CHAPTER-3

3.1 OBJECTIVES AND RESEARCH METHODOLOGY

In order to comply new accounting standards and explicit opinion of different stakeholders there arose a need for corporate environment disclosures. Recent reforms in environmental accounting practices have undoubtedly brought a sea change in various sectors of Indian economy. Indian corporate sector sharply realized the need for corporate environment and social disclosures in order to reinforce and strengthen stakeholder confidence.

The most attention has been focused for the environmental issues at the international level in recent past. On the other hand, the corporate entities are facing a growing pressure from different stakeholders for considering the environmental influence of their operation on the nature because of this reason the accounting and disclosure of environmental matters became a matter of top priority in terms of environmental management.

This chapter of the thesis comprises of following sections:-

1. Objectives of the Study

2. Research Methodology
OBJECTIVES

The key objectives of this research work are:

1. To examine and establish the association between the disclosures and corporate characteristics such as size, profitability, age, risk etc.

2. To measure content and quality of environmental disclosures and the environment disclosure practices of corporate enterprises.

3. To appraise the regulatory compliance framework of environmental accounting and disclosure in the corporate sector.

4. To analyze the perceptions of investors regarding environmental accounting and disclosure practices.

3.2 RESEARCH METHODOLOGY

3.2.1 Data Collection

The collection of the data for the present study was collected from primary and secondary sources. The primary data have been collected from 50 respondents as to know their perceptions towards environment accounting and disclosure practices. The individual respondents, from whom the survey has been chosen from, are investors living in Andhra Pradesh, India.

The secondary sources:

1. PROWESS data base has been used to collect data about corporate characteristics. The data has been used to establish the relationship of environmental accounting and disclosure with various corporate characteristics. Prowess database has been considered as it provides
normalized financial data relating to companies.

2. For the purpose of study additionally top 50 companies selected in the sample, nifty – 50 companies have been selected from the NSE website.

### 3.2.2 Research Design:

1. Corporate Environmental disclosure index consisting of 30 items on the basis of the content analysis. Appendix A shows 30 items in thesis ending.

2. To ascertain the relationship between environmental and various corporate characteristics analytical tools like Simple linear regression, and multiple regression models along with the curvilinear models have been used.

### 3.2.3 Limitations of the Study

1. The study is confined to Nifty companies

2. The study period is covered five years from 2010-11 to 2014-15

3. Only few variables have been tested in the study, there can be many variables which can influence environmental disclosures.

4. Sample selection of Nifty companies considered in year 2013 march but Nifty companies may vary basing on their performance for every six months.

### 3.2.4 Hypotheses Construction

The following hypotheses were formulated in order to conduct the study.

**H₀₁:** There is no statistically significant difference among the overall mean ERI score across industries.

**H₀₂:** There is no statistically significant difference between the environmental disclosure score
over two forms of ownership

**H3**: Older firms/long established firms disclose greater ERI information than those with lower level of sales.

### 3.2.5 Determinants of environmental accounting disclosure

For this study, the following company variables like sales, total assets, number of employees, compensation paid to employees, average capital employed have been used as the measures of size. Further, these variables are coded as SALE, TA, NEMPL, COMEMPL and ACAPE. In addition to the above, log of sales, total assets, number of employees, compensation of employees have also been used as measures of size. These variables are coded as LOGSALE, LOGTA, LOGNEMPL and LOGCEMPL in the same sequence.

### 3.2.6 Environmental disclosures and profitability of companies

**3.2.6.(A) Accounting based measures of profitability:**

Profit after tax (PAT) used as absolute measure and, return on net worth and return on capital employed have been used as the relative measures of profitability in this study. These variables are labeled as PAT, RONW and ROCE in order.

**3.2.6.(B) Environmental disclosures and risk profile of companies**

Environmental disclosed information has been tested against the financial leverage of sample companies. In addition, environmental information has been tested against the Beta of Indian organizations.
3.2.7 Universe/population of the Study

The Indian companies of NSE 50 index is the universe of this study from which a sample of 50 companies has been selected.

3.2.8 Sample Size and Sampling Method

Final selection of sample: Out of these, final sample of 50 companies was formed. Appendix B shows all the sample companies in thesis ending.

3.2.9 Measurement/Scoring in the ERI

3.2.9.(A) Un-weighted ERI scores

Firstly disclosures scores are calculated on the basis of number of items disclosed. The only consideration in this process is whether or not companies disclose an item of environmental information in its corporate annual reports. If any company discloses an item of environmental information in its annual report, the company will be awarded score 1 and if not it will be awarded score 0. The disclosure model for the un-weighted environmental disclosure therefore measures the ERI disclosure score for an organization as an addition of the 30 items considered. The items in the index are based upon a CSR index previously used by Kansal (Kansal, 2012).

3.2.9(B) Weighted disclosure score

Evidence of the Environmental disclosures measured on a rating scale ranging from 0-5 depending upon degree of environmental disclosure.

3.2.9.(C) Longitudinal analysis

Longitudinal analysis was carried on by using the data of environmental reporting for five years from 2010-11 to 2014-15.
3.2.10 Statistical analysis techniques used

In addition to descriptive statistical tools like percentages, average, ranks, standard deviation, range, coefficient of variation, scenes and kurtosis, K-S (Kalmigorov-Smirnov) test and Shapiro-Wilk test, Levene’s test. The following analytical and statistical tools are also used for purposes of hypotheses testing and interpretations thereon.

3.2.10.(A) Student’s t-test and ANOVA

Student’s t-test and ANOVA tables have been used to test the statistical significance between groups and among variables. The entire study has been done with 95% CI (Confidence Interval)

3.2.10.(B) Regression model to find Relationship between ERI score and corporate characteristics

In a generalized regression model, a response variable Y is expressed as a function of one or more predictor variables X, plus noise. If ANOVA table contains $\rho \geq 0.05$, then it is understood as there is no statistically significant relationship between ERI score and corporate characteristics at the 95.0% or higher confidence level. The R-Squared statistic indicates that the model fitted explains a percentage of the variability in ERI score. The correlation coefficient used for indicating a relatively weak or strong relationship between the above variables. The standard error estimate shows the standard deviation of the residuals and the mean absolute error (MAE) is the average value of the residuals.

The simple linear regression model fitted has been shown for each of the corporate characteristics. Further the fitted model is plotted with confidence limits and/or prediction limits.