CHAPTER - III

RESEARCH DESIGN AND METHODOLOGY
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3.1 INTRODUCTION

Economic theories say that along with growth, output and employment increase over time. This has been witnessed in many developing countries around the world. Growth leads to output and employment but not necessarily always going to the presence of supply bottlenecks and other factors. Growth in employment has lagged behind due to less growth in output in India. Moreover the labour force participation rate has also fallen over the years, perhaps partly due to fall in population growth rate and partly structural transformation in the economy.¹

Unemployment of the educated youth is the grey area which calls for suitable policy to make the education system job oriented. There has been a significant decline in wage employment in general but significant rise in self employment among all category workers in India.

The problem of unemployment among educated has become an urgent national problem posing grave threat to unity and security of India as the

genesis of the problem can be traced to the disequilibrium between demand and supply of manpower.²

2. STATEMENT OF THE PROBLEM

That ensured employment of the youth of a nation stimulates sustained growth of economy is a proven fact. Next to Punjab and Chandigarh, Tamil Nadu remains the indisputable power in providing employment opportunities with FDIs pouring into its soil for establishing new units that open new avenues of employment every other day. Yet, while referring the live register of employment exchanges all over Tamil Nadu and Erode in particular one can see stagnation due to poor placements. Erode district is famed for both its agricultural background and progressive industrial climate with varieties of business units like textiles, processing, dyeing and industries like paper boards (nearby Namakkal district) and sugar factories. So it must be self-sufficient in providing employment chances to its educated population. Yet there is a wide gap between applicants registered and placement provided.

It is needless to worry about the degree holders of professional courses and business schools. Though, there is a full information technology

and software industries, their jobs are not at stake. The youth who walk out of the portals of arts and science colleges are the ones left in the lurch. When the professional college students care the least to register in the employment exchanges, the youth especially the students of arts group with a degree register and have to wait for long after registering in the exchanges. Their worry has to be redressed. It is not the problem of any individual or government concerned. It is our collective commitment. Since the present study strives to find out solution to this problem.

3.3 OBJECTIVES OF THE STUDY

1. To study the trends in employment at National, State and District levels.

2. To study the pattern of growth of industry were public-sector and private-sector employment opportunities.

3. To study the awareness of the government employment programmes.

4. To study the problems faced by the educated unemployed.

5. To evaluate the trends in the growth of unemployment among arts, commerce and science graduates.
6. To study the factors that influence the employment opportunities.

7. To recapitulate the findings of the study and suggest suitable measures for employment avenues.

**SOURCES OF DATA**

The study is based on both primary and secondary data. The secondary data were collected from published sources of Census Reports, National Sample Survey Organisation (NSSO), Annual Economic Survey, Economics Appraisal Report-Tamilnadu, statistics collected from Employment Exchanges and the reports of various committees and commissions.

In order to study the problems and prospects of the educated unemployed, primary data were collected from 350 sample respondents and they have been interviewed using well structured Questionnaires. Convenience Sampling Method is adopted for the study.

**PERIOD OF THE STUDY**

In order to study the trends in employment and unemployment at all the three levels, district, state and national level a time series data for a period of 15 years have been collected (1990-2005). To study the problems
and prospects of educated unemployed only commerce, arts and science graduates were selected for the study. Youth, who have completed their degrees during the academic years 2004-05, 2005-06 were alone considered for the study.

3.4 METHOD OF SAMPLING

Simple stratified random sampling method was followed. Stratification is based on Erode district which consists of 7 taluks and from each taluk 50 sample respondents were selected from rural and urban area. Convenient sampling method is followed:

The distribution of sample respondent is as follows:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Taluk</th>
<th>Size of the Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bhavani</td>
<td>50</td>
</tr>
<tr>
<td>2.</td>
<td>Dharapuram</td>
<td>50</td>
</tr>
<tr>
<td>3.</td>
<td>Erode</td>
<td>50</td>
</tr>
<tr>
<td>4.</td>
<td>Gobichettipalayam</td>
<td>50</td>
</tr>
<tr>
<td>5.</td>
<td>Kangayam</td>
<td>50</td>
</tr>
<tr>
<td>6.</td>
<td>Perundurai</td>
<td>50</td>
</tr>
<tr>
<td>7.</td>
<td>Sathyamangalam</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>350</strong></td>
</tr>
</tbody>
</table>
3.1 LIMITATIONS OF THE STUDY

- The study is confined to Arts, Science and Commerce graduates only.
- Personal bias of respondents had to be taken into account.
- Due to time and resource constraints the sample used restricted to 350.
- The responses collected from the respondents had to be taken at their face-value and hence could not be cross checked for correctness.
- Unemployment data is based only on the live registers of employment exchanges.
- Since the data for women employment is available only by nine years so the available data alone are considered for the study.

3.8 ANALYTICAL TOOL

3.8.1 Secondary data

The analytical tool used in the study are percentage, average, Annual Growth Rate (AGR), Compound Growth Rate (CGR), Correlation, Regression, Curve fit model and the other tools which were found suitable for the study of the primary data collected.
Compound Average Growth Rate

Compound Average Growth Rate has been worked out, to know the growth rate of employment at district, State and National levels.

\[
\text{CGR} = \left( \frac{Y_t}{Y_0} \right)^{1/n} - 1 \times 100
\]

Where,

- \( \text{CGR} \) = Compound Growth Rate
- \( n \) = Difference between initial and final year
- \( Y_0 \) = Initial period value
- \( Y_t \) = Final year value

Annual Growth Rate (AGR) (Or) Yearly Percentage Trend

\[
\text{AGR} = \frac{X_2 - X_1}{X_1} \times 100
\]

where,
- Preceding year value = \( X_1 \)
- Succeeding year value = \( X_2 \)

Linear Growth Rate (LGR) :

\[
Y = a + bt
\]
Where,

\[ Y = \text{value} \]
\[ b = \text{slop} \]
\[ a = \text{intercept} \]
\[ t = \text{number of years} \]

**Coefficient of Variation (CV):**

In order to compare the variations of two variables CV is used.

\[ C.V. = \frac{\sigma}{x} \times 100 \]

**Tri Annum Average (TRA):**

Another method of finding the growth of a variable is the Tri Annum Average method (TRA). The data for every three years are added and averages calculated. These averages are called TRA. By studying TRA, the growth of a variable can be easily identified. Data on unemployment were analysed using TRA values in order to know the growth trend and also for calculating TRA the data of unemployment for a period of 15 years (1990-2005) was taken.
**Index Number**

The Index number value was calculated taking 1992-93 as a base year.

In order to know the fluctuating trend in the study period, the index number was calculated.

**Fitted Model**

To find out the trend and to find projections for the next four years 1998-99 and 1999-2000 data was analysed with Fitted Model for future projection. Eleven basic curve fitting models were tried for this purpose.

The models are,

1. LIN – Linear model  \( y = b_0 + b_1 t \)
2. LOG – Logarithmic model  \( y = b_0 + b_1 \log(t) \)
3. INV – Inverse model  \( y = b_0 + b_1/t \)
4. QUA – Quadratic model  \( y = b_0 + b_1 t + b_2 t^2 \)
5. CUB – Cubic model  \( y = b_0 + b_1 t + b_2 t^2 + b_3 t^3 \)
6. COM – Compound growth model  \( y = b_0 . b_1 t \)
7. POW – Power model  \( y = b_0 t^{b_1} \)
8. S – S Curve model  \( y = e^{(b_0 + b_1 t)} \)
9. GRO – Growth curve model  \( y = e^{(b_0 + b_1 t)} \)
10. EXP – Exponential model  \( y = b_0 . e^{b_1 t} \)
11. LGS – Logistic model  \( y = \frac{1}{(1/u + (b_0 . b_1 t))} \)
Where, $U$ = Upper bound
$t$ = period 1 to 12 years
$y$ = dependent variable
$b_0$ = constant
and $b_1, b_2, b_3$ are co-efficients.

The data were fitted with all of these models to find out the best fitted model based on highest $R^2$ value. On that basis the trend value is projected.

3.6.2. **Primary data**

Simple average and percentage tools were also used for the analysis of primary data.

**Chi-Square Test**

In order to study the association between two variables and to test the variation, $\chi^2$ test is used.

**Opinion Scale**

In order to know the opinion about the factors influencing the unemployment respondents were asked to rank their opinions. On that basis percentages were worked out, and analyses made.
Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) is a statistical method for partitioning the total variation of a set of data into components associated with recognized sources of variation. Usually, the variance is split into two parts:

1. Variance between the samples (or groups).
2. Variance within the samples (or groups).

The classification according to one factor and two factors are one way classification and two way classification respectively.

**TABLE 3.2**

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Sum of Squares (SS)</th>
<th>Degree of freedom (DF)</th>
<th>Mean Square (MS)</th>
<th>F-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Samples</td>
<td>SSB</td>
<td>K-1</td>
<td>SSB</td>
<td>MSB = ------ K-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F = ------ MSW</td>
</tr>
<tr>
<td>Within Samples</td>
<td>SSW</td>
<td>N-K</td>
<td>SSW</td>
<td>MSW = ------ N-K</td>
</tr>
<tr>
<td>Total</td>
<td>SST</td>
<td>N-1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Where,

\[
\begin{align*}
\text{SST} &= \text{Total sum of square of variance} = \text{SSB} + \text{SSW} \\
\text{SSB} &= \text{Sum of square of between samples} \\
\text{SSW} &= \text{Sum of square of within samples} \\
\text{MSB} &= \text{Mean square of between samples} \\
\text{MSW} &= \text{Mean square of within samples} \\
N &= \text{Number of samples} \\
K &= \text{Constant}
\end{align*}
\]

\textit{‘t’ Test :}

This equation is used to compare one sample mean to a specific value \(\mu_0\).

\[
t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}
\]

Where \(s\) is the grand standard deviation of the sample, \(n\) is the sample size. The degrees of freedom used in this test is \(n - 1\).
Kendall's concordance w test

Kendall's co-efficient of concordance test was used to find out whether there is any agreement or disagreement between the respondents.

**Karl Pearson Coefficient of Correlation (r)**

\[
r = \frac{n(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{n\Sigma X^2 - (\Sigma X)^2} \sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}
\]

**FACTOR ANALYSIS**

In order to know the influencing factors analysis is used in this study.

**CHAPTER SCHEME**

The **first chapter** is an introductory chapter and it deals with the introduction of the study, definition, significance of employment and unemployment level in India, government policy measures.

The **second chapter** presents the Review of Literature.

The **third chapter** discusses the research design and methodology, concepts and analytical tools used for the study.
The fourth chapter deals with theoretical aspects of employment and unemployment.

The fifth chapter contains the profile of the study area.

The sixth chapter presents the analysis and interpretation on the basis of primary and secondary data.

The seventh chapter consolidates the study with the summary of findings, suggestions and conclusion.