CHAPTER – IV

METHODOLOGY

This chapter describes the research design, description of the study area, the sampling procedure adopted, data collection procedure followed and the statistical tools employed in analyzing the data. The methodology followed in conducting the present study is presented under the following heads:

4.1 Research Design
   4.1.1 Research Setting
4.2 Description of the study area
   4.2.1 Location
   4.2.2 Geographical Position
   4.2.3 Population
   4.2.4 Literacy Rate
   4.2.5 Major Industries
   4.2.6 Transportation
4.3 Sampling procedure adopted
   4.3.1 Selection of the district and region
   4.3.2 Selection of the taluks
   4.3.3 Selection of blocks
   4.3.4 Selection of sample
4.4 Data collection procedure
4.5 Analytical techniques employed
4.6 Framework of analysis

4.1 RESEARCH DESIGN

As the objective of this study is to assess and understand the socio-economic impact of Self Help Groups, the study is ‘empirical’ and the research is ‘descriptive’ in nature. The research is ‘descriptive’ because, it describes data, research questions, characteristics about the population to be studied and methods of analysis before the research is started. The study is ‘empirical’ as it uses the survey method with semi-structured interview schedule to discover the descriptive characteristics of social phenomena.
4.1.1 Research Setting

Development of a country not only refers to the development of infrastructure, innovations and technology but, it is actually related to the development of each and every citizen in terms of their quality of life. A country will move on the development path only if all the citizens are involved in the development process and enjoy good standard of living, by having access to basic amenities of life such as food, clothing, housing, health, clean water, education, employment and good social and economic environment. In certain district like Salem, where women’s role is crucial in their family, improving them socially and economically has to be one of the major areas of concern where development promoters should pay attention. Unemployment, low family income, poor housing conditions, poor access to basic facilities, low level of literacy, lack of empowerment, etc., are some of the major challenges of rural women especially dalit and tribal women in Salem district. Cognizant of this fact and the miserable life conditions of dalit and tribal women, the study, “Socio-economic impact of Self Help Groups on dalit and tribal women” was conducted in Salem district of Tamilnadu state.

4.2 DESCRIPTION OF THE STUDY AREA

Here, the information regarding geographical location, population, literacy rate, industries, transportation and other features of Salem district are highlighted as it provides the background for analysis and helps in drawing meaningful inferences.

4.2.1 Location

The present study was conducted in Salem district which is also called Mango City and Steel City of Tamilnadu. It is well bounded in the North by Dharmapuri district, in the South by Namakkal and Erode districts, the East by Villupuram district and by the Western Ghats in the West.

4.2.2 Geographical Position

Salem is a Geologist’s paradise, surrounded by hills and the landscape is dotted with hillocks. Salem has a vibrant culture dating back to the ancient Kongu Nadu. Salem is located between 11° 14’ and 12° 53’ North Latitudes and between 77° 44’ and 78° 50’ East Longitudes. It covers the geographical area of 5245 Sq. Kms. Salem is a part of Western Tamil Nadu and is located at the base of the popular tourist destination, the Yercaud hills. Salem in general has a dry climate with scanty rainfall. Salem has moderate dry weather throughout the year except during the monsoon season. Some of
the important food crops grown in Salem district are paddy, cholam, cumbu, red gram, green gram, black gram, horse gram, turmeric, sugarcane, mango, banana, tapioca, groundnut and gingelly.

4.2.3 Population

Salem had a population of 3,480,008 of which male and female were 17,80,569 and 16,99,439 respectively in the year 2011. According to Census 2011, out of the total population 17,76,321 people lived in urban area of which male were 8,99,632 and female were 8,76,689 respectively. Population living in the rural areas was 17,03,687 of which male and female were 8,80,937 and 8,22,750 respectively. According to Census 2011, the density of Salem district was 663 persons per sq. km.

4.2.4 Literacy Rate

According to Census 2011, total literates in Salem district was 23,11,715 of which male and female were 13,00,874 and 10,10,841 respectively. Of the total literates 12,92,275 were literates in the urban region of which male and female were 7,04,344 and 5,87,931 respectively. Literacy rate in rural areas of Salem district was 66.16 per cent as per census data 2011. Gender wise, male and female literacy stood at 75.02 and 56.71 per cent respectively.

4.2.5 Industries

Some of the important industries in Salem district are Salem Steel Plant, Salem Dairy, Hatsun Dairy, L.S.P. Oil Mills, B.S.P. Refineries, Jawahar Mills, Narasus Roller Flour Mills, Salem District Co-operative Spinning Mills, Tamilnadu Magnesites, Sambandam Spinning Mills, India Cements etc.

4.2.6 Transportation

Salem district is the central place to connect the major districts of the Western Zone and North Western Zone of Tamil Nadu. It is well connected with a net work of roads and railways (National Railways and State Highways). The total length of the both national and state roadways in the district is 2558.64 kms. with concrete, black topped metal and non - metalled roads.

4.3 SAMPLING PROCEDURE ADOPTED

4.3.1 Selection of the study area

Salem district was purposively selected for the study keeping in mind the fact that this district ranks second for the implementation of Mahalir Thittam Programme for the
year 1991-1992 (Dharmapuri district in the year 1989 ranked first) and the convenience of the researcher was also considered for the selection of the study area.

4.3.2 Determination of sample size

To determine the sample size for the study, researcher has used Yamane (1973) formula. This formula is 95 per cent reliable and has less than 5 per cent deviation factor. To use the formula, the researcher was in need of the sampling unit of the study. The table 4.1 describes the sampling unit of the study, collected from Mahalir Thittam Office, Salem:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Blocks</th>
<th>Total Female Population</th>
<th>SC / ST Female Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attur</td>
<td>82478</td>
<td>19648</td>
</tr>
<tr>
<td>2</td>
<td>Gangavalli</td>
<td>57832</td>
<td>17303</td>
</tr>
<tr>
<td>3</td>
<td>P.N.Palayam</td>
<td>58980</td>
<td>25722</td>
</tr>
<tr>
<td>4</td>
<td>Kadayampatti</td>
<td>55097</td>
<td>13082</td>
</tr>
<tr>
<td>5</td>
<td>Kolathur</td>
<td>63679</td>
<td>14934</td>
</tr>
<tr>
<td>6</td>
<td>Salem</td>
<td>380866</td>
<td>43330</td>
</tr>
<tr>
<td>7</td>
<td>Yercaud</td>
<td>19246</td>
<td>14982</td>
</tr>
<tr>
<td>8</td>
<td>Valapady</td>
<td>47495</td>
<td>12387</td>
</tr>
<tr>
<td>9</td>
<td>Panamarathupatti</td>
<td>48737</td>
<td>12945</td>
</tr>
<tr>
<td>10</td>
<td>Ayothiyapattinam</td>
<td>67561</td>
<td>22037</td>
</tr>
<tr>
<td></td>
<td><strong>Total SC and ST Female Population</strong></td>
<td><strong>196370</strong></td>
<td></td>
</tr>
</tbody>
</table>


The formula used was given below:

\[ n = \frac{N}{1 + Ne^2} \]

where, \( n \) = Size of Sample

\( N \) = Size of Population

\( e \) = Deviation of sampling
Formulation:
\[
n = \frac{1,96,370}{1 + 1,96,370 (0.05)^2} = \frac{1,96,370}{1 + 1,96,370 (0.0025)} = \frac{1,96,370}{1 + 490.925} = \frac{1,96,370}{491.925} = 399
\]

The sample size determined by the formula was 399. But, out of 399 respondents, only 390 respondents have given proper response to the questions asked in all aspects. Therefore, finally the researcher has fixed the *sample size as 390.*

4.3.3 Selection of the regions and taluks for the study

To identify the sample respondents, a Multistage Random Sampling method was used. In the first stage, Salem district was divided into four regions and 9 taluks as below:

- **Attur Region**: This region consists of both Gangavalli and Attur taluks.
- **Mettur Region**: This region includes Omalur and Mettur Taluks.
- **Salem Region**: This region includes the taluks of Yercaud, Vazhapadi and Salem.
- **Sankari Region**: This region consists of two taluks namely Idappady and Sankari.

For the purpose of the present study, out of 9 taluks, 7 taluks were selected from three regions having sufficiently a large number of SC/ST Self Help Group members under the ‘Mahalir Thittam’ as on March 2011. As a result, Gangavalli and Attur taluks from Attur region, Omalur and Mettur taluks from Mettur region and Yercaud, Vazhapadi and Salem taluks from Salem region were selected. That is 3 out of 4 regions and 7 out of 9 taluks were selected for the study.

4.3.4 Selection of Blocks

In the second stage, out of 20 blocks, 10 blocks were selected from the above mentioned seven taluks where there are a large number of dalit and tribal Self Help Group members. Hence, Attur, Gangavalli and Petthanaicken Palayam blocks were selected from Attur and Gangavalli taluks respectively; Kadayampatti and Kolathur blocks were selected from Mettur and Omalur taluks respectively; and Salem, Yercaud, Vazhapadi, Panamarathupatti and Ayothiyapatnam blocks were selected from Salem, Yercaud and Vazhapadi taluks respectively.
4.3.5 Selection of Sample

In the third stage, 1 per cent of the total SHGs (12,631) in the 10 blocks were calculated and it resulted in 126 SHGs and had it as sample SC / ST SHGs for the study. Again 1 per cent of the SHGs that is, 10, 6, 9, 10, 10, 52, 6, 6, 8 and 9 SHGs were selected from Attur, Gangavalli, Petthanaicken Palayam, Kadayampatti, Kolathur, Salem, Yercaud, Vazhapadi, Panamarathupatti and Ayothiyapatnam blocks respectively. In the last stage, according to the block-wise SC / ST female population as well as on the basis of convenience sampling, members from each SC / ST SHGs were selected randomly and interviewed. In this way, 46, 27, 30, 27, 27, 122, 11, 27, 27 and 46 respondents were surveyed from the selected 10 blocks of Salem district respectively. Thus, the sample size for the study (390 respondents) was arrived at the end.

Map 4.1 indicates the selection of Salem district for the study.

Map – 4.1
Selection of Salem district from Tamilnadu State
Maps – 4.2 and 4.3 discuss the selection of three ‘Regions’ for the study.

Map – 4.2
Salem district with four Regions

Map – 4.3
Selection of 3 Regions from Salem district

Maps – 4.4 and 4.5 discuss the selection of seven ‘Taluks’ for the study.

Map – 4.4
Salem district with 9 Taluks

Map – 4.5
Selection of 7 Taluks from Salem district
Maps – 4.6 and 4.7 discuss the selection of 10 ‘Blocks’ for the study.

**Map – 4.6**
Salem district consists of 20 Blocks

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**Map – 4.7**
Selection of 10 Blocks from Salem district
The chart 4.1 and table 4.2 describe the Sampling Frame of the study:

**Chart – 4.1**

**Sampling Frame of the Study**

- **Salem District**
  - 3 Regions, 7 Taluks and 10 Blocks selected
    - **Attur Region**
      - Attur
      - Gangavalli
      - **3 Blocks**
        - Attur, Gangavalli and Petthanaickenpalayam
        - 25 SHGs
        - 103 Respondents
    - **Mettur Region**
      - Omalur
      - **2 Blocks**
        - Kadayampatty and Kolathur
        - 20 SHGs
        - 54 Respondents
    - **Salem Region**
      - Salem
      - Vazhappadi
      - **5 Blocks**
        - Salem, Yercaud, Panamarathupatti, Vazhappadi, and Ayothiapatnam
        - 81 SHGs
        - 233 Respondents
  - Total respondents selected for the study
  - Sample Size = 390
### Table – 4.2
### Sampling Frame of the Study

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Region</th>
<th>Taluks</th>
<th>Name of the Blocks</th>
<th>Total No. of SHGs</th>
<th>Total No. of sample SHGs Surveyed</th>
<th>No. of SC SHGs Surveyed</th>
<th>No. of ST SHGs Surveyed</th>
<th>No. of SC Members Surveyed</th>
<th>No. of ST Members Surveyed</th>
<th>Total No. of SC/ST Members Surveyed</th>
<th>Region wise SC/ST SHGs Surveyed</th>
<th>Region wise SC/ST Members Surveyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attur</td>
<td>Attur &amp; Gangavalli</td>
<td>Attur</td>
<td>1127</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>44</td>
<td>2</td>
<td>46</td>
<td>25</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gangavalli</td>
<td>567</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P.N.Palayam</td>
<td>908</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>5</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Mettur</td>
<td>Mettur &amp; Omalur</td>
<td>Kadayampatty</td>
<td>1007</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td>20</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kolathur</td>
<td>979</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Salem</td>
<td>Salem, Yercaud &amp; Vazhapadi</td>
<td>Salem</td>
<td>5207</td>
<td>52</td>
<td>51</td>
<td>1</td>
<td>120</td>
<td>2</td>
<td>122</td>
<td>81</td>
<td>233</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yercaud</td>
<td>570</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vazhapadi</td>
<td>595</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Panamarathupatti</td>
<td>785</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>25</td>
<td>2</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ayothiyapattinam</td>
<td>886</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td>44</td>
<td>2</td>
<td>46</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>12631</strong></td>
<td><strong>126</strong></td>
<td><strong>112</strong></td>
<td><strong>14</strong></td>
<td><strong>364</strong></td>
<td><strong>26</strong></td>
<td><strong>390</strong></td>
<td><strong>126</strong></td>
<td><strong>390</strong></td>
</tr>
</tbody>
</table>

4.4 DATA COLLECTION PROCEDURE

In this research both primary and secondary data have been used. The details of primary and secondary sources of information are as follows:

4.4.1 Secondary Data Collection

The secondary data on location, demography and other details about the study area were collected from the Salem district Profile 2011, from the Department of Economics and Statistics, Salem district, from Mahalir Thittam Office, Salem and from Census 2011.

4.4.2 Primary Data Collection

For evaluating the objectives of the study, the required primary data were collected through personal interview method with a semi-structured interview schedule. As most of the respondents were illiterate due to their inability to write, all the members were interviewed with the help of the semi-structured interview schedule specially prepared and pretested for this study. Therefore, entire interview schedule was translated from English to Tamil. The responses given in Tamil were translated into English for the purpose of analysis.

4.4.3 Description of the Interview Schedule

The questionnaire progresses from general to specific questions and it has five important sections as follows:

- **Part – I: General Information:** Questions placed in this section are intended to identify the respondents’ demographic background such as age, marital status, religion, community, education, occupation, monthly income and land holding.

- **Part – II: Self Help Group Information:** The second part of the questionnaire covers information about SHGs. This section assesses the registration of members in SHGs, details about meetings, trainings, sources of SHG information, etc.

- **Part – III: Information regarding social aspects:** Questions asked in this section covers the respondents’ self-confidence, general awareness, reaction to social evils, political participation, decision making on various issues, participation in social matters, accessibility to basic amenities, etc.

- **Part – IV: Information regarding economic aspects:** The fourth part of the questionnaire was to elicit information on respondents’ sources of income, details of consumption pattern, savings and expenditure pattern, possession of consumer durables and agricultural items.
Part – V: Problems faced by the respondents: In this section, an attempt is made to identify the problems faced by the respondents as the members of SHGs.

4.4.4 Pre-test

The interview schedule was pre-tested in the study area on 40 non-sample respondents. Based on the experience gained during pre-testing, necessary corrections and modifications were done especially to ensure that the questions were clear, unambiguous and contributing to the study. Only then the interview schedule was finalised. The final schedule was used to collect primary data from the respondents by personally interviewing them. The interview schedule used for this study is given in the Appendices.

4.4.5 Ethical Considerations

In the process of study, the following ethical considerations have been given to ensure free flow of responses from the respondents. In order to obtain an informed consent from the respondents, the purpose of the study was explained clearly. Members and leaders of the Self Help Groups were asked to give their informed consent orally before filling out the interview schedule or participating in any discussion. Information obtained from the respondents was promised to be kept confidential.

4.5 ANALYTICAL TOOLS EMPLOYED

Once the primary data were collected, the researcher scrutinized these data thoroughly to correct the inconsistencies in responses and was properly edited. Then the data collected were coded, processed for tabulation and necessary statistical tools were used. Some statistical tools and techniques such as Frequency Analysis, Chi-Square test, Correlation, Multiple Regression, Factor Analysis, Paired Sample t-Test, Wilcoxon Signed Ranks Test, Discriminant Analysis, Kruskal-Wallis Test, Garrett Ranking Method and One-way ANOVA were applied to evaluate the objectives of the study. Computer software like Microsoft Excel 2010 and SPSS 16.0 were used to apply various statistical techniques.

4.5.1 Chi-Square Test

Chi-square test is a statistical test generally used for testing independence and goodness of fit. Testing independence determines whether two or more observations across two populations are dependent on each other. Testing for goodness of fit,
determines whether an observed frequency distribution, matches a theoretical frequency distribution.

4.5.2 Correlation Analysis

Correlation analysis is a statistical analysis that defines the variation in one variable by the variation in another variable, without establishing a cause-and-effect relationship. The coefficient of correlation is a measure of the strength of the relationship between the variables.

4.5.3 Multiple Regression Analysis

Regression analysis is a statistical method for estimating the relationships among variables. Multiple Regression analysis is a statistical practice that attempts to assess the relationship between a dependent variable and two or more independent variables.

4.5.4 Factor Analysis

Factor analysis is a statistical technique, used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called ‘factors’. In other words, it is possible that, variations in three or four observed variables mainly reflect the variations in less unobserved variables.

4.5.5 Paired Sample t-test

Paired samples t-Test is used to compare the scores on the two variables. The most common use of this test is for pre-test scores and post-test scores for a sample when they are exposed to some intervention in between the pre-tests and post-tests. The purpose of using this test is that, the scores are for the same people, which suggest there is an underlying relationship between the scores.

4.5.6 Wilcoxon Singed Rank Test

This test is a non-parametric statistical hypothesis test used, when comparing two related samples, matched samples or repeated measurements on a single sample to assess whether their population mean ranks be different.

4.5.7 Discriminant Analysis

This statistical method designed to predict the groups or categories into which individual cases will fall on the basis of a number of independent variables. This analysis attempts to identify, which variables or combinations of variables accurately discriminate between groups or categories by means of a classification table.
4.5.8 Kruskal-Wallis Test

This test is a non-parametric test used to compare three or more samples. It is used to test the null hypothesis that all populations have identical distribution functions against the alternative hypothesis that, at least two of the samples differ only with respect to location, if at all.

4.5.9 One-way ANOVA

This is a technique used to compare means of two or more samples and determines whether any of those means are significantly differ from each other. The ANOVA tests the null hypothesis that, samples in two or more groups are drawn from populations with the same mean values.

4.5.10 Garrett Ranking Method

To find out the most significant problem which the members face while availing loans from SHGs, Garrett’s ranking technique was used. As per this method, respondents have been asked to assign the rank for all seven problems and the outcome of such ranking has been converted into score value with the help of the following formula:

\[
\text{Percent position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}
\]

Where,

- \( R_{ij} \) = Rank given for the \( i^{th} \) variable by \( j^{th} \) respondents
- \( N_j \) = Number of variable ranked by \( j^{th} \) respondents

With the help of Garrett’s Table, the percent position estimated is converted into scores. Then for each problem, the scores of each individual are added and then total value of scores and mean values of score is calculated. The problems having highest mean value is considered to be the most important problem.

4.6 FRAMEWORK OF ANALYSIS

- Distribution of sample SHG members according to their demographic characteristics, functioning of SHGs of the respondents and sources from which SHG related information are obtained by the members were analysed by using ‘Frequency Analysis’.
- ‘Chi-square Test’ was utilised to find out the association between ‘demographic characters’ (religion and community) and ‘reasons to join the SHGs’, to find out the association between ‘demographic characters’ (marital status, family type, religion,
community and educational qualification) and ‘availing loan through SHGs’, to find out the association between ‘demographic characters’ (marital status, religion, community, educational qualification and having agricultural land) and ‘purpose of getting loan through SHGs’.

- The difference between ‘age of the members’ and ‘reasons to join SHGs’ and difference between ‘marital status’ and ‘protest against social evils’ have been analysed statistically using Kruskal-Wallis Test.
- With the help of ‘Discriminant Analysis’ the researcher has observed factors like ‘age’ and ‘number of children in the family’ that discriminate the members who have different ‘reasons to join SHGs’.
- ‘Multiple Regression Analysis’ was used in predicting ‘self-development’ of members after joining SHGs based on the combination of members’ ‘age’ and ‘years of membership’, in the prediction of ‘protest against social evils’ after joining SHGs based on their ‘age’ and ‘years of membership’, to predict the ‘accessibility to amenities’ after joining SHGs based on their ‘monthly income’ and ‘years of membership’, to predict ‘annual household expenditure’ of members after joining SHGs based on the combination of their ‘age’ and ‘number of children in the family’, predicting the ‘possession of consumer durables’ by members after joining SHGs based on their ‘age’ and ‘years of membership’.
- Significant difference in ‘self-development’ after joining SHGs between ‘marital status’ groups, difference in ‘protest against social evils’ between ‘educational qualifications’ groups, difference in ‘access to various amenities’ after joining SHGs between ‘main occupation’ groups, difference in ‘political participation’ after joining SHGs between ‘community’ groups, difference in ‘annual household expenditure’ after joining SHGs between ‘family type’ groups and significant difference in ‘annual savings’ after joining SHGs between various ‘educational qualifications’ groups have been statistically analysed using ‘One-way ANOVA’.
- The researcher has identified 20 variables to conduct ‘factor analysis’ which will help to determine the major factors that would determine the social impact of SHGs.
- The perception of the sample members regarding the social impact shaped by the SHGs has been analysed with the help of a ‘scaling technique’. For analysing each category of social impact, the opinion of the members on different statements has been extracted on a five point scale.
• The researcher measured the ‘annual household income’ of sample SHG members before and after joining SHGs, measured the difference in ‘annual savings’ of the members before and after joining SHGs, difference in ‘possession of agricultural items and livestock’ before and after joining SHGs, difference in ‘possession of consumer durables’ before and after joining SHGs, with the help of Wilcoxon Signed Ranks Test.

• The researcher has found out the relationship between ‘monthly income’ and ‘annual savings’ after joining SHGs with the help of ‘correlation analysis’.

• To analyse the various economic impacts of SHGs on its members, the researcher has used the ‘Paired Sample t–Test’.

• The problems of getting loan have been analysed with the help of ‘Garrett Ranking Method’.