CHAPTER III

RESEARCH METHODOLOGY

The methodology for the study comprised the following:

GEOGRAPHICAL AREA COVERED

The study covered Ludhiana city, the industrial hub of Punjab, also called the Manchester of India.

SAMPLING DESIGN

Multistage stratified random sampling technique was used to select the sample for the study.

Selection of Industries: For the purpose of this study the industrial units were divided into two broad categories, viz.: large/medium and small scale industrial units in Ludhiana city. These industrial units included

i) Hosiery & Knitwear; and

ii) Cycle & Cycle Parts.

SELECTION OF INDUSTRIAL UNITS

Respondents from a total of 50 industrial units were surveyed for the purpose of the present study. Lists of both large/medium and small scale industrial units were obtained from official data of District Industries Centre, Ludhiana (2007). Also, the lists of the industrial units under the category of Hosiery & Knitwear, and Cycle & Cycle Parts were taken from District Industries Centre, Ludhiana (2007). The approximate number of industrial units under the category of large/medium scale Hosiery & Knitwear and Cycle & Cycle Parts industry were 7 and 8 respectively. The number of industrial units under the category of small scale Hosiery & Knitwear and Cycle & Cycle Parts industry were 176 and 223 respectively.

The Table 3.1 shows the number of large/medium scale and small scale industrial units surveyed from the selected industries.
Table 3.1
Number of Industrial Units Covered

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Small Scale</th>
<th>Large/Medium Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosiery &amp; Knitwear</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Cycle &amp; Cycle Parts</td>
<td>22</td>
<td>5</td>
</tr>
</tbody>
</table>

The numbers of large/medium scale industrial units selected as sample were 5 each from Hosiery & Knitwear and Cycle & Cycle Parts industry. One-tenth industry of the total number of small scale Hosiery & Knitwear and Cycle & Cycle Parts industrial units in the city were taken as the sample.

SELECTION OF THE RESPONDENTS

For the present study a sample of 500 migrant labourers, 200 local labourers and 50 employers were surveyed from the selected industrial units. The total number of labourers employed in the small scale and large/medium scale industrial units of Ludhiana district were 78,951 and 2,77,702 respectively (GoP, 2008). The labourers from large/medium scale units and small scale units were covered proportionately on the basis of labourers employed in these industries, i.e., in the ratio of 1:3.5. Thus, a total of 155 labourers, comprising of 110 migrant and 45 local labourers from medium/large scale units; and a total of 545 labourers, comprising of 390 migrant and 155 local labourers from small scale units were selected for the study. The sampling of the migrant and local labourers is presented in Tables 3.2 and 3.3 respectively.

Table 3.2
Number of Migrant Labourers

<table>
<thead>
<tr>
<th>Type of industry</th>
<th>Small Scale</th>
<th>Large/Medium scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosiery &amp; Knitwear</td>
<td>195</td>
<td>55</td>
</tr>
<tr>
<td>Cycle &amp; Cycle Parts</td>
<td>195</td>
<td>55</td>
</tr>
</tbody>
</table>

From the Hosiery & Knitwear industrial units, a sample of 250 migrant labourers were taken, of which 55 were from large/medium scale and 195 from the small scale industrial units. Similarly, a sample of 250 migrant labourers consisted of 55 labourers from large/medium scale and 195 from the small scale Cycle & Cycle Parts industrial units.
Table 3.3

Number of Local Labourers

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Small Scale</th>
<th>Large/Medium scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosiery &amp; Knitwear</td>
<td>75</td>
<td>22</td>
</tr>
<tr>
<td>Cycle &amp; Cycle Parts</td>
<td>80</td>
<td>23</td>
</tr>
</tbody>
</table>

Table 3.3 demonstrates that 75 and 22 local labourers represent the Hosiery & Knitwear units in the small as well as large/medium scale industrial units respectively. The sample of 103 local labourers from Cycle & Cycle Parts industrial units comprised of 80 labourers from small scale and 23 from large/medium scale industrial units.

The number of employers surveyed from large/medium and small scale Hosiery & Knitwear as well as Cycle & Cycle Parts industry units is shown in Table 3.4.

Table 3.4

Number of Employers

<table>
<thead>
<tr>
<th>Type of Industry</th>
<th>Small Scale</th>
<th>Large/Medium Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosiery &amp; Knitwear</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Cycle &amp; Cycle Parts</td>
<td>22</td>
<td>5</td>
</tr>
</tbody>
</table>

A total of 50 employers were surveyed from the industrial units of Ludhiana city. The number of employers surveyed from the large/medium scale industrial units was 10 of which 5 each belonged to the Hosiery & Knitwear as well as Cycle & Cycle Parts industry. The numbers of employers surveyed from small scale industrial units were 40 of which 18 were from the Hosiery & Knitwear industry and 22 were from the Cycle & Cycle Parts industry.

DATA COLLECTION

The data was collected from the three different categories of respondents which were, the migrant labourers, local labourers and the employers. The quantitative and qualitative data was collected from both primary and secondary sources. The primary data was collected through a survey which was facilitated by structured questionnaires. The Secondary data was solicited from reports, documents, books of various relevant institutions, departments and universities.
The first step of the process of data collection was to review the type of industries in the city and the approximate number of industrial units under large/medium and small scale industrial units. Purposive sampling was used to select industrial units. The information pertaining to their addresses was collected from District Industries Centre, Ludhiana. The sample for number of labourers was decided by reviewing the number of labourers employed in both large/medium and small scale industrial units in Ludhiana district.

The second step was to prepare three sets of structured questionnaire in order to record observations and behaviour of all the three categories of respondents. These questionnaires were framed in the light of this study focusing on socio-economic behaviour, living standards and problems faced by the migrants and local labourers.

The questionnaire prepared for the migrant labourers comprised of seven sections:

1. Demographic and general information about migrant labourers which included name, age, place of origin, year of migration, family status, nature of work (of respondent, wife/husband and children of the respondent at place of origin), caste, educational qualification, spoken, written and understandable languages, possession of house, property, etc.

2. Factors responsible for migration, basis of selection and mode of travel to the city, hardships and cost incurred during the travel, nature of job, preference to work at the same place, relation with the employer and reason to leave the previous job etc.

3. Consumption and expenditure pattern of the migrant labourers was assessed by reviewing the monthly expenditure on different commodities and services.

4. The section regarding social and cultural status of the migrant labourers in the city included questions regarding the relation of migrant labourers with locals participation of the migrant in the festivals of Punjab, liking for Punjabi language and music, nature of work of wife/husband and children in the city, changes in the size of family, religious beliefs, eating and dressing habits after migration to the city and the harassment made by local police and other officials.

5. Economic status of the migrant labourers comprised questions regarding type of residence, treatment during sickness, monthly savings, debt position and remittances by the respondent to the native place were analysed.

6. The section regarding political status of the migrant labourers included questions
regarding participation in the labour union, voting rights, etc.

7. The next section was about the aspects of employment of migrant labourers which included wages, distance of the working place from the place of residence, hours of work, comfort level, safety and refreshments, uniform and provident fund, relation with the local and other migrant labourers at the factory, discrimination faced, behaviour of the employer, etc.

The questionnaire for the local labourers comprised of 4 sections;

1. Demographic and general information about local labourers which included age, family status, nature of work (of the respondent, wife/husband and children of the respondent), place of origin, caste, educational qualification, spoken, written and understandable languages, possession of house, property, behaviour of the migrants, type of residence, comfort level with the migrants (except colleagues), debt position, monthly savings etc.

2. Consumption and expenditure pattern of the local labourers which included questions in order to review the change in monthly expenditure on different commodities and services.

3. The political status of the local labourers was studied through questions regarding participation in the labour unions, voting rights, etc.

4. Aspects of employment of the local labourers included wages, distance of the working place from the place of residence, hours of work, comfort level, safety and refreshments, uniform and provident fund, relation with the local and migrant labourers at the factory, discrimination faced, behaviour of the employer, duration of work at the present factory, etc.

The questionnaire for the employers included the name of the employer, kind of labour employed, preference of the migrant labourers over the local labourers, efficiency level of migrant labourers, mode of employment, relationship with the migrant labourers, salary differences, preference for skilled or unskilled migrant labourers, problems faced while employing local labourers in the absence of migrant labourers, preferred age of the labourers.

The survey was done by personally interviewing respondents with the help of questionnaires. In order to begin with the interview, the respondent was made comfortable and the significance of the study was explained so as to obtain genuine replies. The
questionnaires were in English but the questions were asked in Hindi/Punjabi so as to make them easily understandable. Most of the labourers and the employers appreciated the idea of the study and participated enthusiastically which made them share their personal views about the city, the government authorities and their counterparts.

**DATA ANALYSIS TECHNIQUES**

Statistical tools like percentages, averages, t-test, z-test, chi-square test, indexes were used.

**STATISTICAL FRAMEWORK**

Simple as well as advance statistical tools were applied to analyse the data.

**Simple Statistical Tools:** Simple statistical tools like frequencies, percentages, averages and indexation were used to present the data in tabular form.

**INDEXATION**

**Education Index:** Education Index was computed by assigning the weight as under:

<table>
<thead>
<tr>
<th>Education</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>0</td>
</tr>
<tr>
<td>Primary</td>
<td>1</td>
</tr>
<tr>
<td>Middle</td>
<td>2</td>
</tr>
<tr>
<td>Matric</td>
<td>3</td>
</tr>
<tr>
<td>Above Matric</td>
<td>4</td>
</tr>
</tbody>
</table>

**Transport Expenditure Index**

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nil</td>
<td>0</td>
</tr>
<tr>
<td>Up to Rs. 500</td>
<td>1</td>
</tr>
<tr>
<td>Rs. 501 to 1000</td>
<td>2</td>
</tr>
<tr>
<td>Rs. 1001 to 1500</td>
<td>3</td>
</tr>
<tr>
<td>More than Rs. 1500</td>
<td>4</td>
</tr>
</tbody>
</table>

**ADVANCE STATISTICAL TECHNIQUES**

**Chi-square Test:** To see the association between two way classifications of respondents, chi-square test was used.
\[ \chi^2 = \sum (O-E)^2 / E \]

Where, \( \chi^2 \) = Chi-square value

O = Observed frequency

E = Expected frequency

**Z-test:** Z-test which is also called test of proportions was used to see the significance of difference between two proportions of respondents. The formula used was as under:

\[
Z = \frac{|P_1 - P_2|}{\text{S.E. of } (P_1 - P_2)}
\]

\[
\text{S.E. of } (P_1 - P_2) = \sqrt{pq \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}
\]

\[
p = \frac{n_1P_1 + n_2P_2}{n_1 + n_2}
\]

where \( q = 1 - p \)

P_1 = Proportion in 1st group

P_2 = Proportion in 2nd group of respondents

n_1 = No. of respondents in 1st group

n_2 = No. of respondents in 2nd group

S.E. = Standard serve of proportion difference

**t-test:** In order to compare two mean (average) values, for example, average income, average debt, etc. students' t-test was applied by using the following formula:

\[
t = \frac{\bar{X}_1 - \bar{X}_2}{\text{S.E. of } (\bar{X}_1 - \bar{X}_2)}
\]

\[
\text{S.E. of } (\bar{X}_1 - \bar{X}_2) = s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}
\]

\[
s = \sqrt{\frac{SD_1^2 (n_1-1) + SD_2^2 (n_2-1)}{n_1 + n_2 - 2}}
\]
Where,

\[ \bar{X}_1 = \text{Mean of 1st group} \]

\[ \bar{X}_2 = \text{Mean of 2nd group} \]

S.E. of \((\bar{X}_1 - \bar{X}_2)\) = standard Error of mean difference

\[ \text{SD}_1 = \text{Standard Deviation of 1st group} \]

\[ \text{SD}_2 = \text{Standard Deviation of 2nd group} \]

\[ S = \text{Combined standard Deviation} \]

\[ n_1 = \text{Number of respondents in 1st group} \]

\[ n_2 = \text{Number of respondents in 2nd group.} \]

**LIMITATIONS OF THE STUDY**

The study was performed to analyse socio-economic behaviour and status of migrant labourers, to observe the relationship of migrant labourers with local labourers and employers to achieve the mentioned objectives of the study. The survey was done smoothly but there were few limitations of the study. Firstly, the information from the secondary sources was incomplete. There was no separate record of the number of migrant and local labourers employed in the Ludhiana city. Also, there were no separate records of the total number of labourers and industrial units in the city. Secondly, some of the respondents were too adamant and considered the conducting of survey to be wastage of their time. Many of the labourers were illiterate and thus, the information about their own and family members’ age, total salary, monthly consumption expenditure provided by them was inaccurate and hence, the possibilities of error could not be ruled out. Some of the respondents did not give accurate information about their whereabouts and thought that the researcher was employed by their employer. The survey was conducted in the factory premises and thus, the labourers generally spoke only good things about the factory premises and the employer. In some cases the researcher had to face the language problem. While interviewing about the consumption pattern most of them were hesitant to answer about the consumption of intoxicants. Some of the labourers did not reveal their caste. Many of the migrant labourers did not know about the estimated value of their assets in their native places and thus, complete information about their economic status could not be generated.
It was difficult to convince the employers to give full information required. Employers in some of the industrial units refused to co-operate for the survey as they believed it was wastage of time. However, some employers were co-operative enough and were eager to know about the feedback from the labourers. Most of the employers read the questionnaires before the interview with the labourers and objected to few of the questions regarding provident fund, uniform allowance, paid leaves, labour union, hours of overtime, status of employment, amount of wages and few more. Thus, in such a situation both the labourers and the employers were biased while giving the information. Some of the employers also refused to entertain the researcher during the morning hours which made the survey in the particular industrial unit tedious. Also, some of the employers did not give the complete information about the total number of local and migrant labourers employed by them.

REFERENCES