RESEARCH METHODOLOGY

The methodology adopted in this research includes the following aspects (figure 2).

3.1 Locale of the Study

Coimbatore district was selected as the locale of the study (figure 3) owing to the reason that it is one among the industrially developed and commercially vibrant districts of Tamil Nadu. Coimbatore city is identified as one of the fast developing metros of India. It is poised for a spectacular growth in the near future. The city is endowed with large number of engineering goods, textiles, foundries, agro-based industries and educational institutions. The Coimbatore district is popularly known as Manchester of South India. An all India cross-characteristic survey commissioned by the Confederation of Indian Industry (CII) reported that Coimbatore city ranks fifth in terms of private finance and road transport. For administrative purpose, Coimbatore is divided into two revenue divisions consisting of 12 administrative blocks, eight taluks and 295 revenue villages and 227 panchayats. According to the 2011 census, the eight taluks of Coimbatore had a population of 34,72,578 with 17,35,362 males and 17,37,216 females. Urban population consisting of 20,62,131 and its rural population was reported with 8,54,489.

The district administration consists of eight taluks, being urban areas namely, Avinashi, Coimbatore South, Mettupalayam, Pollachi, Udumalpet and Valparai and consists of eight taluks, being rural area namely Annur, Coimbatore North, Coimbatore South, Kinathukadavu, Mettupalayam, Pollachi, Sulur and Valparai. The urban agglomeration namely Coimbatore Corporation was selected in the study area.

Annur having 30 revenue villages, out of which only five villages were selected for the study covering rural area s namely, Sengapalli, Allapalayam, Karuvakarai, Pachhapalayam, Pasur and Karugoundenpalayam.
Figure 2 Research Design

Locale of the Study
Coimbatore District

Urban Area
Coimbatore City
No. of slum households: 37,050
Un-objection slums: 25,168

Rural Area
Annur Taluk
No. of households: 1,66,254
Low income households: 41,563

Stage I
Population

Stage II
Sampling

Stage III
Data Collection
Primary Data Collection: Interview Schedule

Stage IV
Data Analysis
- Descriptive Statistics - Distribution of responses
- Likert Scaling - Level of awareness on financial inclusion
- ANOVA - Significant mean difference
- DMRT - Significant difference among groups
- Chi-square test - Significance of association
- Multiple Regression - Identify key determinants of basic and advance literacy

Stratified Random Samples
Tippett Table of Random Numbers
Urban
Proposed Sample Size: 350
Final Sample: 318

Rural
Proposed Sample Size: 350
Final Sample: 282
Figure 3 Geographical location of the study area

Map showing the zones in Coimbatore City

Villages in Annur Block

Tamil Nadu, India

Coimbatore District, Tamil Nadu
3.2 Selection of the Sample

In tune with research objectives, the samples were drawn from low income households living in urban and rural areas of the district.

Ministry of Housing and Poverty Alleviation and National Sample Survey organization (NSSO, 2011) define Low Income Households as the households having annual income between ₹1,00,000 to ₹2,00,000 or having monthly income between ₹5,001 and ₹10,000 per month. The sample respondents being head of the households.

The multi-stage random sampling method was followed for selection of the sample respondents. Appropriate sampling method was followed at each stage to select respondents from urban and rural areas as explained below:

The concentration of economic activities leads to migration of rural work force from the surrounding Districts to Coimbatore in search of employment. The skilled migrants get absorbed in service sectors for poor wages and such people occupy vacant lands and put up huts near their work-spots, as they could not afford to pay for good accommodation. They are accustomed to lead a marginal level of living in poor insanitation conditions. These habitations later developed in to slums due to migration and natural population growth. The slums are an eyesore in developed urban centers like Coimbatore.

In Coimbatore city, 1.01 lakh people are living in slums. In order to select the sample respondents from urban area the households living in unobjectionable slums were considered. According to Tamil Nadu Slum Clearance Board (2012), 25,168 households living in unobjectionable slums form the first stage, the list of households was obtained from Tamil Nadu Slum Clearance Board, constitute the population for the study.

The stratified sampling method applied for the selection of proposed sample size of 350 low income households from Coimbatore urban slum area at the second stage. The final sample sizes of 318 respondents were resulted on elimination of partial response and unwillingness to provide data. According to this plan, the number of items drawn from each stratum was proportional to the size of the strata. The respondents were identified in different zones based on
location of their residence. From the low income households in each zone, the required numbers of respondents were selected at random using Tippett’s table of random numbers. The number of urban sample respondents drawn is presented in table 3.1.

<table>
<thead>
<tr>
<th>Zones</th>
<th>Number of households in unobjectionable slum</th>
<th>Percentage to the total (n=25,168)</th>
<th>Number of Sample households</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>4,096</td>
<td>16.27</td>
<td>57</td>
</tr>
<tr>
<td>East</td>
<td>3,005</td>
<td>11.94</td>
<td>42</td>
</tr>
<tr>
<td>Central</td>
<td>1,394</td>
<td>5.54</td>
<td>19</td>
</tr>
<tr>
<td>West</td>
<td>2,581</td>
<td>10.25</td>
<td>36</td>
</tr>
<tr>
<td>South</td>
<td>14,092</td>
<td>55.99</td>
<td>196</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25,168</strong></td>
<td><strong>100</strong></td>
<td><strong>350</strong></td>
</tr>
</tbody>
</table>


The households rather than individuals were considered as a unit of measurement for two reasons. First, the household is the frame of reference for consumption decision. Secondly, the households act as an economic unit on the income side.

In order to select respondents for rural area, Annur Rural block in Coimbatore district was selected purposively. Annur is one of the fast growing suburbs in the Coimbatore Rural District and a major contributor to the state’s GDP. For administrative purpose this block is divided into 21 village panchayaths. Out of which, six village panchayaths were selected to draw sample households. The stratified random sampling method was followed for the selection of proposed sample size of 350 respondents from the list of low income households in each village panchayaths of Annur block. Tippett's table of random numbers was applied resulting in the sample size of 282 low income households on elimination of partial response and willingness to provide data. The number of rural sample respondents drawn presented in table 3.2.
Table 3.2 Samples Drawn from Rural Low Income Households

<table>
<thead>
<tr>
<th>Village Panchayaths</th>
<th>Low Income Households</th>
<th>Percentage to the total (n=1,808)</th>
<th>Number of Sample Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sengappalli</td>
<td>441</td>
<td>24.39</td>
<td>85</td>
</tr>
<tr>
<td>Allapalayam</td>
<td>180</td>
<td>9.96</td>
<td>35</td>
</tr>
<tr>
<td>Kanvakkaraiv</td>
<td>455</td>
<td>25.18</td>
<td>88</td>
</tr>
<tr>
<td>Pachapalayam</td>
<td>242</td>
<td>13.38</td>
<td>47</td>
</tr>
<tr>
<td>Pasur</td>
<td>255</td>
<td>14.10</td>
<td>49</td>
</tr>
<tr>
<td>Karegoundenpalayam</td>
<td>235</td>
<td>12.99</td>
<td>46</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1808</strong></td>
<td><strong>100</strong></td>
<td><strong>350</strong></td>
</tr>
</tbody>
</table>


3.3 Method and Tool for Data Collection

The study was based on both primary and secondary data. The primary data has been collected by using well structured interview schedule from selected respondents. Questions on financial literacy were designed based on modules in United State Health and Retirement Survey (HRS) and various of the survey on financial literacy (Maarteen Van Rooji and Anna Maria Lusari, 2008). The secondary data has been collected from various reports published by Government of India, the district hand book of statistics, journals and publication of Chief Planning Commission, Reserve Bank of India and Indian Statistical Survey Organization.

3.4 Collection of the Data

The data for the study were collected during the period between July 2012 and March 2013. The researcher created good rapport with the respondents and explained them the nature and purpose of the study. The average time taken to administer an interview schedule was around 20-30 minutes.

3.5 Pretesting and Pilot Study

Before finalizing the interview schedule, a pretesting was conducted. Pretesting revealed certain deficiencies and necessary correction were carried out in the schedule. A pilot study was conducted with 84 respondents during August 2012 and all statistical analyses were carried out. The results revealed the relationship between the variables selected for the study.
3.6 Reliability Test

Cronbach’s alpha (α) scales reliability tests were applied to estimate the reliability of the data used in the study. The reliability coefficient of 0.80 or higher is considered as acceptable in most social science applications. (Cronbach, L.J., 1951). The reliability test applied on the data collected using interview schedules meant for low income households and awareness towards financial inclusion for urban area resulted in an Alpha co-efficient of 0.893 for urban respondents, 0.897 for rural respondents and 0.894 for all the respondents resulted in an Alpha co-efficient of 0.944 and 0.945. The alpha value is greater than 0.7 which is the cut off recommended by Nunnally (1978) for the basic research.

3.7 Scaling Technique Used

Likert type three-point scale was used to bring out the awareness level of financial inclusion among urban and rural low income households.

3.8 Framework of Analysis

After testing the reliability of the data collected, it was analysed statistically using the following tests.

- Frequency and Percentage

  Frequency and percentages were used to know the distribution pattern of respondents in respect of variables.

- Arithmetic Mean

  Arithmetic mean is a single value calculated from a group of values to represent in a simple way.

- Analysis of Variance (ANOVA)

  The ANOVA is designed to test whether a significant difference exists among the two or more sample means. In this study, the total variance in a set of data is divided into variation within groups and variation between groups.

  The ANOVA test is used for studying the difference among the influences of various categories of one independent variable on a dependent variable. The analysis of variance yields F ratio which is a ratio between group’s variation and within group’s variation.
The ANOVA is applied to test whether there is any significant difference between the mean value of the proportion of policyholders for both the urban and rural respondents, level of awareness on financial inclusion and socio-economic Characteristics, saving habits and financial liabilities of the households. The Post hoc Duncan’s Multiple Range Tests were used to compare groups of continuous and randomly distributed data. The test normally involves three or more groups taken one pair at a time. It should only follow observation of a significant F value in the ANOVA and can serve to determine which group differs significantly from other group.

- **Chi-square**
  
  The chi square test non-parametric tests. The quantity chi square describes the magnitude of the discrepancy between theory and observation. It is defined as
  
  \[ \chi^2 = \sum \frac{(O - E)^2}{E} \]

  where O refers to the observed frequencies and E refers to the expected frequencies.

  It was used to test association between the money management, the borrowings, banking practices and savings and of the sample respondents and their socio-economic and demographic profile. Yates correction was carried out wherever required without altering the meaning of the variables.

- **Ordinary Least Square Model (OLS), Stepwise Multiple Regression:**

  Ordinary least squares (OLS) or linear least squares is a method for estimating the unknown parameters in a linear regression model. In a linear regression model the response variable is a linear function of the regressors:

  \[ y_i = x_i' \beta + \varepsilon_i, \]

  where \( \beta \) is a \( p \times 1 \) vector of unknown parameters; \( \varepsilon \)'s are unobserved scalar random variables (errors) which account for the discrepancy between the actually observed responses \( y_i \), and the "predicted outcomes" \( x_i' \beta \); and ‘ denotes matrix transpose, so that \( x' \beta \) is the dot product between the vectors \( x \) and \( \beta \).
This model can also be written in matrix notation as

\[ y = X\beta + \varepsilon, \]

where \( y \) and \( \varepsilon \) are \( n \times 1 \) vectors, and \( X \) is an \( n \times p \) matrix of regressors, as a rule, the constant term is always included in the set of regressors \( X \), say, by taking \( x_i = 1 \) for all \( i = 1, \ldots, n \). The coefficient \( \beta_1 \) corresponding to this regressor is called the intercept. It is applied to identify the determinants of the awareness of basic and advance financial literacy among low income households in urban and rural area.

3.9 Operational Definition of the Concepts

Household

Household is defined as a single economic decision-making unit comprising members who were related to each other by blood, marriage or adoption, dwelling in the same house, cooking in common kitchen and dining together. Temporary visitors are excluded but stay-aways are included. Thus son or daughter residing in a hostel for studies is excluded from the household of his or her parents, but a resident employee or a resident domestic servant or paying guest is included in the employer or host’s households.

Household size

The size of a household is the total number of members in the household.

Household members

Household members are defined as persons who are normally residents of the sample household. Any person who lived and took meal with the household is considered as a member of the house hold.

Household Income

Household income is defined as the total amount of current receipts, received by all the member of the household including the head of the household during the reference period from all sources.
Housing Type

- **Pucca house:** A pucca structure is one whose walls and roofs (at least) are made of pucca materials such as cement, concrete, oven burnt bricks, stone, stone blocks, cement plastered reeds, iron and other metal sheets, timber, tiles, slate, corrugated iron, asbestos cement sheets, etc.

- **Semi-pucca house:** A structure which cannot be classified as pucca or kutcha as per definition, is a semi-pucca structure. Such a structure will have either the walls or the roof but not both made of pucca materials.

- **Kuchha Houses:** A structure which has walls and roof made of non-pucca materials is regarded as a kuchha structure. Non-pucca materials include unburnt bricks, bamboo, mud, grass, leaves, reeds and/or other thatch.

Tenure of Housing

Housing tenure refers to the financial arrangements under which someone has the right to live in a house or apartment. The most frequent forms are tenancy, in which rent is paid to a landlord, and owner occupancy.

Urban

- **Urban Unit (or Town)**
  - All places with a municipality, corporation, cantonment board or notified town area committee, etc. (known as Statutory Town).
  - All other places which satisfied the following criteria (known as Census Town):
    * A minimum population of 5,000;
    * At least 75 per cent of the male main workers engaged in non-agricultural pursuits; and
    * A density of population of at least 400 per sq. km.
Rural

Rural area is a geographic area that is located outside cities and towns. The Health Resources and Services Administration of the U.S. Department of Health and Human Services defines the word "rural" as encompassing all population, housing, and territory not included within an urban area.

Simple Interest

Simple interest is determined by multiplying the interest rate by the principal by the number of periods.

\[ \text{Simple Interest} = P \times N \times R \]

where \( P \) is the loan amount, \( I \) is the interest rate \( N \) is the duration of the loan, using number of periods.

Compound Interest

Compound interest is charged on the principal plus any interest accrued till the point of time at which interest is being calculated. In other words, compound interest system works as follows: Interest for the first period charged on principal amount. For the second period, its charged on the sum of principle amount and interest charged during the first period. For the third period, it is charged on the sum of principle amount and interest charged during first and second period, and so on...

\[ \text{Compound Interest} (I_c) = P \times (1+i)^n - P \]

Where, \( P \) is the principle amount; \( i \) is the compound interest rate per period; \( n \) are the number of periods.

Inflation

A situation of a steady and sustained rise in general price is usually known as inflation. Inflation is a state in which the value of money is falling, price is rising.
Time value of Money

The time value of money is the principle that the purchasing power of money can vary over time. Money today might have a different purchasing power than money a decade later. The value of money at a future point in time might be calculated by accounting for interest earned or inflation accrued.

Money Illusion

Money illusion occurs due to a difference between the actual prices and perceived prices.

Stock

The capital raised by a company or corporation through the issue and subscription of shares.

Stock Market Function

Stock market or equity market is the aggregation of buyers and sellers (a loose network of economic transactions, not a physical facility or discrete entity) of stocks (shares); these are securities listed on a stock exchange as well as those only traded privately.

Mutual Fund

An investment vehicle that is made up of a pool of funds collected from many investors for the purpose of investing in securities such as stocks, bonds, money market instruments and similar assets. Mutual funds are operated by money managers, who invest the fund's capital and attempt to produce capital gains and income for the fund's investors.

Bond

A debt instrument issued for a period of more than one year with the purpose of raising capital by borrowing. Generally, a bond is a promise to repay the principal along with interest (coupons) on a specified date (maturity). Some bonds do not pay interest, but all bonds require a repayment of principal. When an investor buys a bond, he or she becomes a creditor of the issue.