CHAPTER-III

RESEARCH METHODOLOGY

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RESEARCH METHODOLOGY

In this part methods used in this study are presented. It includes procedure adopted in process and method of data collection, tools and techniques of analysis in accordance with the objectives, nature and scope of the study. It contains two parts; in the first part the details in respect of the data used in this study are described and in the second part analytical tools applied to the data to draw inferences pertaining to different objectives are presented.

I

Area of Study

This study is basically confined to operation of banks and impact of financing of banks in Bansdih development Block of Ballia district. The area of the study, i.e. Bansdih Block has been selected purposively in view of the agro-ecological features. Bansdih Block forms part of the BANGAR region of the district, thus it comprises of negligible low land and flood prone areas, as such almost all villages of the Block can be approached through out the year. On account of its agro-ecological features the block has potentiality of multiple cropping and possibility of the adoption of new innovations in agricultural productions process.

Data

This study is based on both primary and secondary data. Data used in respect of credit flows, spatial distribution
of branches and credit activities covered, etc. as required under objectives (1) and (2) of the study are secondary, whereas the data used in examination of the rationality of credit use under objective (3) of the study are primary.

Sources of Data

The secondary data used in this study have been obtained from published and non-published records of the following banking institutions and their offices:

(a) Central Bank of India, Lead Bank Office, Garwar Road, Ballia.
(b) Ballia Kshetriya Gramin Bank, Head Office, Indira Market, Ballia.
(c) NABARD, Ballia District Office, Chandra Shekhar Nagar, Ballia.
(d) Allahabad Bank, Branch Bansdih, Distt. Ballia.
(e) State Bank of India, Branch Bansdih, Distt. Ballia.
(f) Ballia Kshetriya Gramin Bank, Bansdih Branch, Distt. Ballia.
(g) Ballia Kshetriya Gramin Bank, Keora Branch, Distt. Ballia.
(h) Ballia Kshetriya Gramin Bank, Deorar Branch, Distt. Ballia.
(i) Ballia Kshetriya Gramin Bank, Kharouni Branch, Distt. Ballia.
(j) Block Development Office, Bansdih, Distt. Ballia.

The primary data used is necessary were obtained from the sample households of the study.

Sampling Procedure

The sampling procedure described below was used for collection of primary data, while the secondary data based
analysis covers all bank branches. Multistage random sampling procedure has been adopted to draw sample for collection of primary data in this study. In Bansdih Block there are three Banks i.e. Allahabad Bank, State Bank of India and Ballia Kshetriya Gramin Bank, in operation. At the first stage of sampling one branch each of the above banks have been collected randomly as presented in table 3.1.

Table 3.1 : Selection of Bank Branches.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the Bank</th>
<th>Number of branches located in the block.</th>
<th>Randomly selected branch.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Allahabad Bank</td>
<td>1</td>
<td>Allahabad Bank, Bansdih.</td>
</tr>
<tr>
<td>2.</td>
<td>State Bank of India</td>
<td>1</td>
<td>State Bank of India, Bansdih.</td>
</tr>
</tbody>
</table>

At the second stage of sampling, the list of villages allocated to these branches were prepared and alphabetically arranged, one village each from the list of allocated villages to the selected branches under 'Service Area Approach' scheme were randomly selected as indicated in table 3.2.

At the third stage of sampling, separate lists of cultivators of different villages were prepared. From these lists the names of beneficiarycultivators were eliminated. The remaining non-beneficiary cultivators were stratified into three operational holding groups, i.e., marginal, small, medium
Table 3.2: Selection of villages.

<table>
<thead>
<tr>
<th>Name of the selected bank branch</th>
<th>Number of allocated villages under S.A.A. Scheme</th>
<th>Selected villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allahabad Bank, Bansdih.</td>
<td>19</td>
<td>Deodih</td>
</tr>
<tr>
<td>State Bank of India, Bansdih.</td>
<td>8</td>
<td>Bankwa</td>
</tr>
<tr>
<td>Ballia Kshetriya Gramin Bank,</td>
<td>21</td>
<td>Muriyari</td>
</tr>
<tr>
<td>Deorar.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

and large. 30 non-beneficiaries were selected randomly with probability proportional to the number in operational size groups as indicated in table 3.3.

Table 3.3: Selection of Non-beneficiaries.

<table>
<thead>
<tr>
<th>Name of selected villages.</th>
<th>Number of non-beneficiaries.</th>
<th>Distribution in Marginal</th>
<th>Small</th>
<th>Medium and large.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deodih</td>
<td>124</td>
<td>87</td>
<td>17</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(21)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Bankwa</td>
<td>178</td>
<td>125</td>
<td>24</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(21)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Muriyari</td>
<td>224</td>
<td>157</td>
<td>30</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(21)</td>
<td>(4)</td>
<td>(5)</td>
</tr>
<tr>
<td>Over all</td>
<td>526</td>
<td>369</td>
<td>71</td>
<td>86</td>
</tr>
<tr>
<td></td>
<td>(90)</td>
<td>(.63)</td>
<td>(12)</td>
<td>(15)</td>
</tr>
</tbody>
</table>

(Figures in parenthesis are numbers of randomly selected non-beneficiaries in the sample).

To select the sample of beneficiaries, list of beneficiaries under agricultural credit (Minor irrigation and Crop loans) during the two years of the implementation of 'Service Area Approach' i.e. 1989-90 and 1990-91 were prepared and stratified in three
operational holding groups i.e. marginal, small, medium and large. Beneficiaries were restricted to above advance activities in view of their direct bearing on cultivation of crops. 30 beneficiaries each from the three selected bank branches were randomly selected in the sample with probability proportional to the number in different strata as indicated in table 3.4.

Table 3.4: Selection of Beneficiaries.

<table>
<thead>
<tr>
<th>Name of the banks branch</th>
<th>Number of beneficiaries</th>
<th>Distribution in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Marginal</td>
</tr>
<tr>
<td>Allahabad Bank Bansdih</td>
<td>108</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(13)</td>
</tr>
<tr>
<td>State Banks of India, Bansdih</td>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(12)</td>
</tr>
<tr>
<td>Ballia Kshetriya Gramin Bank,Deorar</td>
<td>65</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>(30)</td>
<td>(12)</td>
</tr>
<tr>
<td>Over all</td>
<td>213</td>
<td>89</td>
</tr>
<tr>
<td></td>
<td>(90)</td>
<td>(37)</td>
</tr>
</tbody>
</table>

(Figures in parenthesis are numbers of randomly selected beneficiaries in the sample.)

The primary data based analysis under this study which examines rationality of credit use is thus based on the data obtained from 90 beneficiary and 90 non-beneficiary sample households selected through the procedure described above.

The implementation of Service Area Approach and the evaluation of the credit flow and its spatial distribution has been examined on the basis of secondary data obtained from all
the six branches of the three banks in operation in Bansdih Block of Ballia District.

**Reference Period**

This study is based on the analysis of both primary and the secondary informations. Inview of the fact that 'Service Area Approach' is under operation with effect from 1 April, 1989, the secondary data comparison takes into account the statistical data for the years 1987-88, 1988-89, 1989-90 and 1990-91 i.e., two continuous years prior to the enforcement of the 'Service Area Approach' and two consecutive years of 'Service Area Approach'. The rationality agricultural credit use has been examined in the respect of the post - Service Area Approach period, i.e. 1989-90 and 1990-91.

**The Scope of the Study**

The 'Service Area Approach Scheme' covers all types of rural credit. The economic rationality in this study has been restricted to the agricultural credit (Minor irrigation and crop loans) in post Service Area Approach period. Though, the study examines implementation of 'Service Area Approach' in Bansdih Block which comprises of 149 inhabited villages, since the present study examines implementation of the scheme by the financial institutions located in Bansdih Block, it covers only 111 inhabited villages as the remaining 38 inhabited villages of the block were attached to the branches located outside the block and hence these villages are not covered in the study.
II

Analytical Tools

Tools of analysis provide parameters for observations, comparison and interpretations leading to inferences in research studies. Tools are selected in accordance with the objectives of the study. In this study different analytical tools of analysis have been used for fulfilment of the objectives:

1. Implementation of Service Area Approach has been examined in respect of its major aspects, as under, with the help of tabular analysis.

   (a) Identification and allocation of Service Area for each branch.
   
   (b) Survey of villages in the Service Area for assessing the potential for lending activities and identification of beneficiaries for assistance.
   
   (c) Preparation of credit plan on an annual basis for the service by each branch.
   
   (d) Co-ordination between credit institution on the one hand and field level development agencies on the other, on an on-going basis for the effective implementation of the credit plans.
   
   (e) System of continuous monitoring of progress in implementation of the plans.

2. Evaluation credit flow and its spatial distribution has been made with the over-time tabulator comparison of the data at
two points of time i.e. post Service Area Approach (1989-90 and 1990-91) and pre - Service Area Approach (1987-88 and 1988-89) periods.

3. Rationality of agricultural credit use has been examined with the help of Cobb-Douglas production function model on the data obtained from primary sources.

(a) The impact of changes in the level of different agricultural inputs on the volume of credit utilized in different size holding groups has been analysed by application of following model. This analysis has been undertaken in the case of beneficiaries.

\[ C = a X_1^{b_1} X_2^{b_2} X_3^{b_3} X_4^{b_4} u \]

where,

- \( C \) = The volume of credit (in Rs.).
- \( X_1 \) = Rupees invested on owned irrigation equipments. (Rs./farm).
- \( X_2 \) = Investment on draft cattle (Rs./farm).
- \( X_3 \) = Expenditure on fertilizers (Rs./farm).
- \( X_4 \) = Investment on farm machinery (Rs./farm).
- \( b_i \) = Elasticities.
- \( a \) = Intercept.
- \( u \) = Error term.

(b) The impact of farm resources on farm productivity on beneficiary and non-beneficiary households have been examined with the help of following model.
The Model:

\[ Y = a \cdot X_1^b_1 \cdot X_2^b_2 \cdot X_3^b_3 \cdot X_4^b_4 \cdot X_5^b_5 \cdot u \]

Where,

- \( Y \) = Gross value of farm crop returns (Rs./ha.)
- \( X_1 \) = Rupees invested on owned irrigation equipment (In Rs./farm).
- \( X_2 \) = Investment on draft cattle (Rs./farm).
- \( X_3 \) = Expenditure on fertilizer (Rs./farm).
- \( X_4 \) = Investment on farm machinery (Rs./farm).
- \( X_5 \) = Operational area (in ha.).
- \( b_1 \) = Elasticities.
- \( a \) = Intercept.
- \( u \) = Error term.

The observation made and inferences drawn in this study, which are presented in chapters 5 to 7, are based on the application of tools and techniques of the analysis described above.