled the researcher to have approximate Universe.

5.6.2 Sampling Unit:
A decision has to be taken concerning a sample unit before selecting a sample. In the present study women SHG was selected as a sampling unit.

5.6.3 Selection Period:
Period covered in this study was of ten years i.e. Jan. 2000 to Dec. 2010. The researcher has extended the period up to 2013 in order to consider the latest developments in the field and the data generated there from.

5.6.4 Sample size: 10% of population

The selected women SHGs constitute what is technically called as a ‘sample’ and the selection process is called ‘sampling technique’. There are different types of samples. Probability sampling is based on the concept of random selection, whereas non-probability sampling is non-random sampling. When each sample element is drawn individually from the population at large then the sample so drawn is known as ‘unrestricted sample’ whereas all other forms of sampling are covered under the term ‘restricted sampling’.

The researcher has opted probability sampling as a sample design where every item of universe has an equal chance of inclusion. The results obtained from probability sampling can be assured in terms of probability i.e. we can measure the errors of estimation or the significance of results obtained from a random sample and this fact brings out the superiority of random sampling design over the deliberate sampling design. Random sampling ensures the law of Statistical Regularity’ which states that if on an average the sample chosen is a random one, the sample will have the same composition and characteristics as the universe. This is the reason why researcher has selected it as a Random Sampling Design for her study.

The question of selecting random sample was solved by opting ‘Stratified sampling design’. If the population from which a sample is to be drawn does not constitute homogenous group, stratified sampling technique is the best alternative available. The
sampling unit i.e. women SHGs are not homogenous in their characteristics; therefore, Stratified Random Sampling technique under probability sampling design is used. The geographical area under the study has been divided into nine divisions by Nasik Municipal Corporation for the purpose of S. J. S. R. Y. BPL SHGs under study have been nurtured by the heads of each of these divisions according to the requirements of women in the said area. Thus for choosing the sample these nine divisions were treated as nine strata. Three NGOs have taken efforts for the development of APL SHGs. Therefore these SHGs were divided into three different strata. Thus sample is chosen from total twelve strata to get homogeneous elements in each of these strata. The researcher has selected sample units those were typical of the population and also representative of each of the stratum. The basic criterion while choosing the SHG from each of the stratum is the income generating activity of the SHG and its age. Thus varieties of income generating activities got representation in the sample chosen for the study purpose.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Population</th>
<th>Sample</th>
<th>Units</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>BPL SHGs (3714)</td>
<td>10%</td>
<td>371</td>
<td>371</td>
</tr>
<tr>
<td>2</td>
<td>APL SHGs (1476)</td>
<td>10%</td>
<td>148</td>
<td>148</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td></td>
<td>519</td>
</tr>
</tbody>
</table>

5.6.5 Rationale for sample size

The word sample is used for holding sample survey. Such a sample which is a small percentage of the entire bulk is taken for its detailed scientific analysis and examination. If organized and conducted properly and cautiously, the margin of error is quite small and the result obtained is quite dependable. In the present study, researcher decided to take 10% of SHGs (population) of the study area as the sample size. The parameters of interest in the research study, budgetary constraints and limitations of time period were kept in view while deciding the sample size. Researcher thus confirms 519 SHGs as sample size for her study purpose. Researcher decided to select one member of each SHG as respondent for collecting primary data through questionnaire.

For this purpose total 758 questionnaires were distributed. Only 706 questionnaires were filled up. Out of these 706 questionnaires only 629 respondents have answered all questions in the questionnaire. However, out of 629 questionnaires which were found valid and completely filled 439 respondents belongs to such SHGs
which are at least five years old and are running some IGA at least for three years. Hence, only 439 questionnaires are considered for data interpretation and analysis. Out of these 439 SHGs all are at least five years old and are running IGA at least for three years. Thus the sample size that is considered for data interpretation and analysis was 439 only.

5.7 Data Collection:

For the present research work the data required is of primary nature as well as of secondary nature.

5.7.1 Primary Data:

Primary data are those which are collected afresh and for the first time and thus happen to be original in character. For the purpose of this study, primary data was collected by using a structured questionnaire which was administered on women SHGs. The questionnaire consists of dichotomous, multiple choice as well as open ended questions proceeding in logical sequence moving from easy to more difficult questions. This questionnaire consisted sections to cover questions on personal and general information with economic back ground of the respondents and details about membership, saving, credit, income generation, profitability of enterprises, investments made by SHGs etc.

Initial discussions were held with various officials of Government Departments such as S.J.S.R.Y. section of Nasik Municipal Corporation, DUDA, Community Organisations, bank officers and NGOs. The perception of various officials on the functioning of the SHGs and the performance of Self Help Promoting Institutions were elicited through personal interviews and discussions for the purpose of preparing questionnaire. The approach to the design of the questionnaire was based on impressions gathered and observations made by the researcher during the pilot study, discussions held with staff members of GOs and NGOs and respondent’s ability to comprehend and communicate. Suggestions made by experts were incorporated by the researcher wherever needed. Though researcher prepared the questionnaire in English, taking into consideration the low level of literacy of women respondents it has been translated in Marathi for data collection purpose. The researcher tried her best to create friendly atmosphere of trust and confidence while collecting information from the respondents through questionnaire. The members of various SHGs extended full co-operation.

5.7.2 Reliability of the Questionnaire:
Before full scale implementation of the questionnaire a ‘Pilot Study’ for testing validity and reliability of questions was conducted. The questionnaire possesses face validity as well as content validity.

5.7.3 Documents:

SHGs, MFIs and NGOs in the field in the study area extended full cooperation to the researcher as and when required. SHGs and NGOs when asked for gave necessary documents to the researcher for the study purpose. The basic objective of collecting various documents was to study the process of formation, organisational set up, working procedures, loan details etc. Sometimes the researcher required to go through the passbooks provided by the banks to these SHGs as the books of accounts maintained by these SHGs were not in the proper format. The entries in these passbooks were proved to be of immense help. Many of the SHG members were unaware of different costs and revenues. In such cases various documents served the purpose of finding out profitability and productivity of the IGAs started by these SHGs. In case of BPL SHGs, amount of subsidy and the balance of revolving fund also play a major role in finding out the efficiency of the IGA started by BPL SHG. Thus documents helped the researcher to find out performance and income level and thereby profitability, efficiency and productivity of these SHGs. This served the base in preparing comparative statements of profitability and productivity of various SHGs.

5.7.4 Secondary Data

The secondary data was collected from various documented sources for literature review. Moreover data regarding the expense and position of SHGs in Nasik Municipal Corporation Area was collected from government offices like administrative office of corporation, District Women and Child Development Department, District Literacy Mission Office and District unit of NABARD. The geographical and demographic details were gathered from District Statistical Office. Research publications, various journals, books on studies of SHGs and Microfinance and various records and books of accounts maintained by women SHGs and passbooks issued by bank officials in the name of women SHGs in the study area were of immense help.

Thus, this study tried to offer a broad framework in which functional efficiency, economic activity level, bank linkage and financial inclusion of SHGs
along with economic empowerment of the women SHG members have been assessed intricately in order to trace the linkages between availability of micro financial services and profitability as well as productivity of IGAs.

5.8 Statistical tools used for Data Analysis:

The data, after collection has to be processed and analyzed in accordance with the outline laid down for the purpose at the time of developing the research plan. Technically speaking, processing implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis. The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exists in data-group. A large volume of raw data has to be suitably reduced so that the same can be read easily and can be used for further analysis. The primary and secondary data collected from various sources was then edited, coded, classified and tabulated in such a way that it would be useful for further analysis and interpretation. Keeping the objectives in the mind, classification of primary data was carried out so that tables prepared based on such classification helped in analysis of such data. All data collected through all tools was analysed qualitatively. For using statistical tools, quantification of the data was needed. Therefore, wherever possible, quantitative analysis using statistical tools was made.

There are two major areas of statistics viz. descriptive statistics and inferential statistics. Both the areas of statistics have been used by the researcher for development of certain indices from raw data and for the process of generalization from small groups (i.e. sample) to population. The measures of central tendency, measures of dispersion and measures of relationship, index numbers as a part of descriptive statistics and appropriate statistical tests like FRIEDMAN Two way ANOVA, $\chi^2$ test were employed as a part of inferential statistics to arrive at inferences. An attempt is made to communicate the research findings effectively, through research report to the readers. The report is written in simple language using graphs, figures and charts at appropriate places.

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