CHAPTER-2

RESEARCH METHODOLOGY

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In order to fulfill the objectives of the study, an appropriate methodology for conducting the study is inevitable. This chapter deals with the study area, the sampling procedure followed, nature and sources of data and analytical tools and techniques employed.

2.1 Research Design

A research design is the framework or plan for a study used as a guide in collecting and analyzing data. According to the objective and requirement of a study different type of research design can be use to study different problem. Exploratory research design was used in the present study.

2.2 Area of the Study

Ashoknagar district of Madhya Pradesh was the study area.

2.3 Universe of the study

All the KCC holders were universe of the study.

2.4 Unit of study

KCC holder’s household was the unit of the study.

2.5 Sampling method

In order to fulfillment of the above mentioned objectives, the study was conducted in the Ashoknagar district of Madhya Pradesh. The district is divided into four tehsils namely Ashoknagar, Chanderi, Isagarh and Mungaoli. The district was purposively selected as a newly formed and agriculturally less developed district in the state. For selection of sample KCC holders, five branches in each tehsil which has made a higher progress in implementing Kissan Credit Card
scheme were selected. For the selection of respondents a list of all the beneficiaries who benefited under KCC scheme were obtained from the selected bank branches. After getting list of beneficiaries (KCC holders), from each branch 15 farmers were selected using simple random sampling with due representation to various types of farmers according to their land-holding size. Thereby 75 KCC holders from each tehsil were selected for the study. So the numbers of KCC holders selected for the study were 300.
Table No. 2.1

Tehsil-wise List of Surveyed Branches of the District

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Tehsil</th>
<th>S. No.</th>
<th>Bank Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ashoknagar</td>
<td>1</td>
<td>SBI, Ashoknagar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>DCCB, Sadora</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>Bank of India, Ashoknagar</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>PNB, Rajpur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>Union Bank of India, Ashoknagar</td>
</tr>
<tr>
<td>2</td>
<td>Mungaoli</td>
<td>6</td>
<td>SBI, Mungaoli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>RRB, Bhahadurpur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>DCCB, Mungaoli</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>UCO, Saraskhedi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>Union Bank of India, Piprai</td>
</tr>
<tr>
<td>3</td>
<td>Isagarh</td>
<td>11</td>
<td>SBI, Isagarh</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12</td>
<td>DCCB, Isagarh</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
<td>RRB, Dhakoni</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14</td>
<td>PNB, Shukhpur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
<td>SBI, Saraskhedi</td>
</tr>
<tr>
<td>4</td>
<td>Chanderi</td>
<td>16</td>
<td>DCCB, Chanderi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>17</td>
<td>RRB, Chanderi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18</td>
<td>SBI, Chanderi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19</td>
<td>Bank of India, Chanderi</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>Punjab &amp; Sindh Bank, Chanderi</td>
</tr>
<tr>
<td>Total</td>
<td>04</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
2.6 Period of the study

For collection of the secondary data on the Kissan Credit Card Scheme, five years i.e. from 2005-06 to 2009-10 were taken as the reference period. The required primary data were collected from the sample KCC holders and actual own experience in the field and discussion with all concerns during the year 2009-10.

2.7 Data Collection Tools and Techniques

The study is based on primary and secondary data. The type of data collected with these schedule/questionnaire included information on the following variables.

1. **Primary data** were collected from the KCC holders through pre-tested interview schedule, observation, group discussion, on the aspects like, information about family members, education of head of the household, social group, household size, sources of income, details of area owned and operated, household assets, cropping pattern, allied agricultural activities, cost of purchased and other inputs used at the farm, consumption expenditure, adequacy of credit, credit utilization pattern, repayment performance, pattern of borrowings, sources of borrowings, issue related with KCCs, credit limits sanctioned/availed; interest rates, duration of loan, operational difficulties associated with usage of KCCs and suggestions for better implementation of the scheme.

    The data were also collected from selected bank branches with the help of bank questionnaire on following variables: fixation of credit limit, security norms, number of KCC issued, operational issues and difficulties associated with implementation of the scheme.

2. **Secondary data** were collected from various published and unpublished sources of lead bank of district, sample branches, the News Paper, Books, Research Journals, Article, Indian government reports, RBI reports, Magazines, Internet etc.
2.8 Data Analysis Procedure

The data were analyzed with the help of $\chi^2$, t-test and simple linear regression using SPSS computer software. Simple data analysis including frequency distribution, cross-tabulation, mean, percentages and averages were also calculated. In order to see the difference between the income before credit use and after credit use paired sample t-test was also used.

Statistical Tools

I. Chi-Square

The Chi Square ($\chi^2$) test is undoubtedly the most important and most used member of the nonparametric family of statistical tests. The chi-square test is used to determine whether there is a significant difference between the expected frequencies and the observed frequencies in one or more categories.

$$\chi^2 = \frac{\sum (Fe - Fo)^2}{Fe}$$

$Fe = (row total \times column total) / grand total$

II. Paired t test

To find out the impact of Kissan Credit Card Scheme on income the paired t test was done, which is a statistical test for difference between before and after credit provided by Kissan Credit Card Scheme to farmers in the study area.

$$Paired \ t \ test = \frac{Di}{Sd}$$

Where

$$Di = (X_{1i} - X_{2i})$$

and

$$Sd = \frac{\sum (Di^2)}{n-1}$$
III. Simple linear regression analysis

To know the importance and contribution of credit in the agricultural productivity (agricultural output) Linear Regression analysis was used. Linear regression is a statistical technique that is used to learn more about the relationship between an independent (predictor) variable and a dependent (criterion) variable.

To assess the impact of KCC the simple linear regression analysis was used. The functional form and variables were as under:

\[ Y = f(Cr) \]

Where,

\[ Y = \text{Agricultural Income (}'\text{)' } \]
\[ Cr = \text{Credit taken (}'\text{)' } \]

2.9 Definition of terms and concepts used in the study

Some of the terms and concepts used in the study are briefly explained below:

**Land Holdings:** The operational holdings were stratified as marginal (less than 1 ha.), small (1.01- 2 ha), semi-medium (2.01 - 4 ha), medium (4.01- 10 ha) and large (< 10 ha).

**Large Farmers:** A farmer whose land holdings were more than ten hectares.

**Medium Farmers:** A farmer whose land holdings were more than four hectare and less than or equal to ten hectare.

**Semi Medium Farmers:** A farmer whose land holdings were more than two hectare and less than or equal to four hectare.

**Small Farmers:** A farmer whose land holdings were more than one hectare and less than or equal to two hectare.

**Marginal Farmers:** A farmer whose land holdings were less than one hectare.

**Repayment:** The act of returning money received previously.
Advance: The amount of loan advanced by an institution, during a particular period, year or season.

Agricultural Credit: Agricultural Credit: Agricultural credit is the amount, either in cash or in kind or in both forms, received from the external sources, institutional and non-institutional, to be repaid in the specific period of time to the lender, with some interest for the use of funds by the borrower. The present study considered only the institutional source. It is the credit provided for the purpose of agricultural use.

Over dues: The non repayment of any part of or full amount of loan by the borrowers to the lending agency within the time specified for the repayment.

Recovery: The amount of loan which was to be recovered up to a point of time by the financial institutions.

Loan: When a lender gives money or property to borrower and the borrower agrees to return the property or repay the borrowed money, along with interest, at a predetermined date in the future

Defaulters and non-defaulters: Non-defaulters are considered as persons who pay the loan in full in accordance with the scheduled date of repayment, while defaulters are those who fail to repay their loans in full even after the scheduled time.

Interest: The charge for the privilege of borrowing money, typically expressed as an annual percentage rate.

Non-interest cost: It refers to the cost incurred by the farmer beneficiary to obtain loan, excluding the interest amount charged by the bank. It includes expenditure made on number of trips made, cost per trip, documents charges and legal fees etc.