Methodology
CHAPTER III

METHODOLOGY

A systematic and careful analysis of information is of primary importance in any research. In order to obtain reliable results, it is essential to evolve scientific methods of data collection and employ appropriate and reliable techniques for the analysis of information (Paul Green et al., 1998).

The methodology followed in the current study is discussed in this chapter under the following heads.

3.1 Profile of the study area

3.2 Selection of the sample units

3.3 Period and collection of data

3.4 Quantitative techniques

3.5 Concepts used and

3.6 Limitations

3.1 PROFILE OF THE STUDY AREA

The present study was confined to a selected group of street vendors in five zones in Coimbatore City Municipal Corporation in Coimbatore District of TamilNadu. The city is situated on the banks of the river Noyyal. Coimbatore existed even prior to the 2nd century A.D. as a small tribal village capital called Kongunad until it was brought under Chola control in the 2nd or 3rd century A.D. by Karikalan, the first of the early
Cholas. The other great rulers of this city were the Rashtrakutas, Chalukyas, Pandyas, Hoysalas and the Vijayanagara kings. The small village was also named as ‘Covanputhur’ after the leader of the local group, whose name was ‘Covan’. According to the ‘Cholan Poorva Pattayam’ in the Madras Oriental Manuscript Library, ‘Covanputhur’ was later changed to ‘Coimbatore’. When Kongunad fell to the British along with the rest of the State, its name was changed to Coimbatore and it is by this name that it is known till today, except in Tamil, in which it is called ‘Kovai’.

Surrounded by the fairy queen, The Nilgiris, the blue hills by North, the Western Ghat side of Kerala in the West, and the tobacco and vegetable Dindigul district in the East, lays Coimbatore, the highly progressive, entrepreneurial and commercial district of Tamilnadu. This district lies between 10°- 10’ and 11°- 30’ Northern latitude and 76°- 40’ and 77°– 30’ Eastern longitude with salubrious climate throughout the year.

3.1.1 ADMINISTRATIVE SET UP

Coimbatore District has 2 Revenue Divisions, 8 Taluks, 33 Firkas and 295 Revenue Villages. In case of local bodies, the District has 1 Corporation, 3 Municipalities, 1 District Panchayat, 12 Panchayat Unions, 44 Town Panchayats and 229 Village Panchayats.

The Coimbatore City Municipal Corporation consists of 100 wards headed by a Mayor, a Deputy Mayor and 99 other Councillors who represent the wards. The Corporation is divided into five zones namely North, South, East, West, Central headed by a chairman.
3.1.2 DEMOGRAPHY AND WORK FORCE

The total population of Coimbatore was 3,458,045 as per the 2011 Census. The total number of males and females was 1,729,297 and 1,728,748 respectively. Coimbatore is the second most populous district of TamilNadu. The decadal growth rate of population in the district has been 18.56% between 2001 and 2011, higher than the rate of 16.96% between 1991 and 2001. Density of population (persons per sq.km.) had increased to 731 in 2011 from 631 in 2001. The average literacy rate of Coimbatore in 2011 was 83.98% compared to 78.50% in 2001. Gender wise, male and female literacy rate was 89.06% and 78.92% respectively. Sex ratio (that is number of females per thousand males) in Coimbatore rose to 1000 in 2011 from 968 in 2001. According to 2011 census there were 15,67,950 main workers in Coimbatore district out of which 69.08% were male workers and 32.92% were female workers. Percentage of cultivators in the district was 4.81, agricultural labourers 12.84 and other workers 82.35.

3.1.3 BANKING INSTITUTIONS

The district has adequate number of bank branches and co-operative banks. It has 513 banks and 157 primary co-operative banks, thereby forging an improved link between bank credit and potential available in the urban and rural areas.

3.1.4 INDUSTRIES

Industrial growth in Coimbatore has always been at the forefront. The state government has created several organizations and institutions to provide infrastructural support to private enterprises. Specialized bank branches in the district cater to the financial requirements of small scale industries. The District Industries Centre and Small
Industries Services Institute take effective steps for the promotion of small units. Industrial estates have been set up by the government, Small Industries Development Corporation (SIDCO), Co-operatives and private persons.

Laboratories are available to the industrial units for improving the quality of their products. According to the Foundation for MSME\textsuperscript{15} Clusters (FMC), there are 13 Industrial Clusters\textsuperscript{16}, 1 Handloom Cluster, 1 Information Technology Cluster and 5 Micro-enterprises Clusters in Coimbatore District. A review of small scale units indicates a significant and steady increase in investment and employment. As on March 2014, the number of registered units was 12,034. The important industries in the district are textiles, hosiery, cement, motors and pumps, wet grinders, solar heaters, safety valves, stabilizers, animal feed, steel rolling, paper, sugar, flour mills, dairy, soya and ancillary machinery. The exports include hosiery items and readymade garments, pumps and motors, yarn, castings, textile spares, jasmine, areca nut, jewels, software and tea.

3.1.5 ECONOMY

Coimbatore is one of the greatest industrial and commercially vibrant cities in South India. It is the second largest city of TamilNadu. The first textile mill came as far back as 1888. The development of Hydro electricity from the Pykara Falls in the 1930 led to a cotton boom in Coimbatore. The district is referred to as the Manchester of South India. It is home to various other industries in the field of engineering, information technology, health care facilities, translation services, interpreting services, and real

\textsuperscript{15} Micro, Small and Medium Enterprise

\textsuperscript{16} A cluster is a concentration of enterprises producing same or similar products or strategic services and is situated within a contiguous geographical area spanning over a few villages, a town or a city and its surrounding areas in a district and face common opportunities and treats.
estate. It has more than 40,000 small, medium and large scale industries and textile mills. Coimbatore supplies over 30% of all the automotive components used in the country. The city makes over 60% of the water pumps and 45% of the motors used in India. Several companies cater to the needs international market. Cotton textiles, electric motors, pumps, automobile spares, iron steel and aluminium castings form the major exports from Coimbatore. It is the state's 2nd biggest software producer and houses the offices of numerous multi-national software companies. It has earned the title “Detroit of the South”. According to a study by Global Initiative for Restructuring Environment and Management and DTZ of 21 business destinations in the country, Coimbatore has been ranked as the seventh best business destination (The Hindu, 2013).

3.2 SELECTION OF THE SAMPLE UNITS

Convenience sampling technique was adopted in the selection of sample units. About 500 street vendors who sold their wares in Coimbatore City Municipal Corporation were selected. About 100 respondents each from North, South, East, West and Central zone were selected. Data was collected from Gandhipuram, Kuniamuthur, Uppilipalayam, Vadavalli and Ukkadam areas in the Corporation, covering all the 5 zones of the Corporation (Figure 3.1).
3.2.1 TYPES OF ACTIVITIES

The sample respondents were involved in vending a variety of products in the study area. They were found selling goods like ‘men and women accessories (19.6%)’, ‘textile products (19.2%)’, ‘eatables (12.8%)’, ‘tailoring (12.6%)’, ‘fruits (11%)’, ‘food items (5.2%)’, ‘kitchen and other household wares (4.8%)’, ‘decorative items (4.4%)’, ‘electronic items (3.6%)’, ‘flowers and garlands (3.4%)’, ‘saplings of ornamental and flowering plants (2%)’ and ‘candles (1.4%)’ (Table 3.1).
### TABLE 3.1

**GOODS SOLD BY THE RESPONDENTS**

<table>
<thead>
<tr>
<th>Goods Sold</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food items</td>
<td>26 (5.2)</td>
</tr>
<tr>
<td>Fruits</td>
<td>55 (11)</td>
</tr>
<tr>
<td>Eatables</td>
<td>64 (12.8)</td>
</tr>
<tr>
<td>Candles</td>
<td>7 (1.4)</td>
</tr>
<tr>
<td>Decorative items</td>
<td>22 (4.4)</td>
</tr>
<tr>
<td>Kitchen and other household wares</td>
<td>24 (4.8)</td>
</tr>
<tr>
<td>Tailoring</td>
<td>63 (12.6)</td>
</tr>
<tr>
<td>Flowers and garlands</td>
<td>17 (3.4)</td>
</tr>
<tr>
<td>Electronic items</td>
<td>18 (3.6)</td>
</tr>
<tr>
<td>Textile products</td>
<td>96 (19.2)</td>
</tr>
<tr>
<td>Men and women accessories</td>
<td>98 (19.6)</td>
</tr>
<tr>
<td>Saplings of ornamental and flowering plants</td>
<td>10 (2)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>500 (100)</strong></td>
</tr>
</tbody>
</table>

Source: Based on field survey, 2013.

Note: Figures in parenthesis denote percentage to column total.

The street vendors in the study area sold textile products like ‘clothing and bedding’, food items such as ‘fast food items, dry fish and ice creams’, fruits such as ‘apple, orange, grapefruit, mango, gooseberry, the twisted tamarind, the Indian cherry, cucumber and pineapple’, eatables like ‘fried groundnuts, fried corn, chip items and cotton candy’, men and women accessories like ‘belts, sun glasses, bracelets, wallets,
bags and fashion jewellery’, decorative items such as ‘flower vases, wall hangings, festival items like lamps and stars’, electronic items such as ‘mobile phone accessories, watches and torches’, ‘kitchen and other household wares made of stainless steel, aluminum, iron and plastic’, ‘tailoring’, ‘candles’ and ‘flowers and garlands’.

3.3 PERIOD AND COLLECTION OF DATA

The database for the study was drawn from the responses of 500 street vendors, elicited through a detailed interview schedule personally administered, and observations from surveying the locality and from personal interviews. The schedule contained questions on the socio-economic background of the sample respondents, the street vending practices followed by the vendors, their motivational factors, awareness on policies and programmes for street vendors, income and expenditure pattern, saving and investment particulars, job and health related problems and needs of the street vendors. The schedule was pre-tested through a pilot survey carried out on a sample of 25 street vendors in the study area. Based on the pilot survey, the schedule was modified and revised schedule was administered on the selected sample for the study (Appendix I). The required data was collected through personal interview method during the year 2013.

3.4 QUANTITATIVE TECHNIQUES

To draw meaningful inference, a sound methodology, accompanied by appropriate tools and techniques of analysis was necessary. The statistical tools and techniques used in the analysis are

3.4.1 Percentage and Averages,

3.4.2 Quality of Life Index,
3.4.3 ‘t’ - Test,
3.4.4 Garrett’s Ranking Technique,
3.4.5 Kruskal Wallis Test,
3.4.6 ‘F’ Test,
3.4.7 Post Hoc Test,
3.4.8 Step Wise Multiple Regression,
3.4.9 Performance Criteria
3.4.10 $\chi^2$ Test,
3.4.11 Factor Analysis and
3.4.12 Graphs.

### 3.4.1 PERCENTAGES AND AVERAGES

An important aspect of the present research was to analyze the socio-economic, demographic and other related factors that determine the work, earnings and life pattern of the street vendors. For this, percentages and averages were calculated.

### 3.4.2 QUALITY OF LIFE INDEX

Dhanasekaran (2004) developed a Quality of Life Index with a set of 7 qualitative and quantitative indicators representing the social and nutritional status and the type of house in which the migrants live. Based on the assessment index, a household is assumed to be extremely poor, if the average quality of life index was less than 7 and poor if his/her score lies between 7 and 14, and marginally poor, if it lies between 14 and 21, vulnerable if it is ranges between 21 to 28, middle income if the score is between 28 and 35 and high income if it is between 35 and 42.
### TABLE 3.2

**QUALITY OF LIFE INDEX**

<table>
<thead>
<tr>
<th>Indicator/ Scale</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Illiterate</td>
<td>Primary (class I to V)</td>
<td>Middle (class VI to VIII)</td>
<td>High school (class IX and X)</td>
<td>Higher secondary (class XI and XII)</td>
<td>Under graduate, diploma</td>
<td>Post graduate and others</td>
</tr>
<tr>
<td>Occupation of the head of the household</td>
<td>Casual workers and/or less than 100 days employed in a year</td>
<td>Agricultural/non agricultural labour households (regular workers in unorganized sectors)</td>
<td>Marginal farmers (less than 1.25 acre)</td>
<td>Small farmer (1.26 to 2.50 acres)</td>
<td>Medium farmers (2.51 to 5.00 acres)</td>
<td>Large farmers (5.01 to 10 acres), self-employed in non-agriculture (exceeding rural artisans)</td>
<td>Government service</td>
</tr>
<tr>
<td>Monthly per capita income (₹)</td>
<td>&lt;500</td>
<td>500-750</td>
<td>751-1000</td>
<td>1001-1250</td>
<td>1251-2000</td>
<td>2001-4000</td>
<td>Above 4000</td>
</tr>
<tr>
<td>Percentage expenditure on food</td>
<td>80 and above</td>
<td>75-79</td>
<td>70-74</td>
<td>55-69</td>
<td>60-64</td>
<td>45-59</td>
<td>&lt;45</td>
</tr>
<tr>
<td>Annual expenditure on clothing (₹)</td>
<td>=119</td>
<td>120-179</td>
<td>180-239</td>
<td>240-299</td>
<td>300-359</td>
<td>360-639</td>
<td>640 and above</td>
</tr>
<tr>
<td>Type of house</td>
<td>Roof</td>
<td>Leaf</td>
<td>Tiles</td>
<td>Tiles</td>
<td>Tiles</td>
<td>Tiles pucca</td>
<td>Terrace</td>
</tr>
<tr>
<td></td>
<td>Wall</td>
<td>Mud</td>
<td>Mud</td>
<td>Brick</td>
<td>Brick</td>
<td>Leaf</td>
<td>Brick</td>
</tr>
<tr>
<td></td>
<td>Floor</td>
<td>Mud</td>
<td>Mud</td>
<td>Cement</td>
<td>Cement</td>
<td>Cement</td>
<td>Cement</td>
</tr>
<tr>
<td>No. of rooms per person</td>
<td>0</td>
<td>.25</td>
<td>.5</td>
<td>1</td>
<td>1.25</td>
<td>1.5</td>
<td>&gt;1.5</td>
</tr>
</tbody>
</table>
3.4.3 ‘t’ – TEST

To compare the variations in the generation of income of the street vendors before and after taking up vending activity, Paired ‘t’ Test was employed.

The null hypothesis tested was

**Ho:** There was no significant difference in the average income of the respondents before and after entering street vending in all the five zones.

**Ha:** There was significant difference.

\[
\text{Difference} \quad t = \frac{\text{Difference}}{\text{Standard error}}
\]

To calculate ‘t’, SPSS package was used. If the calculated ‘t’ value was less than the theoretical ‘t’ value for \(n_1+n_2-2\) degrees of freedom, the null hypothesis was accepted, otherwise rejected.

3.4.4 GARRETT’S RANKING TECHNIQUE

The conducive and compulsive factors that led the respondents to take up street vending were found. The conducive/influential factors considered were ‘easy to venture’, ‘interest and experience in the same line’, ‘needs no education/special skills’, ‘easy availability of materials’, ‘low cost of investment’, ‘availability of finance’, ‘less competition’, ‘densely populated area/large number of consumers’, ‘to be independent’ and ‘suggestion by friends and relatives’. Correspondingly the compulsive factors which were considered was ‘poverty’, ‘sole bread winner’, ‘loss of previous job/dissatisfaction in previous employment’, ‘lack of employment opportunities’ and ‘family business’. To find out the extent of influence of these factors, ‘Garrett’s Ranking Technique’ was adopted.
The respondents were asked to rank the given conducive factors from ‘1 to 10’ by giving rank ‘1’ to the highest conducive factor and ‘10’ for the least conducive factor. Likewise they were asked to rank the given compulsive factors from ‘1 to 5’, giving rank ‘1’ to the highest compulsive factor and ‘5’ to the least compulsive factor. The order of merit as given by the respondents was changed into percent position by using the following formula.

\[
\text{Percent position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}
\]

where, \(R_{ij}\) is the rank given for the \(i^{th}\) factor by the \(j^{th}\) respondent, \(N_j\) number of factors ranked by the \(j^{th}\) respondent. The percent position of each rank thus obtained was converted in to scores by referring to the table given by Garrett (1983). For each factor, the scores of individual sample respondent were added together and divided by the total number of sample respondents. Based on these mean scores, ranks were assigned.

### 3.4.5 KRUSKAL WALLIS TEST

To find whether there was any significant difference in the conducive and compulsive factors of street vendors in the research area, Kruskal Wallis Test was applied. The conducive factors considered for examination were ‘easy to venture’, ‘interest and experience in the same line’, ‘needs no education/special skills’, ‘easy availability of materials’, ‘low cost of investment’, ‘availability of finance’, ‘less competition’, ‘densely populated area/large number of consumers’, ‘to be independent’ and ‘suggestion by friends and relatives’. Along with, compulsive factors were analysed. The compulsive factors considered for analysis were ‘poverty’, ‘sole bread winner’, ‘loss of previous job/dissatisfaction in previous employment’, ‘lack of employment opportunities’ and ‘family business’.
Similarly for needs of street vendors, Kruskal Wallis Test was applied. The areas of need of the respondents were identified as ‘provision of shops’, ‘need for a static place for vending’, ‘need for an ID card to permit vending’, ‘need for licenses’, ‘need for social security schemes like old age pension, sickness/accident covers and others’, ‘need for registration system for street vending’, ‘training to upgrade skills’ and ‘redressal mechanism’.

The respondents were asked to express their views as ‘strongly agree’ or ‘agree’ or ‘neither agree nor disagree’ or ‘disagree’ or ‘strongly disagree’. The responses were given weights as ‘5’, ‘4’, ‘3’, ‘2’ and ‘1’ respectively.

The Kruskal Wallis Chi-square was calculated using the formula,

\[ K = \frac{12}{N(N+1)} \left[ \sum T_j^2 / N_j \right] - 3(N+1) \]

Where \( N \) = Number of sectors, \( T_j \) = Sum of the ranks in the \( j^{th} \) sector.

The null hypothesis tested was

**Ho:** There was no significant difference in the conducive and compulsive factors/needs of the street vendors.

**Ha:** There was significant difference.

**3.4.6 ‘F’ TEST**

A quantitative analysis was carried out to find out whether there was any significant difference between the investment level/operational cost of street vendors between groups and within groups. For the analysis, ‘F’ test was applied.
The null hypothesis tested was

**Ho:** There was no significant difference in the investment level/operational cost between groups and within groups.

**Ha:** There was difference.

‘F’ test was calculated using the formula

\[
F = \frac{\text{between – group variability}}{\text{within – group variability}}
\]

The "between-group variability" is

\[
\sum_i n_i (\bar{Y}_i - \bar{Y})^2 / (K - 1)
\]

Where \(\bar{Y}_i\) denotes the sample mean in the \(i^{th}\) group,

\(n_i\) is the number of observations in the \(i^{th}\) group,

\(\bar{Y}\) denotes the overall mean of the data, and

\(K\) denotes the number of groups.

The "within-group variability" is

\[
\sum_{ij} (Y_{ij} - \bar{Y}_i)^2 / (N - K),
\]

where \(Y_{ij}\) is the \(j^{th}\) observation in the \(i^{th}\) out of \(K\) groups and

\(N\) is the overall sample size.

3.4.7 **POST HOC TEST**

To find whether there was any significant difference in the investment level/operational cost of street vendors in different zones, ‘Post Hoc Test’ was applied.
The null hypothesis tested was

**Ho:** There was no significant difference in the investment level/operational cost of street vendors in different zones.

**Ha:** There was difference.

The following formula was applied

\[ HSD = \frac{M_1 - M_2}{\sqrt{MS_w \left[ \frac{1}{n} \right]}} \]

Where

- HSD – Honestly significant difference
- \(M_1, M_2\) are mean values
- \(MS_w\) – Mean square width
- \(n\) – Number per mean

### 3.4.8 Step Wise Multiple Regression

To find out the extent of influence of the variables on the sales made by the respondents, step wise multiple regression equations were estimated. The ordinary least squares method was applied. The factors included in the analysis was ‘years of experience in vending (\(X_1\))’, ‘location of vending (\(X_2\))’, ‘hours of vending (\(X_3\))’ and ‘total investment (\(X_4\))’. Dummy values were given for the variable \(X_2\). The values assigned were classified distinctly. If the street vendor sold his wares on ‘streets and pavements’, value ‘1’ was assigned. If sold ‘in and around bus stops’, value ‘2’, ‘if sold near ‘religious places’, value ‘3’ and if near ‘pavilion and stadium’, value ‘4’ was assigned.
Similarly to find out the extent of influence of the variables on the profits made by the street vendors, step wise multiple regression equations were estimated by applying ordinary least square method. The factors considered for the analysis were ‘total sales ($X_1$)’, ‘years of experience ($X_2$)’, ‘location of vending ($X_3$)’, ‘total investment ($X_4$)’ and ‘total working capital ($X_5$). Dummy values were given for the variable $X_3$. The values assigned were classified distinctly. If the street vendor sold his wares on ‘streets and pavements’, value ‘1’ was assigned. If sold ‘in and around bus stops’, value ‘2’, ‘if sold near ‘religious places’, value ‘3’ and if near ‘pavilion and stadium’, value ‘4’ was assigned. To calculate ‘t’, SPSS package was used.

3.4.9 PERFORMANCE CRITERIA

To assess the performance of street vendors, the respondents were classified in to ‘very successful’, ‘successful’ and ‘unsuccessful’. Based on the Akouri criteria,

- ‘Very successful’ are those who invest at least 60% of his own capital or can borrow or raise capital at least 8 times than his own capital, or can make a net profit of 20% of the total investment or can reinvest 25% of his profit.

- ‘Successful’ are those who invest 50% of his own capital or can borrow or raise capital at least equal to his own capital, or can make a net profit of 10% of total investment or can reinvest 20% of his profit for further progress.

- ‘Unsuccessful’ are those who cannot invest 50% of his own capital or cannot borrow or raise capital at least equal to his own capital, or who fails to make a net profit of 10% of total investment or cannot reinvest 20% of his profit for further progress.
3.4.10 $\chi^2$ TEST

The association between the success level of the street vendors and the selected variables such as ‘years of experience’, ‘location of street vending’, ‘total investment’, ‘hours at vending’, ‘age’, ‘marital status’ and ‘community’ was found by applying Chi-Square ($\chi^2$) Test.

The formula for chi-square is: $\chi^2 = \sum \frac{(f_o-f_e)^2}{f_e}$

3.4.11 FACTOR ANALYSIS


To calculate factor analysis, SPSS package was used.

3.4.12 GRAPHS

Clustered pyramid, cylindrical and line figure was used.

3.5 CONCEPTS USED

Active Employment

Active employment population comprises of all persons of either sex who furnish to supply labour for the production of economic goods and services.
**Stall**

A table or small shop with an open front that people sell things from, especially at a market.

**Street Vendors**

The Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014 defines street vendor as a “person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street lane, side walk, foot path, pavement, public park or any other public place or private area or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific”.

**Wares**

Wares are the things that somebody sells, especially in the street or at a market.

**3.6 LIMITATIONS**

The present study is an exploratory one based essentially on primary data. It is a known fact that primary data has its own limitations. The respondents were reluctant to provide correct details regarding their income, expenditure, savings, investment, net returns. To have accuracy in the data collected, the investigator has applied cross checking method. In this way, gross inaccuracy in the given data is minimized.

The respondents were apprehensive in sharing their work-related problems, housing and benefits received from the government inspite of the assurance given by the investigator that the information will be kept confidential.
Based on the pilot survey, the questions on ancillary income were omitted from the questionnaire, as the respondents were either not willing to provide the necessary details or do not come under the category.