Chapter III

Research Methodology
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RESEARCH METHODOLOGY

SAMPLING TECHNIQUE:

Multistage stratified random sampling technique has been adopted to select the Mandi (market), villages, farmers, traders, commission agents and other functionaries of the food grain marketing.

SELECTION OF MARKET (MANDI):

The study is confined to the district Hamirpur. In district Hamirpur, there were 3 regulated markets (Mandi) viz. (i) Kurara (Hamirpur), (ii) Maudaha and (iii) Rath. The regulated market (Mandi) Rath was selected randomly from the aforesaid markets (mandies) of the district Hamirpur for detailed study.

SELECTION OF VILLAGES:

Whole of the market area of the Rath Mandi was divided in three groups on the basis of the distance from the market as (i) in the radius of 10 Km., (ii) between 10-20 Km. And (iii) more than 20 Km.

Out of the 255 villages in market area of Rath Mandi, 102 were within 10 Km. range, 68 in between 10 to 20 Km. and 85 villages in the distance of more than 20 Km. distance. 6 village within 10 Km. distance 4 in between 10-20 Km. and 5 villages from more than 20 Km. distance were selected randomly for
further sampling. The number of villages selected from various distance are given in table III-1.

Table III-1: Number of Selected villages.

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Distance</th>
<th>Total no. of villages</th>
<th>Villages selected for further study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Up to 10 Km.</td>
<td>102</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>10 to 20 Km.</td>
<td>68</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>More than 20 Km.</td>
<td>85</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>255</td>
<td>15</td>
</tr>
</tbody>
</table>

**SELECTION OF FARMERS:**

To find out the primary data regarding area under different food grain crops, their production, family consumption, marketable and marketed surplus, at least 5 percent of the total farmers from each selected villages including small (up to 2 hect.), medium (2-6 hect.) and large farmers (6 hect. & above) in ratio proportion to their total numbers in each villages have been selected randomly for detailed study.

The number of farmers of various categories selected from the villages of varying distance are given in table III-2.
Table III-2: Selected Farmers.

<table>
<thead>
<tr>
<th>S N</th>
<th>Categories of farmers</th>
<th>Up to 10 Km</th>
<th>10-20 Km</th>
<th>More than 20 Km</th>
<th>Grand total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total Selec.</td>
<td>Total Selec.</td>
<td>Total Selec.</td>
<td>Total Selec.</td>
</tr>
<tr>
<td>1.</td>
<td>Small</td>
<td>1021 51</td>
<td>646 32</td>
<td>430 25</td>
<td>2097 108</td>
</tr>
<tr>
<td>2.</td>
<td>Medium</td>
<td>212 12</td>
<td>155 12</td>
<td>148 7</td>
<td>515 31</td>
</tr>
<tr>
<td>3.</td>
<td>Large</td>
<td>31 3</td>
<td>60 5</td>
<td>32 3</td>
<td>123 11</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1264 66</td>
<td>861 49</td>
<td>610 35</td>
<td>2735 150</td>
</tr>
</tbody>
</table>

Selection of wholesalers, commission agents, retailers and other functionaries of the market:

To collect information regarding the market structure, marketing channels, problems in food grain marketing, marketing charges etc. at least 10 percent of the market functionaries, traders and other intermediaries have been selected for the study.

Number of wholesalers, commission agents, retailers & other functionaries selected for the study are given in table III-3.
Table III-3: Number of Traders, market functionaries & other intermediaries selected for interview.

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Particulars</th>
<th>Numbers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Interviewers</td>
</tr>
<tr>
<td>1.</td>
<td>Wholesale traders</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2.</td>
<td>Wholesale Arhati</td>
<td>78</td>
<td>20</td>
</tr>
<tr>
<td>3.</td>
<td>Arhati</td>
<td>75</td>
<td>18</td>
</tr>
<tr>
<td>4.</td>
<td>Retail traders</td>
<td>70</td>
<td>15</td>
</tr>
<tr>
<td>5.</td>
<td>Weighmen</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>Godown man</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7.</td>
<td>Palledar</td>
<td>165</td>
<td>40</td>
</tr>
<tr>
<td>8.</td>
<td>Miller</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

In addition to the above the Govt. officials farmer leaders, cooperative officials, leaders of traders and other market functionaries have also been interview for seeking needful information & cross checking.

**SELECTION OF FARMERS (Suppliers) IN MANDI YARD:**

In addition to the already selected farmers of different selected villages more than 100 farmers were interviewed in the Mandi yard on spot during the sale of their produce in Rath Mandi.
THE DATA:

Primary as well as secondary data have been collected for the purpose of present investigation.

PRIMARY DATA:

Primary data in relation to the cropping pattern, area under different food grain crops, their production, use of retained food grain, marketable & marketed surplus have been recorded on well prepared, pretested schedules & questionnaires by the investigation from the selected farmers of different selected villages spread over in the varying distance from the Mandi and the marketing functions, market and marketing structure means of transport, transport cost, problems in sale and purchase of goods marketing charges mal practices, facilities & problems in market yard etc. have been recorded from the farmers (producers/suppliers) traders, commission agents, wholesalers, millers, retailers, market functionaries like weighmen, cleaners, palledars and consumers etc. in the market area by direct interview.

SECONDARY DATA:

Secondary data regarding, number of village in Mandi area, number and size of holdings of the farmers in the selected villages, arrivals and prices of food grain commodities period from 1993-94 to 2000-2001, facilities provided under regulation of Mandi act., revenue of the Mandi etc. have been
recorded from the revenue records, Mandi records and other publications of state Govt. & Mandi Parishad, U.P.

**YEAR OF STUDY:**


**LOCATION:**

Department of Agricultural Economics Brahmanand Mahavidyalaya Rath (Hamirpur).

**METHOD OF COLLECTION OF DATA:**

Survey method was adopted to collect the primary data from the respondents. At least one visit per week has been made during the observation period. The data were recorded in the well prepared, pretested schedule & questionnaires.

In addition to the selected farmers of the villages, the farmers, traders, market functionaries, middlemen, consumers, Govt. officials, farmers leaders, progressive farmers and leaders of traders association, palledar$ union have also been interviewed time to time for collection primary data directly or indirectly related to the marketable, marketed related to the marketing structure, efficiency of marketing channels etc.

**ANALYTICAL TOOLS:**

Following analytical tool have been used for the compilation, tabulation and analysis of primary and secondary data.
(i) **TABULAR ANALYSIS:**

Tabular analysis has been made to present the results in system and under standable form.

(ii) **WEIGHTED AVERAGE:**

Weighted average was worked out for averaging the figures the formula used for was

\[ \sum WX \]

Weighted average = \[ \frac{\sum WX}{\sum W} \]

(iii) **TIME SERIES ANALYSIS:**

(a) **Computation of Trend:**

Least square short method of even number of years was used to find out long period trend of arrivals & prices of the food grain. The formula used was –

\[ Y = a + b x \]

\[ a = \frac{\sum Y}{Y} \]

\[ B = \frac{\sum x Y}{\sum x 2} \]

Where;

\[ Y = \text{dependent variable i.e. arrivals/prices.} \]

\[ x = \text{independent variable/Time.} \]

\[ a = \text{value of Y when x = zero} \]

\[ b = \text{amount of change that come in 'Y' for a unit change in 'x'} \]
(b) Computation of seasonal indices:

Seasonal indices for the arrivals & prices of various food grain commodities have been worked out by simple average method.

(iv) EFFICIENCY OF MARKETING CHANNELS:

To find out the efficiency of various marketing channels prevailing in the studied market, the traditional method of share of producer in the price paid by consumer method was use.

\[
\text{Efficiency of Marketing Channel} = \frac{\text{Net price received by producer}}{\text{Price paid by consumer}} \times 100
\]