CHAPTER I
INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

Tea is one of the most important non-alcoholic beverages in the world and has been gaining further popularity as an important ‘health drink’ in view of its purported medicinal value. It is taken as a common drink by nearly 2/3 of the world population daily. The Indian tea industry is one of the major sources of income for the national exporters. At present, this industry is facing a multitude of problems. Lack of capital and modern machinery, lower market value of tea in comparison to increasing production cost and lower yield per hectare are forcing back the tea entrepreneurs. Besides, increasing domestic need and lack of modern techniques for measuring the quality of tea are the main problems as well. There is also lack of perennial water source for irrigation during dry season or during prolonged drought. Further, some tea garden owners are not using Government prescription for improvement. Malnutrition among the children of the labour line, security problems of the executives, deteriorating law and order situation of the tea estates (log stealing, political or outsider influence on their internal arrangements, illegal occupation of land by the outsiders), lack of medical facilities for labour and lack of infrastructure (road, network, etc.) are some of the other constraints. For successful tea culture, the above problems being faced by both the manufacturing and the marketing sector need to be addressed immediately. In India, there is a dire need to focus attention on improvements in the manufacturing sector covering quality of tea, its productivity and cost of production as well as the marketing system. Government policy initiatives have had some success, but much remains to be done to fully revitalize the tea sector. Infrastructure is still inadequate. The tax system is too complex, with too many taxes and high rates. Despite the restructuring, the Tea Board and the Ministry of Agriculture are still too powerful and trade policy needs to be revised to allow imports of home-made tea and exports of green leaf.
In India, plantations account for 0.8 per cent of the total cultivable land. They also contribute 5 per cent to the national income in agriculture. Besides, they provide more employment per rupee of investment in the country than agriculture or industry. Plantation industry employs a large amount of labour force especially women workers which is the highest compared to any industry. Moreover, this industry helps in the development of other industries. Among the various plantation crops, tea is considered to be the most important crop in our country. It is the second biggest foreign exchange earner and is exported to about 80 countries. It also contributes a sizeable amount to the national income. Moreover, it provides direct gainful employment to a large number of people and helps in providing indirect employment in various sectors like road construction, transportation, building of warehouses, manufacture of plywood, tea chest, aluminium foil, tinplate, metal fittings, paper, card board, fertilizers, insecticides, pesticides, coal, iron, steel, etc. Apart from its contribution to the economy of India, tea today provides to the common man a pleasant and stimulating non-alcoholic beverage.

Amongst tea producing countries, the principal producers are China, India, Sri Lanka, Kenya and Indonesia. These five countries account for 77 per cent of world production and 80 per cent global exports. India is the largest producer of black tea as well as the largest consumer of tea in the world. Currently, India produces 23 per cent of total world production and consumes about 21 per cent of total world consumption of tea which is nearly 80 per cent of the tea produced within India. Over the last 20 years, India’s world ranking as an exporter has come down from number one to number four, in the face of stiff competition from Sri Lanka, Kenya, and China.

1.2 STATEMENT OF THE PROBLEM

Tea plantation industry is an important industry in India. It plays crucial role in income generation, foreign exchange earnings and employment generation both directly and indirectly. Financial Performance is the snapshot of a position of concern and ability to withstand the ever-changing environment and it is the blue print of the financial affairs of the concern and reveals how a business has
prospered under the leadership of its management personnel. In fact, it can be said that financial performance is the medium of evaluation of management performance, the overall objective of a business is to earn satisfactory returns on the funds invested in it. Consistent with maintaining a sound financial position, an evaluation of such performance is done in order to measure the efficiency of operations or the profitability of the organisation and to appraise the financial strength as compared with a similarly situated concern.

Different analysts always make analysis of financial performance objectively. Generally external analysts analyse the performance as per their requirements. Financier is interested in the financial position. A Shareholder is interested in the profitability. Management is interested in the operational efficiency and profitability position. Thus, various stakeholders of business enterprises like management, investors, bankers, financial institutions, creditors, employees, government, economist, prospective investors etc., look at the financial position of the business concern in the light of their own needs/interest. In this context, the present study is undertaken to analyse the financial performance of the tea industry.

It is imperative to study the financial performance of this sector so as to guide the future policy makers to decide whether to continue, increase, decrease or to drop the importance and assistance given to this sector. Therefore, the present study is undertaken to analyse the financial performance of the selected companies of the Indian Tea Industry. The financial performance of the tea industry is analyzed through short-term and long-term financial position, growth of the selected industry, profitability analysis and so on with the following objectives.

1.3 OBJECTIVES OF THE STUDY

Basically, this study is intended to assess, compare, test and analyze the financial performance of the selected ten companies. To fulfill the above status, this study was carried with the following objectives.

1. To analyze the financial position and assessment of financial health of the selected companies of tea industry.

2. To examine the growth and trend of selected tea companies in India.
3. To analyze and compare the profitability performance of the selected tea companies in India.

4. To measure the extent of influence of the factors responsible for the profitability in either direction and also to analyze the direct and indirect effects of the factors on the profitability of selected tea companies in India.

5. To make suggestions for improvement for successful survival in the competitive business world.

1.4 SIGNIFICANCE OF TEA INDUSTRY

The Indian tea industry has a significant presence in the domestic as well as international economy. Its contribution to the Indian economy is manifested in terms of its production, employment generation and foreign exchange earnings. The study of the tea industry is particularly important that, in a number of industrializing countries, the tea industry was one among the earliest to be established. Since it satisfies a basic human need, in many of the countries, the industry has subsequently come to occupy an important position in the economy in terms of its contribution to national output, employment and exports. The tea industry has a unique place in the economy of India. It contributes to the industrial production, employment and earning sources of the livelihood of millions of people. Its exports contribute to a part of India’s earning from foreign countries.

The healthy development and rapid growth of this industry has always been very important for the Indian economy. Hence, the study of the financial performance of the tea industry has been selected.

1.5 HYPOTHESES OF THE STUDY

“A hypothesis is a special proposition, formulated to be tested in a certain given situation as a part of research which states what the researcher is looking for. Keeping the above-said objectives of the research study, the following hypotheses have been formulated and tested.

1. There is no significant difference between the actual sales and trend values of sales among different years in the selected companies of tea industries in India.
2. There is no significant difference between the actual working capital and trend values of working capital among different years in the selected companies of tea industries in India.

3. The growth in working funds contributes much towards the profitability of the tea companies in India.

4. There is no significant difference in the mean percentage of profitability ratios between years and between the companies in tea industry.

5. There is a positive relationship between fixed assets turnover ratio and profitability.

1.6 NEED FOR THE STUDY

According to the CMIE (Centre for Monitoring Indian Economy), the tea industry has a significant presence in the economic life of India. It plays a pivotal role through its contribution to industrial output, employment generation and export earnings of the country. The Indian tea industry is extremely varied with major sectors such as production, processing, marketing sector and so on. The Tea industry is one of the major traditional industries in the Indian history, ageing about 185 years. The first tea plant was discovered in 1815. There are 1120 tea estates and out of which seven hundred belong to big companies and about three hundred belong to small companies. Big plantations have in-campus tea processing facilities, where the tea grown in the plantations are processed immediately. The market size of the industry was approximately Rs.10,000 crore. India plays a significant role in world tea trade, being the world’s largest producer, consumer and exporter. In terms of employment, it is the second largest industry by employing more than a million people directly and two million people indirectly, of which fifty percent are women.

The sales, productivity and profitability function in the tea industry differs from the other Industries. Even-though many studies in this direction have been conducted, the present one will be of great significance to many. It will be helpful in understanding the pattern and the structure of the financial variables of leading companies apart from identifying the financial relationship of companies with their respective Industry. The change in the economic policy
of the government certainly has got an impact on the performance of corporate units in India. A need at the present juncture was therefore felt to study the impact of such changes on the performance of corporate sector and hence the research problem for the study concentrated on “the financial strength, growth, trends profitability performance and so on of the Indian Tea Industry” in India. The topic had particular relevance to the changes in the economy and the effect of such changes on the performance of the tea industry.

1.7 RESEARCH DESIGN AND METHODOLOGY

1.7.1 Source of data and its Collection

The financial data and information required for the study were drawn from the secondary source. The Prowess' corporate databases developed by CMIE (Centre for Monitoring Indian Economy) and CLP (Capital Line Plus) have been used as principal sources. The other relevant data were collected from Journals, Magazines, Dailies like The Financial Express and The Economic Times.

1.7.2 Sampling Design

According to Prowess' corporate database developed by CMIE, (Centre for Monitoring Indian Economy), there were 1120 tea estates out of which seven hundred belong to big companies and about three hundred belong to small companies. There were about one hundred and fifty such companies, which were functioning in India during the time of the study and have been listed in Stock exchanges; of which the researcher selected ten companies as the selected for this study. In order to select the selected companies to fulfill the purpose of study, only the top ten companies have been selected, based on the average paid up capital of 10 years from 2002-03 to 2011-12, which were engaged in cultivation and production of tea. All the selected companies were organized by private sector in India and all companies were in the market for a minimum of twenty years.

The details of these ten companies are furnished below with their capital and year of incorporations in Table 1.1.
### TABLE 1.1

**SELECTED TEA COMPANIES IN INDIA**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Company Name</th>
<th>Capital (Rs. In lakhs)</th>
<th>Incorporation Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andrew Yule &amp; Co. Ltd.</td>
<td>3040.7</td>
<td>1919</td>
</tr>
<tr>
<td>2</td>
<td>Assam Company India Ltd.</td>
<td>2843.2</td>
<td>1977</td>
</tr>
<tr>
<td>3</td>
<td>B &amp; A Ltd.</td>
<td>831.9</td>
<td>1915</td>
</tr>
<tr>
<td>4</td>
<td>Duncans Industries Ltd.</td>
<td>1748.3</td>
<td>1987</td>
</tr>
<tr>
<td>5</td>
<td>Goodricke Group Ltd.</td>
<td>4603.1</td>
<td>1977</td>
</tr>
<tr>
<td>6</td>
<td>Jay Shree Tea &amp; Inds. Ltd.</td>
<td>6326.1</td>
<td>1945</td>
</tr>
<tr>
<td>7</td>
<td>Mcleod Russel India Ltd.</td>
<td>12435.1</td>
<td>1998</td>
</tr>
<tr>
<td>8</td>
<td>Rossell India Ltd.</td>
<td>830.5</td>
<td>1993</td>
</tr>
<tr>
<td>9</td>
<td>Tata Global Beverages Ltd.</td>
<td>20201.3</td>
<td>1962</td>
</tr>
<tr>
<td>10</td>
<td>Warren Tea Ltd.</td>
<td>2100.5</td>
<td>1977</td>
</tr>
</tbody>
</table>

*Source: Prowess' corporate database developed by CMIE, (Centre for Monitoring Indian Economy)*

#### 1.7.3 Selection of Period for the Study

The period for this study covered ten years from 2002-03 to 2011-12. The financial year runs from 1st April to 31st March every year based on the availability of data ensuring uniformity of available data.

#### 1.7.4 Framework of Analysis

The financial strength of the selected companies were analysed in terms of short-term financial position of the selected companies using ratios like current ratio, quick ration and interest coverage ratio and the long-term financial position using ratios like debt equity ratio and fixed assets to net worth ratio. The significant difference in the ratios between the years was assessed using ‘F’ test.

The following make up to the framework of analysis, as applied by the researcher, to identify the solutions and thereby to realize the objectives of the study with the help of ratios, multivariate techniques and trend analysis.
1.7.4.1 Assessing the Profitability

Twenty four factors were identified by the researcher as the ratios responsible for the changes in profitability of the selected companies and they were used to assess the changes in profitability of the selected tea companies for the present study. Nevertheless, these factors were also responsible for the profitability of the tea industries in either direction. The list of those ratios used for the analysis of profitability is given in the form of a table in the following page:

**TABLE 1.2**
LIST OF RATIOS HAVING IMPACT ON PROFITABILITY

<table>
<thead>
<tr>
<th>S.No.</th>
<th>RATIOS HAVING IMPACT ON PROFITABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Return on total assets (Dependent ratio)</td>
</tr>
<tr>
<td></td>
<td><strong>INDEPENDENT RATIOS</strong></td>
</tr>
<tr>
<td>X₁</td>
<td>Quick ratio</td>
</tr>
<tr>
<td>X₂</td>
<td>Current ratio</td>
</tr>
<tr>
<td>X₃</td>
<td>Debt to equity ratio</td>
</tr>
<tr>
<td>X₄</td>
<td>Interest cover</td>
</tr>
<tr>
<td>X₅</td>
<td>Total income / total assets</td>
</tr>
<tr>
<td>X₆</td>
<td>Total income / compensation to employees</td>
</tr>
<tr>
<td>X₇</td>
<td>PBDITA / total income</td>
</tr>
<tr>
<td>X₈</td>
<td>PBT / total income</td>
</tr>
<tr>
<td>X₉</td>
<td>Profit after tax / total income</td>
</tr>
<tr>
<td>X₁₀</td>
<td>Profit after tax / capital employed</td>
</tr>
<tr>
<td>X₁₁</td>
<td>Cash to current liabilities</td>
</tr>
<tr>
<td>X₁₂</td>
<td>Cash to avg cost of sales</td>
</tr>
<tr>
<td>X₁₃</td>
<td>Raw material turnover</td>
</tr>
<tr>
<td>$X_{14}$</td>
<td>WIP turnover</td>
</tr>
<tr>
<td>$X_{15}$</td>
<td>Finished goods turnover</td>
</tr>
<tr>
<td>$X_{16}$</td>
<td>Debtors turnover</td>
</tr>
<tr>
<td>$X_{17}$</td>
<td>Creditors turnover</td>
</tr>
<tr>
<td>$X_{18}$</td>
<td>PBIDT/Sales</td>
</tr>
<tr>
<td>$X_{19}$</td>
<td>Sales/Net Assets</td>
</tr>
<tr>
<td>$X_{20}$</td>
<td>PBDIT/Net Assets</td>
</tr>
<tr>
<td>$X_{21}$</td>
<td>PAT/PBDIT</td>
</tr>
<tr>
<td>$X_{22}$</td>
<td>Net Assets/Net Worth</td>
</tr>
<tr>
<td>$X_{23}$</td>
<td>Inventories/Sales</td>
</tr>
<tr>
<td>$X_{24}$</td>
<td>Net working capital/Sales</td>
</tr>
</tbody>
</table>

1.7.4.2 Assessing the Growth Position of tea Industries on the Selected Financial Variables

The following variables are considered to assess the growth position of the tea industries during the period of study.

i. Total Sales

ii. Total Income

iii. Inventories

iv. Total assets

The growth pattern of the tea industries has been analysed by adopting the following techniques:

a) Compound Growth Rate Technique (CGR) and

b) Linear Trend Method.

1.7.5 Statistical Tools Used variate techniques, the ratio of return on total assets is taken as the dependent variable and the identified **twenty four variables** were considered as the independent variables. In order to identify the
prominent factors responsible for the profitability of tea industries and to measure the extent of influence of the independent variables on the dependent variable, the following tools were applied by the researcher:

a) Correlation Analysis  
b) Multiple Regression Analysis  
c) Factor Analysis  
d) Trend Analysis and  
e) Compound Growth Rate Analysis and  
f) Path Analysis

1.7.5.1 Correlation Analysis

Correlation analysis attempts to study the relationship that exists between two variables. In this study, correlation co-efficient of the selected independent variables with the tea profitability was worked out in order to identify the most important variable, which had a higher association with the dependent variable. Also, the correlation co-efficient among the different variables had been worked out so as to arrive at a correlation matrix, which incorporated correlation co-efficient of all the selected variables with the dependent variable, as well as correlation coefficient among different independent variables. The test of significance was also applied in order to identify the variables having significant correlation.

1.7.5.2 Multiple Regression Analysis

Multiple Regression Analysis is a statistical process by which several independent variables are included to predict the dependent variables. It is a functional relationship between a dependent variable and more than one independent variable, where the effect of the independent variables on the dependent variables (profitability) is found out through analysis. This analysis had been applied by the current study in order to lookout for a different combination of variables that explain the variations in the profitability. Multiple Regression was calculated by taking the Return on Assets as the dependent variable and all other variables as independent variables. In this study, multiple regression analysis measured the relationship between variables and identified the factor influencing the profitability.
1.7.5.3 Factor Analysis

This analysis aimed at studying the effect of two or more predictor variables on certain evaluation criteria. Factor Analysis grouped the original input variables into factors which underlie the input variables. Each factor account for one or more of the input variables and the total number of factors in the study was reduced by dropping the insignificant factors based on the criterion.

To find out the factors determining the tea companies’ profitability, factor analysis was applied.

\[ X_i = A_{i1} F_1 + A_{i2} F_2 + A_{i3} F_3 + \ldots + A_{im} F_m + V_i U_i \]

Where,

- \( X_i \) = \( i^{th} \) standardized variable,
- \( A_{ij} \) = Standardized multiple regression coefficient of variable \( i \) on common factor \( j \)
- \( F \) = Common factor,
- \( V_i \) = Standardized regression coefficient of variable \( i \) on unique factor \( i \)
- \( U_i \) = The unique factor for variable \( i \)
- \( M \) = Number of common factors

The unique factors were uncorrelated with one another and with the common factors. The common factors themselves were expressed as linear combinations of the observed variables.

\[ F_i = \text{Estimate of } i^{th} \text{ factor} \]

\[ W_i = \text{Weight or factor score coefficient} \]

\( K \) = Number of variables.

It is possible to select weights or factor-score coefficients, so that the first factor explains the largest portion of the total variance. Then, a second set of weights can be selected, so that the second factor accounts for most of the residual variance, subject to being uncorrelated with the first factor. This same principle could be applied in selecting additional weights for the additional factors. Thus, the factors can be estimated, so that their factor scores, unlike the value of the original variables, are not correlated. Furthermore, the first factor accounts for the highest variance in the data, the second factor for the second highest, and so on.
1.7.5.4 Trend Analysis under the Method of Least Square

In order to give importance to time dimension and to identify the trends in motion that are in the process of rapidly eroding a relatively good present position for the selected companies in the present study, trend analysis, a tool of analysis, was used to study the financial statement in more simplified form over a period of years, “Trend analysis is horizontal analysis of financial statements often called as ‘pyramid method’ of ratio analysis-a guide to yearly changes. It revealed the proportionate change over time in selected financial data. Trend analysis helped in understanding the changes in an item over a period of time easily and to draw conclusions regarding the changes in data. For analyzing the trend of data, the financial statements for the selected period of ten years were used. This method involved the interpretation of the percentage relationship that each item in the selected years, bears the same item in the ‘base year’ which was the first year of the study period.

The method of Least Square is most widely used in practice to predict the future trend. This method was used in the present study either to fit a Straight Line Trend or a Parabolic Trend by using the following formulae.

\[ Y_c = a + bx \]
\[ a = \frac{\sum y}{N} \]
\[ b = \frac{\sum xy}{\sum x^2} \]

Yc = Trend Value
a = Constant
N = Number of the years
b = Rate of change
x = Unit of time

1.7.5.5 Compound Growth Rate Technique and Linear Trend Method:

The general performance of the tea industries can be analysed, more meaningfully and objectively for a given period of time, by comparing their growth patterns over a period of time rather than on a year-to-year basis. The best measure available for such an exercise is the compound growth rates or exponential growth rates. Since the growth curves for many of the variables were non-linear, the compound growth rates were estimated in the present study for the selected period using the following equation.

Let, \( Y_t = Y_0 \left(1 + \frac{r}{100}\right)^t \)
be the growth curve where $Y_0$ and $Y_t$ are the initial and the $t^{th}$ period value of $Y$ respectively and $r$ is the compound growth rate.

Taking logarithms on both sides,

$$\log Y_t = \log Y_0 + t \log \left( 1 + \frac{r}{100} \right), \text{ i.e., } \log Y_t = A + Bt$$

where $B = \log \left[ 1 + \left( \frac{r}{100} \right) \right]$ and $A = \log Y_0$. Using the value of $B$, $r$ can be obtained from the following formula:  

$$r = \left[ \text{antilog} \left( B \right) – 1 \right] \times 100$$

If $Y_t$ consists of random errors which follow the usual classical assumptions, $B$ can be estimated by the least square method i.e., $Y_c = a + bx$.

### 1.8 LIMITATIONS OF THE STUDY

Some of the unavoidable limitations of the present work were as follows:

- Financial information collected for the present study is entirely secondary in nature. In such a case, the study carries all the limitations inherent with the secondary data and financial information.

- The study is restricted to selected companies only for a period of ten years.

- While computing the data for the purpose of analysis, the approximation of decimal places might have led to minor variations in ratios as well as percentage analysis and hence these are bound to exist in the present study.

- Various accounting and statistical tools were extensively used for the present study which were having their own incidental limitations.

### 1.9 CHAPTER SCHEME

The **First Chapter** deals with the introduction, statement of the problem, selection of the industry, objectives, significance, hypothesis, research methodology, limitations of the study and chapter scheme.

The **Second Chapter** contains the review of literature.

The **Third Chapter** presents the overview of the Indian Tea Industry and a brief profile of the selected tea companies in India.

The **Fourth chapter** explicates the analysis of the growth, trend, and relationship between variables, performance evaluation, and identification of variables to construct a model for the classification and determining the factors that are influencing the financial performance through profitability of selected tea companies in India.

The **Fifth Chapter** sums up the research findings, suggestions, conclusion of the Indian tea industries and the scope of further research.