CHAPTER IV

RESEARCH METHODOLOGY

Methodology deals with the methods and procedures followed in carrying out this study. Scientific study of any problem requires to adopt appropriate methods and procedures in order to arrive at reliable, unbiased, and practical conclusions. This chapter deals with the description of the procedures followed for carrying out the investigation. It describes and classifies methods used for measuring the dependent and independent variables as well as techniques followed for collection and analysis of data. It contains the research design, the tools and techniques including the interview schedule employed for data collection. The details of the methodology followed in the present investigation were presented accordingly.

The methodology of this research is described under following sections:

4.1 Identification of the problem
4.2 Sources of data
4.3 Area of the study
4.4 Research design
4.5 Sampling technique
  4.5.1 Selection of districts
  4.5.2 Selection of talukas
  4.5.3 Selection of villages
  4.5.4 Selection of respondents
4.6 Measurement of variables
  4.6.1 Independent variables
  4.6.2 Dependent variables
4.7 Decision making abilities of the SHG members in relation to entrepreneurial activities
4.8 Working models of SHG Bank linkage programme
4.9 Role of SHGs in poverty reduction

4.10 Income generating activities of SHGs

4.11 Constraints faced by SHG members

4.12 Suggestions offered by the SHG members to strengthen the activities of SHG

4.13 Construction of interview schedule

4.14 Tools and techniques of data collection

4.15 Collection of data

4.16 Analysis of the data

4.17 Derivation of hypothesis

**4.1 IDENTIFICATION OF THE PROBLEM**

It is now widely accepted that SHGs is a way of empowering women. Empowerment with aspect to social empowerment, economic empowerment, psychological empowerment etc. but, we also have to determine the knowledge and attitude of women toward SHGs and its activities. SHG is a key component for reducing the poverty of rural women and it also uplifts the rural women in many ways i.e. social, economic, psychological, educational, health, political etc. It is a path for reach up to the grass root level in rural area with the purpose of development of rural women. Now a days, government has also appreciated the activities of SHGs in all over India. Simultaneously, government has also launched various types of schemes for boosting the growth of SHG.

Looking to the scenario of the empowerment of the women and importance of SHGs in the country, it is worthwhile to study the “**Knowledge and Attitude of SHG Members in Relation to Entrepreneurial Activities in Saurashtra Region**”.

**4.2 SOURCES OF DATA**

The required basic information for the study was collected from the office of the District Agriculture Officer (DAO), District Rural Development Agency (DRDA), Nationalized banks, Regional branches of NABARD and commercial banks of Junagadh and Rajkot districts. The secondary data and other relevant information for the study were collected from the following sources.
Research Methodology

1. Annual reports, published reports, papers and personal contact with concerned personnel of state department.

2. Reference books, reports, bulletins and periodicals related to the subject published by different authors and agencies.

3. Post graduate theses pertaining to the subject.

4.3 AREA OF THE STUDY

The present investigation was undertaken in Junagadh and Rajkot District of the Saurashtra region because researcher was studying in this university and also various organizations were engaged in the identification and formation of Self Help Groups and striving hard for their development in this area.

4.4 RESEARCH DESIGN

Based on review of available literature and keeping in mind the objectives of the study, the ex post facto research design was adopted, since the phenomenon has already occurred and is continuing. It is a systematic empirical enquiry in which the scientist does not have direct control over the independent variables because their manifestations have already occurred or they are inherently not manipulated (Kerlinger, 1969).

The ex post facto studies are devised to dedicate theories, identify behavior phenomena and explore condition under which a phenomenon occurs.

Keeping in view the adaptability of the proposed design with respect to the type of variable under consideration, number of respondents and phenomena to be studied the ex post facto design was selected as an appropriate research design.

4.5 SAMPLING TECHNIQUES

Multistage, purposive and random sampling techniques were followed for this study. The sampling technique is described as under.

4.5.1 Selection of Districts

Among eleven districts of saurashtra region, two districts were selected purposively for study namely Junagadh and Rajkot because researcher is studying in Junagadh district and also various organizations are engaged in the identification and
Fig. 2: Map of selected districts of Saurashtra region showing selected talukas
formation of Self Help Groups and striving hard for their development in this area.

4.5.2 Selection of Talukas

Among 9 Talukas of Junagadh district, 3 talukas viz., Junagadh, Mangrol, Keshod were selected and among 11 talukas of Rajkot district, 3 talukas viz. Rajkot, Dhoraji, Gondal were selected purposively because these talukas were having sufficient number of the SHGs for research purpose and also researcher was also familiar to this area.

4.5.3 Selection of Villages

A list of villages having SHG was prepared taluka wise and from each selected taluka three villages were selected randomly. Thus, total eighteen villages were selected for the study.

4.5.4 Selection of respondents

The list of members of SHG was obtained village wise. From this list ten respondents were selected randomly from each village. Thus, total 180 respondents were selected from eighteen villages.

Table 4: Taluka wise selection of villages and respondents in Junagadh and Rajkot districts of Gujarat State

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Junagadh District</th>
<th>Name of Talukas</th>
<th>Name of Villages</th>
<th>No. of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Junagadh</td>
<td>1. Badalpur</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Ivnagar</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Makhiyala</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Keshod</td>
<td>4. Balagam</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Mesvan</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Rangpur</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Mangrol</td>
<td>7. Nandarkhi</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8. Shil</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9. Zariyavada</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Total</td>
<td></td>
<td>90</td>
<td></td>
</tr>
</tbody>
</table>
Organizational Chart of Selected Area for Study
4.6 MEASUREMENT OF VARIABLES

4.6.1 Measurement of Dependent Variables

Two dependent variables were selected under this study i.e. knowledge and attitude. For measurement of the level of knowledge of the SHG members about SHG and its activities, we had used difficulty and discrimination index under this study for the statement selection and to know the attitude of the SHG women members about SHG and its activities, we had used scale product method under this study.

4.6.1.1 Development of knowledge test of respondents about SHG and its activities

(a) Collection of items

The content of knowledge test is composed of questions called items. With the help of experts in the field of agriculture and available literature, information pertaining to developing of knowledge test was gathered and different items on various aspects were prepared and enlisted. The items were then classified into nine major sub-heads; NABARD, SHG, banking, production system, marketing system etc. Initially total 45 items were collected from various sources.
(b) Initial selection of items

The selection of items for knowledge test was done by keeping the following two criteria in view.

i. Item should promote thinking rather than simply memorization and item should differentiate the well-informed SHG members from the poorly informed ones and should have a certain difficulty value.

ii. It means that the items, which were not well understood by SHG members and the items, which can correctly reply or none were not suitable for knowledge test.

Based on the above criteria, 45 items were initially selected encompassing major area of SHG. The items selected were according to the level of knowledge and understanding of the SHG members. A schedule was prepared with these 45 items for administering them to the SHG members for item analysis and screen out non-relevant and weak items. Correct replies for the items were ascertained in consultation with specialists and experts to prepare a key. The items were in alternative form.

(c) Administration of knowledge check to selected sample

The knowledge check thus prepared was administered to 30 women SHG members. The responses were quantified by giving a score of one to the correct answer and zero to the incorrect answer or do not know the answer. Thus, the total number of correct answers rendered by an individual was the knowledge score secured by her. Thus, the range of obtainable score was 0-57.

(d) Item analysis

The item analysis of a test usually yields two kinds of information i.e. item difficulty index and item discrimination. The index of item difficulty reveals how difficult an item is, whereas the index of discrimination indicates the extent to which an item discriminates the well-informed SHG member from the poorly informed ones.

Having computed the scores obtained by 30 respondents, the scores were arranged from highest to lowest in magnitude. These 30 respondents were then divided into six equal groups, each having 5 respondents and were arranged in descending order of total scores obtained by them. These groups were named as $G_1$, $G_2$, $G_3$, $G_4$, $G_5$ and $G_6$, respectively. For item analysis, the middle two groups i.e. $G_3$ and $G_4$ were eliminated. Only four groups with high and low scores were considered.
for computation of item difficulty and item discrimination indexes. The range of scores (out of maximum 30) obtained by the respondents of the six groups were as follows:

\[ \begin{align*}
G_1 &= 43 \text{ to } 46 \\
G_4 &= 31 \text{ to } 34 \\
G_2 &= 39 \text{ to } 42 \\
G_5 &= 27 \text{ to } 30 \\
G_3 &= 35 \text{ to } 38 \\
G_6 &= 23 \text{ to } 26
\end{align*} \]

(i) **Calculation of difficulty index**

The next step was to determine the item difficulty index. The index of item difficulty indicates the extent to which an item is difficult. An item neither should be so easy that all the persons can pass it nor should be so difficult that none can pass it without reply. The item difficulty as worked out in the present study was \( P_i \) *i.e.* the percentage of respondents answering an item correctly.

This was calculated by the formula

\[
P_i = \frac{n_i}{N_i} \times 100
\]

Where,

- \( P_i \) = Difficulty index in percentage of the \( i^{\text{th}} \) item.
- \( n_i \) = Number of respondents giving correct answer to \( i^{\text{th}} \) item.
- \( N_i \) = Total number of respondents to whom the \( i^{\text{th}} \) item was administered *i.e.* 30 in the present case.

(ii) **Calculation of discrimination index**

Item discrimination index indicates the ability of the item to differentiate the well-informed respondents from the poorly informed ones. The \( E^{1/3} \) formula was used in the present study for calculating the discrimination index. The formula used was as follows.

\[
E^{1/3} = \frac{(S_1 + S_2) - (S_5 + S_6)}{N/3}
\]

Where,
$E^{1/3} =$ Discrimination index of an item.

$S_1, S_2, S_5, S_6 =$ the frequencies of correct answers in groups $G_1, G_2, G_5$ and $G_6$, respectively

$N =$ Total numbers of respondents in the sample of item analysis, here it was 30

### Table 5: Calculations of difficulty and discrimination indices of the selected knowledge items of SHG

<table>
<thead>
<tr>
<th>Statement no.</th>
<th>Frequencies of correct answers.</th>
<th>Total frequency of correct answers $S_1+S_2+S_3+S_4+S_5+S_6$</th>
<th>Percentage of respondents giving correct answers ($P_i$)</th>
<th>$E^{1/3}$ Discrimination index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A) Knowledge about SHG</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4 5 4 3</td>
<td>23*</td>
<td>76.66</td>
<td>0.20</td>
</tr>
<tr>
<td>2</td>
<td>2 1 1 0</td>
<td>17*</td>
<td>56.66</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>B) Knowledge about NABARD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3 3 2 2</td>
<td>18*</td>
<td>60.00</td>
<td>0.20</td>
</tr>
<tr>
<td>4</td>
<td>2 2 1 1</td>
<td>15*</td>
<td>50.00</td>
<td>0.20</td>
</tr>
<tr>
<td>5</td>
<td>4 4 3 3</td>
<td>20*</td>
<td>66.66</td>
<td>0.20</td>
</tr>
<tr>
<td>6</td>
<td>3 3 1 1</td>
<td>16*</td>
<td>53.33</td>
<td>0.40</td>
</tr>
<tr>
<td><strong>C) Knowledge about Banking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>4 3 2 2</td>
<td>20*</td>
<td>66.66</td>
<td>0.3</td>
</tr>
<tr>
<td>8</td>
<td>5 4 2 2</td>
<td>23*</td>
<td>76.66</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>D) Knowledge about Legal Rights</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>4 4 4 2</td>
<td>23*</td>
<td>76.66</td>
<td>0.20</td>
</tr>
<tr>
<td>10</td>
<td>4 5 4 3</td>
<td>24*</td>
<td>80.00</td>
<td>0.20</td>
</tr>
<tr>
<td><strong>E) Knowledge about Marketing</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>3 3 3 1</td>
<td>19*</td>
<td>63.33</td>
<td>0.20</td>
</tr>
<tr>
<td>12</td>
<td>4 2 2 1</td>
<td>15*</td>
<td>50.00</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>F) Knowledge about Production</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>4 5 1 0</td>
<td>15*</td>
<td>50.00</td>
<td>0.80</td>
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<tr>
<td>---</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**G) Knowledge about Govt. Facilities**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>20*</td>
<td>66.66</td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>19*</td>
<td>63.33</td>
</tr>
</tbody>
</table>

**H) Knowledge about Empowerment through SHG**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>16*</td>
<td>53.33</td>
</tr>
<tr>
<td>19</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>23*</td>
<td>76.66</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>13*</td>
<td>43.33</td>
</tr>
</tbody>
</table>

**I) Knowledge about its enterprises and entrepreneurs**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>18*</td>
<td>60.00</td>
</tr>
<tr>
<td>22</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>21*</td>
<td>70.00</td>
</tr>
</tbody>
</table>

* The column indicates total frequency of correct answers, including those of G₃ and G₄, which were eliminated.

For example, substituting the value for item no. 1 success of the SHG is based on team work of the table of illustration given above, the values arrived at is.

\[
P_1 \text{(difficulty index)} = \frac{n_1}{N_1} \times 100
\]

\[
= \frac{23}{30} \times 100
\]

\[
= 76.66
\]

\[
E^{ij} \text{(discrimination index)} = \frac{(S_1+S_2)-(S_5+S_6)}{N/3}
\]

\[
= \frac{(4+5)-(4+3)}{30/3}
\]

\[
= 0.20
\]
(e) **Final selection of items for test**

Two criteria *viz.*, item difficulty index and item discrimination index were considered for selection of items for the final format of the knowledge test. When a respondent passed an item, it was assumed, described, that the item was less difficult than the individual’s ability to cope up with it. For the purpose of the present study, the item with difficulty index ranging from 40 to 80 and discrimination index ranging from 0.20 to 0.80 were retained for final selection for inclusion in the knowledge check (Appendix I).

(f) **Reliability of the scale**

The split-half technique was used to measure the reliability of the scale. The twenty two statements were divided into two halves with 11, odd numbered statements in one and the 11, even numbered statements in the other. These were administered to 20 respondents. Having obtained the two scores for each of the 20 respondents, co-efficient of reliability between the two sets of score was calculated by Rulon's formula (Guilford, 1954) which was 0.72.

\[
\text{rtt} = 1 - \frac{\sigma^2d}{\sigma^2t}
\]

Where,

- rtt = co-efficient of reliability
- \(\sigma^2d\) = variance of these differences
- \(\sigma^2t\) = variance of total scores

(g) **Test of validity**

The contents of the knowledge scale were defined from review of literature, consultation with experts. Thus, it was assumed that the scores obtained by administering the knowledge scale measured what it was intended to measure. Therefore, reasonably enough, the scale was taken as valid measure of desired dimension. This validity is termed as content validity.
(h) Administering the knowledge test

Finally, the test was administered to the sample who were selected for the study. On the basis of their knowledge level, respondents were grouped into three categories on the basis of mean and standard deviation.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Low</td>
<td>&lt; Mean – S. D.</td>
</tr>
<tr>
<td>2.</td>
<td>Medium</td>
<td>Mean ± S. D.</td>
</tr>
<tr>
<td>3.</td>
<td>High</td>
<td>&gt; Mean + S. D.</td>
</tr>
</tbody>
</table>

4.6.1.2 Attitude towards SHGs and its activities

It refers to the degree of positive and negative effect associated with some psychological object (Thurstone, 1946). The psychological object for the present study has been conceptualized as Self Help Groups. Hence, the attitude in the present study means negative or positive reaction of the women towards Self Help Groups. For measuring the attitude of women towards SHGs, the researcher had developed the scale. Among the techniques available, author has chosen scale product method which combines the Thurstone technique of equal appearing interval scale (1928) for selection of items and Likert's technique of summated rating (1932) for ascertaining the response on the scale as proposed by Eysenck and Crown (1949).

(a) Item collection

The items of attitude scale are called as statements. In initial stage of developing the scale, 42 statements reflecting feelings of the women towards the self help groups were collected from relevant literature and discussion with experts of extension personnels. The collected statements were edited according to the criteria laid down by Edward (1957).

(b) Judge's rating of attitudinal statements

Ninty slips of these statements were handed over to scientists / teachers rank of Asstt. professor / Asstt. Research Scientist), extension personnel, P.G. student and developmental personnel working in the study area. The judges were asked to judge the degree of agreement and disagreement of each statement on the five point equal
appearing interval continuum. Out of these 50 experts returned the statements after
duly recording their judgments and were considered for the analysis.

(c) Determination of scale and $Q$ values

The five point continuum of the rating scale was assigned on which scores
ranging from 1 (for strongly disagree) to 5 (for strongly agree). Based on the
judgment scale (median) values and values for each of forty two statements were
calculated using following formula.

$$S = L + \left( \frac{0.50 - pb}{PW} \right) \times i$$

Where,

- $S$ = The median or scale value of the statement
- $L$ = The lower limit of the interval in which the median falls
- $PW$ = The proportion within the interval in which the median falls
- $pb$ = The sum of the proportions below the interval in which the median falls
- $I$ = The width of the interval and is assumed to be equal to 1.0

The inter-quartile range $Q = Q_{75} - Q_{25}$ for each statement was also worked
out for determination of ambiguity involved in the statement.

When there was a good agreement among the judges in judging the degree
of agreement or disagreement of a statement, $Q$ was small compared to the values
obtained when there was a relatively little agreement among the judges. Only those
items were selected whose median (scale) values were greater than $Q$ values.
However, when a few items had the same scale values, items having lowest $Q$ values
were selected. Based on the median and $Q$ values twenty eight statements were
finally selected to constitute attitude scale.

The selected twenty eight statements for the final format of the attitude scale
were arranged systematically. Against each of twenty eight statements there were five
columns representing a five point continuum of agreement and disagreement to the
statements as followed by Likert (1932). The points on the continuum were strongly
agree, agree, undecided, disagree and strongly disagree with weight of 5, 4, 3, 2 and
1, respectively for favorable statement and with weight 1, 2, 3, 4 and 5, respectively for unfavorable statement. The final format of the statement is presented in (Appendix I).

(d) Reliability of the scale

The split-half technique was used to measure the reliability of the scale. The twenty eight statements were divided into two halves with 14 odd numbered in one and the 14 even numbered statement in the other. These were administered to 20 respondents. Having obtained the two scores for each of the 20 respondents, coefficient of reliability between the two sets of score was calculated by Rulon's formula (Guilford, 1954) which was 0.6149.

\[
\text{rtt} = 1 - \frac{\sigma^2_d}{\sigma^2_t}
\]

Where,

\[
\begin{align*}
\text{rtt} & = \text{co-efficient of reliability} \\
\sigma^2_d & = \text{variance of these differences} \\
\sigma^2_t & = \text{variance of total scores}
\end{align*}
\]

(e) Validity of the scale

The validity of the scale was examined with the help of content validity by determining how well the content of the scale represented the domain subject matter under study. Since as many items covering the area as possible were selected by discussion with experts, reviewing the literature and strict adherence to the judges ratings, it was presumed that the instrument satisfied the content validity.

(f) Administering the scale

The final attitude scale was administered on the sample women who were asked to express their reaction in terms of their agreement or disagreement with each item by selecting any one of five response categories. The total attitude score for each respondent was obtained by adding the weights of her responses made to the individual item. The final score was worked out by summing scores obtained by respondent for all statements. The respondents were categorized in five groups as under.
### Sr.No. | Category | Score
---|---|---
1 | Very less favourable | (0.00 to 65.20)
2 | less favourable | (65.21 to 80.40)
3 | Moderately favourable | (80.41 to 95.60)
4 | Highly favourable | (95.61 to 110.80)
5 | Very highly favourable | (110.81 to 126)

#### 4.6.2 Measurement of Independent Variables

**Table 6: Measurement of Independent Variables**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Variables</th>
<th>Measurement techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(I) Personal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Age</td>
<td>Structured schedule was used</td>
</tr>
<tr>
<td>2</td>
<td>Education</td>
<td>Scale developed by Pandya and Pandya (2008) was used with due modification</td>
</tr>
<tr>
<td>3</td>
<td>Type of family</td>
<td>Scale developed by Pandya and Pandya (2008) was used</td>
</tr>
<tr>
<td>4</td>
<td>Size of family</td>
<td>Scale developed by Pandya and Pandya (2008) was used</td>
</tr>
<tr>
<td><strong>(II) Socio-economical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Size of land holding</td>
<td>Structured schedule was used</td>
</tr>
<tr>
<td>6</td>
<td>Annual income</td>
<td>Scale developed by Pandya and Pandya (2008) was used with due modification</td>
</tr>
<tr>
<td>7</td>
<td>Extension participation</td>
<td>Scale developed by Badiger (1975) was used with due modification</td>
</tr>
<tr>
<td>8</td>
<td>Proactive attitude</td>
<td>Scale developed by Schwarzer (1999) was used with due modification</td>
</tr>
<tr>
<td>9</td>
<td>Skill development</td>
<td>Scale developed by Fernandez (2002) was used with due modification</td>
</tr>
<tr>
<td><strong>(III) Psychological</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Market orientation</td>
<td>Scale developed by Samantha (1977) was used with due modification</td>
</tr>
<tr>
<td>11</td>
<td>Achievement motivation</td>
<td>Scale developed by Hardikar (1998) was used</td>
</tr>
</tbody>
</table>
Reasearch Methodology

<table>
<thead>
<tr>
<th></th>
<th>Risk orientation</th>
<th>Innovativeness</th>
<th>Communicational</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Scale developed by Nagaraja (1989) was used with due modification</td>
<td>Scale developed by Feaster (1968) was used with due modification</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Scale developed by Patil (1994) was used with due modification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.6.2.1 (I) Personal Characteristics

4.6.2.1.1 Age

Age of the respondents was calculated as per the years completed on the date of interview by them. It was rounded up to nearest year. The respondents were divided into three categories according to their age as young age group (up to 35 years), middle age group (36 to 50 years) and old age group (above 50 years).

4.6.2.1.2 Education

The education of the respondents was measured as the level of literacy in terms of educational standard that respondents had passed. On the basis of their literacy level respondents were divided into 7 categories. It was measured with the help of scale developed by Pandya and Pandya with due modification (2008).

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Level of education</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Post graduate</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>Graduate</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Higher secondary school</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Secondary school</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Primary school</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Functionally literate</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Illiterate</td>
<td>0</td>
</tr>
</tbody>
</table>

4.6.2.1.3 Type of family

As regards to type of family it was measured on the basis of close and blood relationship of members and it was divided into two categories as nuclear family and
joint family with the help of scale developed by Pandya and Pandya (2008). In the respondent’s family, the information was categorized as under.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Type of family</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nuclear family</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Joint family</td>
<td>2</td>
</tr>
</tbody>
</table>

### 4.6.2.1.4 Size of family

It was measured on the basis of total number of members in the respondent’s family. Size of family was categorized under five categories with the help of scale developed by Pandya and Pandya (2008).

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Size of family</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 to 2 member</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>3 to 4 member</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>5 to 6 member</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>7 to 8 member</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Above 8 member</td>
<td>1</td>
</tr>
</tbody>
</table>

### 4.6.2.2 Socio-Economic Characteristics

#### 4.6.2.2.1 Land holding

It was measured with help of structured schedule on the basis of total land possessed by the respondents. On the basis of land possessed in hectares, the respondents were grouped in to five categories.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Land holding</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Landless</td>
<td>No land</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Marginal farmers</td>
<td>Up to 1.00 ha.</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Small farmers</td>
<td>1.01 to 2.0 ha.</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Medium farmers</td>
<td>2.01 to 4.00 ha</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Big farmers</td>
<td>Above 4.00 ha.</td>
<td>5</td>
</tr>
</tbody>
</table>

#### 4.6.2.2.2 Annual income

This indicates the total annual income expressed in rupees earned by the respondents from the all members of their family. The actual income in monetary
term was taken into account on the basis of annual income. The respondents were
grouped into five categories with the help of scale developed by Pandya and Pandya
(2008) as under.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Level of Annual income</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Above ₹ 2,00,000/-</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>₹ 1,50,001 to 2,00,000/-</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>₹ 1,00,001 to 1,50,000/-</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>In between 50,001/- to Rs. 1,00,000/-</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>₹ Up to 50,000/-</td>
<td>1</td>
</tr>
</tbody>
</table>

4.6.2.2.3 Extension participation

It refers to the extent of participation of respondents in different extension
activities like training programmes, demonstrations, educational tours, exhibitions,
film shows, visit of Self Employed Women Association (SEWA) and field visit on
related SHGs entrepreneurship. The scores assigned to various categories of uses
were; regularly (2) occasionally (1) and never (0). This variable was quantified by
using the method followed by Badiger (1975) with due modification. On the basis of
mean and standard deviation respondents were divided into three categories.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>&lt; Mean – S. D.</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Mean ± S. D.</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>&gt; Mean + S. D.</td>
</tr>
</tbody>
</table>

4.6.2.2.4 Proactive attitude

An eight-item scale measuring a proactive attitude towards having control
over one’s choice was developed by Schimtz and Schwarzer (1999) and was modified
to suit for the study. The scores obtained for each statement was summed up to arrive
at the individual score for proactive attitude. This was categorized under three groups
as follows.
4.6.2.2.5 Skill development

Skill development of the SHG member could be defined as improvement in specific abilities to do something well. These abilities might be practical, technical or managerial and abilities to have alternative occupation.

Improvement in skill was measured by the index used by Fernandez (2002) and was modified to suit the present study. The index was consisted of eight items. The score was obtained for each statement was summed up to arrive at the individual’s score for improvement in the skills of the member. This was categorized under three groups as follows.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>&lt; Mean – S. D.</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Mean ± S. D.</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>&gt; Mean + S. D.</td>
</tr>
</tbody>
</table>

4.6.2.3 Psychological Characteristics

4.6.2.3.1 Market orientation

The scale used to measure the market orientation was developed by Samantha (1977). It consisted of eight items, among these, the first, third and sixth statements were negative and the rest were positive. The respondents’ opinions stated in the schedule were sought on a five point continuum. viz., “strongly agree”, “agree”, “undecided”, “disagree” and “strongly disagree” with score 5, 4, 3, 2, 1 for positive statements and vice-versa for negative statements.

The final score was worked out by summing up of scores obtained by respondents for all the statements. The respondents were categorized in three groups on the basis of mean and standard deviation. Final respondents were categorized under three groups on the basis of mean and standard deviation.
For quantification of this variable, the scale developed by Hardikar (1998) was used. The scale consists of 6 statements, to be rated on a 3 point continuum namely agree, undecided and disagree with a score of 3, 2 and 1, respectively.

The possible scores one could get varied from 6 to 18. Final respondents were categorized under three groups on the basis of mean and standard deviation.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>&lt; Mean – S. D.</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Mean ± S. D.</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>&gt; Mean + S. D.</td>
</tr>
</tbody>
</table>

4.6.2.3.3 Risk orientation

It is the degree to which a respondent is oriented towards risk and uncertainty and has the courage to solve/overcome the problem in enterprise management.

Nagaraja (1989) developed a scale for measuring risk orientation of farmers was used for the study. The scale contained five statements, of which four statements were positive and one was negative. In the case of positive statements a score of one was assigned for the positive response (agree) and zero score for negative (disagree) response.

This was reverse in the case of negative statements. The scores were added to get total score of the respondents. Minimum and maximum score one can get is 0 and 5, respectively. The final score was worked out by summing scores obtained by respondent for all statements. The respondents were categorized under three categories on the basis of mean and standard deviation.
### 4.6.2.3.4 Innovativeness

Innovativeness is the degree to which an individual is relatively earlier in the state of readiness in accepting the new ideas/practice when compared to other members of the social system. This variable was quantified by using scale developed by Feaster (1968) and as followed by Padmaiah (1995) and Natikar (2001). The scale consists of eight interrogative statements. The response of the respondents was recorded on a three point continuum viz., agree, undecided and disagree.

The score of 2, 1 and 0 were assigned to the statements. The maximum and minimum scores obtained by an individual on the scale were 16 and 0. The maximum score reveals high degree of innovativeness. The final score was worked out by summing scores obtained by respondent for all statements. The respondents were categorized under three categories on the basis of mean and standard deviation.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>&lt; Mean – S. D.</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Mean ± S. D.</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>&gt; Mean + S. D.</td>
</tr>
</tbody>
</table>

### 4.6.2.4 Communicational Characteristics

#### 4.6.2.4.1 Source of information

It refers to the source through which the beneficiaries sought information about their respective enterprise, their day to day problems and also about the development programmes. The extent of use of information sources was measured by taking into account and the different sources were listed in the schedule. Each respondent was asked as how often she got needed information from each of the listed source. The scoring procedure used was most often, often, sometimes and never as 3, 2, 1 and 0, respectively. The total score was calculated by adding the scores of an individual from all the sources. Thus, the maximum and minimum score an individual
could obtain was 63 and 0, respectively. The scale developed by Patil (1994) was used with due modification.

The respondents were categorized under three categories on the basis of mean and standard deviation.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>&lt; Mean – S. D.</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Mean ± S. D.</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>&gt; Mean + S. D.</td>
</tr>
</tbody>
</table>

4.7 DECISION MAKING ABILITIES OF THE SHG MEMBERS IN RELATION TO ENTREPRENEURIAL ACTIVITIES

Decision making ability of the SHG members were analyzed with the help of decision score. Decision making ability of the women was analyzed in the twenty two areas and the responses of the respondents were categorized under 5 point continuum. The points on the continuum were no involvement, opinion was sought, opinion was considered, joint decision and independent decision with weight of 0, 1, 2, 3, 4.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Decisions</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No Involvement (NI)</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Opinion was Sought (OS)</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Opinion was Considered (OC)</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Joint Decision (JD)</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>Independent Decision (ID)</td>
<td>4</td>
</tr>
</tbody>
</table>

The decision score was calculated with the help of the following formula:

\[
\text{Decision score} = \frac{\text{NI} \times 0 + \text{OS} \times 1 + \text{OC} \times 2 + \text{JD} \times 3 + \text{ID} \times 4}{100}
\]

4.8 WORKING MODEL OF SHG BANK LINKAGE PROGRAMME

There are three models of SHG-bank linkages that have evolved over time, especially in India. Under this study we had discussed about its models and secondary data was collected.
4.9 ROLE OF SHG IN POVERTY REDUCTION

Main purpose of the formation of SHG is to change the status of BPL into APL. SHG is a main platform for poverty reduction and women empowerment. Reduction in poverty was analyzed with the help of their income status and changes in their income status before joining the SHG and after joining of the SHG.

Reduction in poverty was analyzed from the income level of the SHG members.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Monthly income before joining SHG (Rs.)</th>
<th>Score</th>
<th>Monthly income after joining SHG (Rs.)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1000-2000</td>
<td>1</td>
<td>1000-2000</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2001-3000</td>
<td>2</td>
<td>2001-3000</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3001-4000</td>
<td>3</td>
<td>3001-4000</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4001-5000</td>
<td>4</td>
<td>4001-5000</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5001-6000</td>
<td>5</td>
<td>5001-6000</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>More than 6000</td>
<td>6</td>
<td>More than 6000</td>
<td>6</td>
</tr>
</tbody>
</table>

4.10 INCOME GENERATING ACTIVITIES OF SHGs

The responses on income generating activities were invited from the respondents to collect the data and the responses of the members were analyzed on the basis of frequency and percentage.

4.11 CONSTRAINTS FACED BY SHG MEMBERS

In the present investigation, an attempt was made to find out problems faced by women in self help groups. The various types of difficulties were experienced by SHG members in their work environment.

The structured schedule was developed for collecting the constraints which were experienced by SHG members during their various activities in SHG. The purpose of this effort was to identify the different types of the constraints and the intensity with which the SHGs women viewed them on four point continuum most severe, severe, less severe and not at all.
Based on the responses of the SHG members, the intensity of the constraints was computed by calculating the mean per cent score and by assigning the rank to the individual constraint.

4.12 SUGGESTIONS OFFERED BY THE SHG MEMBERS TO STRENGTHEN THE ACTIVITIES OF SHG

The open ended suggestions were taken from the each SHG member with the purpose of improving the SHG activities and for enhancing the smoothly running of the SHG. All the SHG members opined various types of suggestions to overcome the problems faced by them during various tasks of their SHG. The frequency was calculated for each suggestion and it was converted into percentage and accordingly ranks were assigned.

4.13 CONSTRUCTION OF INTERVIEW SCHEDULE

An interview schedule was designed for collecting the data. First of all the interview schedule was prepared in English version keeping in view the objectives of the study and respondents’ background. During preparing the interview schedule, the investigator secured guidance from major advisor, advisory committee and teaching staff of the Department of Agricultural Extension. The suggestions given by them were incorporated in the interview schedule by the investigator.

4.14 TOOLS AND TECHNIQUES OF DATA COLLECTION

The main tool and techniques used in the present study was interview schedule along with the suitable scales. The interview schedule was prepared keeping in view the objectives of the study. The schedule was developed in consultation with experts and necessary modifications were made to avoid ambiguity in the questionnaire.

The interview schedule consists of VII parts such as the general information of the SHG members, Knowledge of members about SHG and its activities, attitude of the members about SHG and its activities, Decision making ability, role of SHG in poverty reduction and income generating activities and constraints faced by the SHG members and suggestions offered by them to strengthen the activities etc.

The interview schedule was translated into Gujarati language and pre-tested within non sample area. In the light of the experience gained in pre-testing, suitable
modifications were made before finalizing the actual schedule. The data were analyzed with appropriate statistical tools.

4.15 COLLECTION OF DATA

The data were collected from the selected SHG members using a detailed interview schedule containing appropriate items. All the respondents were interviewed personally by the researcher and the schedule was directly filled with relevant data. It was made sure that the questions were clearly understood by the respondents by giving more clarifications if necessary.

Thus, the data for the study were collected by personal interview of respondents. The respondents were contacted personally at their work place or at their residence in an informal way. Before the interview, the aims and objectives of the study were explained to the respondents by the investigator to obtain whole-hearted and correct answers from them.

Every possible effort was made to maintain friendly atmosphere to get unbiased response from respondents. The questions from interview schedule were asked one by one and their responses were recorded on the spot by the researcher.

Secondary data and other relevant information of the study were gathered from the reference books, paper published by different authors related to objectives of the study and post graduate thesis pertaining to the topic.

4.16 ANALYSIS OF THE DATA

All the responses were recorded and transferred into master sheet. The data were compiled, scored, tabulated and analyzed to give statistical treatment in such a way that they might give proper answers to the specific objectives of the study. The following statistical tools were used for interpreting the data.

4.16.1 Frequency and Percentage

Simple calculations as averages and percentages were extensively used to analyze the collected data.

4.16.2 Mean Score

Mean score was calculated for assigning the ranks. The mean score was obtained by total scores of an item divided by the total number of respondents.
The mean was calculated by using formula.

\[ \bar{X} = \frac{\sum X_i}{n} \]

Where,
\[ \bar{X} = \text{Mean} \]
\[ n = \text{Total number of respondents} \]
\[ X_i = \text{Value of the } i^{th} \text{ respondents} \]

**4.16.3 Mean Percent Score (MPS)**

Mean percent score was obtained by dividing total obtained score by maximum obtainable score and multiplied it by 100.

\[ \text{MPS} = \frac{\text{Total obtained score}}{\text{Maximum obtainable score}} \times 100 \]

**4.16.4 Standard deviation**

The standard deviation was obtained by the square root of the average of the square deviation from mean by the following formula.

\[ SD = \sqrt{\frac{\sum (X_i - \bar{X})^2}{n - 1}} \]

Where,
\[ X_i = \text{Individual score} \]
\[ \bar{X} = \text{Mean score} \]
\[ n = \text{Total number of respondents} \]
\[ \Sigma = \text{Sum} \]

**4.16.5 Correlation of Co-efficient (‘r’)**

It is the measurement of association between dependent and independent variables. The coefficient of correlation was computed to find out the relationship between each of the independent variables and dependent variables by employing the formula for calculation of Pearson’s product moment correlation coefficient is as under. Following formula will be used to calculate the correlation coefficient (Garrett, 1967).
Research Methodology

\[ R = \frac{SP (XY)}{\sqrt{SS (X) SS (Y)}} \]

Where,
- \( R \) = Correlation co-efficient
- \( X \) and \( Y \) = Two variables under study
- \( SP (XY) \) = Sum of product of the deviations on \( x \) and \( y \) from their means
- \( SS (X) \) = Sum of squares of deviations due to ‘\( x \)’ variable
- \( SS (Y) \) = Sum of squares of deviations due to ‘\( y \)’ variable

4.16.6 Z test

For comparison of knowledge between SHG women members of Junagadh district to SHG women members of Rajkot District, ‘Z’ test was calculated by using the following formula:

\[ Z = \frac{X - Y}{\sqrt{S_1^2 + S_2^2/n}} \]

Where,
- \( Z \) = Calculated value
- \( X \) = Average of the group of SHG members of one district
- \( Y \) = Average of the group of SHG members of another district
- \( S_1 \) = Variance of SHG members of one district
- \( S_2 \) = Variance of SHG members of another district
- \( n \) = Number of respondents
4.17 DERIVATION OF HYPOTHESIS

Research hypothesis (stated in null form)

On the basis of the objectives of the study, the following null hypothesis were formulated.

[1] General hypothesis

H1 : There is no significant relationship between the selected independent variables and attitude towards SHG and its activities.

[2] Specific hypothesis

H1.1 : There is no significant relationship between the age of the respondents and attitude toward SHG and its activities.

H1.2 : There is no significant relationship between the education level of the respondents and attitude toward SHG and its activities.

H1.3 : There is no significant relationship between the type of the family and attitude toward SHG and its activities.

H1.4 : There is no significant relationship between the size of the family and attitude towards SHG and its activities.

H1.5 : There is no significant relationship between the size of land holding and attitude towards SHG and its activities.

H1.6 : There is no significant relationship between the annual income and attitude towards SHG and its activities.

H1.7 : There is no significant relationship between the level of extension participation and attitude towards SHG and its activities.

H1.8 : There is no significant relationship between the level of proactive attitude and attitude towards SHG and its activities.

H1.9 : There is no significant relationship between the skill development and attitude towards SHG and its activities.

H1.10 : There is no significant relationship between the level of market orientation and attitude towards SHG and its activities.

H1.11 : There is no significant relationship between the level of achievement motivation and attitude towards SHG and its activities.

H1.12 : There is no significant relationship between the level of risk orientation
and attitude towards SHG and its activities.

\( H_{1.13} \) : There is no significant relationship between the innovativeness and attitude towards SHG and its activities.

\( H_{1.14} \) : There is no significant relationship between the sources of information used by the SHG members and attitude towards SHG and its activities.

\( H_{1.15} \) : There is no significant relationship between the knowledge of the respondents of one district to another.
Plate 1 : Collection of information regarding SHG from taluka Panchayat office

Plate 2 : Data collection from Self Help Group women members in Rajkot district
Plate 3: Data collection from SHG women members in Junagadh district
Plate 4: Handicraft products made by the SHG women members