CHAPTER 7

SUMMARY OF FINDINGS, CONCLUSIONS AND SUGGESTIONS

The deregulation, privatization, and globalization trends have led to need for good corporate governance in the Indian corporate sector. There is no denying the fact that disclosures of environmental issues are gaining momentum in the corporate world. There has been a trend toward increased environmental annual reports, but meaningful disclosure has not been achieved in socially related company activities such as pollution control. The environment reporting is yet to attain the desired shape in terms of both the quantity and the quality.

Mandatory requirements improve credibility and ensure a minimum disclosure. On the one hand voluntary disclosure not only invites positive investor sentiments, but it also improves chances of attracting foreign funds. Widely dispersed shareholders of the public limited companies, listed and traded on the stock exchanges, entrust the business operations to managers. Voluntary disclosure being a managerial decision is obviously influenced by what managers believe to be the potential costs and benefits of voluntary disclosure. Voluntarily a company may disclose much more information in the annual report. This may relate to employees, environment pollution, inflation accounting social accounting, human resource accounting, value added, future plans of the company marketing information and financial analysis.

Relatively little prior work can be found in India which deals with environment management disclosures in a comprehensive way. The review of literature suggests that a lot of research has been made in western corporate world, but the work in developing south Asian countries in general and specifically in India is scattered and scanty.
The main objectives of the study are:

1. to examine the association between the disclosures and corporate characteristics such as size, profitability, age, risk etc.
2. to find out the content and quality of environmental disclosures and the environmental management practices of various corporate enterprises.
3. to study the regulatory framework of environment management in the corporate sector.
4. to analyse the perceptions of investors regarding environmental management and disclosure practices.

The data for the present study has been collected from primary and secondary sources. The primary data has been collected from 100 respondents as to their perceptions as to environment management and disclosures. These respondents are from among the investor’s class and represent the different professionals.

The secondary sources:

Data with regard to corporate characteristics has been taken from PROWESS Database managed by CMIE (Centre for Monitoring Indian Economy). The data has been extracted to establish the relationship of environmental with various corporate characteristics. Prowess database has been preferred as it provides normalized financial data relating to companies.

In addition, for identification of top 100 companies to be selected in the sample, BSE 500 index has been used from BSE website.

In this study, profit after tax (PAT) as absolute measures and return on net worth, return on capital employed have been used as the relative measures of profitability.
These variables are labelled as PAT, RONW and ROCE in order. The following specific hypotheses have been tested regarding profitability:

Environmental information has been tested against the financial leverage of Indian companies. In addition environmental information has been tested against the Beta of Indian companies.

Research Design:

1. Corporate Environmental disclosure index consisting of 30 items on the basis of the content analysis.

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

The Indian companies of BSE 500 index constitute the universe of the study.

**Findings and Conclusions:** The main findings and conclusions of this research study are as follows:

1. The Indian companies focus on different areas and different types of environmental disclosures. The environmental disclosures are variable over the years. Size of the companies and profitability of the companies appear to have most significant impact upon the extent and amount of environmental disclosures.

2. The favourite items of Indian companies for showcasing their environmental performance are “Conservation of energy” and “Pollution abatement in Business operations” (61.90 and 53% of the companies disclosed each of these items).
3. These items are followed by Water reduction Management (52% of the companies disclose this item). Only nine companies (10.71% of the sample) disclose Efforts to reduce carbon emissions and another less than 15% of companies are signatory to MOU with other companies with regard to reduction of emissions.

4. In the year 2008-09 “Conservation of energy” and “Receiving an award for an energy conservation program” (54.76% and 49% of the companies disclosed each of these items) have been the favourite items depicting their environmental performance.

5. Conservation of energy (54%), Pollution abatement in Business operations (41%) “Water reduction Management” (4.48%) and “Receiving an award for an energy conservation program” (48%) of the companies disclosed these items.

6. The next most disclosed item in the year 2008-09 is conservation of energy in manufacturing and operations (51.2%), generation of Jobs (47.6%), efforts to reduce energy consumption (46.3%). J S W Energy Limited has made maximum ERI efforts with disclosure score of 30, 30 and 12 in the year 2007, 2008 and 2009 respectively.

7. The high performing companies are in environmental arena are Reliance Industries Ltd., D L F Ltd., HDIL, Bajaj Auto Ltd., Ambuja Cements Ltd., Engineers India Ltd., Steel Authority Of India Ltd., Tata Steel Ltd., N T P C Ltd., N H P C Ltd., Neyveli Lignite Corp. Ltd., Torrent Power Ltd., Ranbaxy Laboratories Ltd., Cairn India Ltd., Sun T V Network Ltd., Hindustan Zinc Ltd., Larsen & Toubro Ltd., Wipro Ltd., Hindalco Industries Ltd.
8. The companies making the lowest disclosures are Container Corporation, MMTC, IOC, Zee entertainment. Ltd, BHEL, Bharat electronics, Lanco Infratech, Hero Honda, NALCO (with ERI = Zero), followed by Reliance communications, Tata Power, Dr. Reddy’s Lab, GlaxoSmithKline, Tech Mahindra, ITC, ACC, Tata motors (with ERI score = 1). Companies with ERI = 2 are Idea cellular, Cipla, Sesa goa, TCS and united Spirits.

9. Environment reporting in India are narrative/declarative in India. Many items in above table have seen only zero disclosures in quantitative and monetary forms. Environmental disclosures in monetary terms could be found items coded as ENV 1, ENV 4, ENV 5, ENV 7, ENV 11, ENV 16, ENV 17, and ENV 18.

10. There is not a statistically significant difference between the mean overall ERI from one industry to another industry at the 95.0% confidence level.

11. The mean disclosure of environmental disclosure in case of private sector is 7.58. This is less than the environmental disclosures by public sector companies which have mean disclosure score of 9. So, public sector companies are making better ERI disclosures than private sector companies.

12. There is no statistically difference between means disclosure scores of public and private sectors.

13. ERI score are associated with some characteristics of the companies e.g. size.

14. The variables those are established not to be significant in determining disclosure levels are Age (R-Squared 1.87%), profitability of last year (2.62%), and profitability of current year (PAT ratio) (-1.26 %), log Compensation to employees (R-squared = -1.22 percent), absolute profitability of the current
15. Significant relationship is traced between ERI score and sales (R-Squared sales 4.46%), total assets of the company (R-Squared 5.96%) at the 95.0% confidence level.

16. Multiple regression models depict

| ERI Score for 2010 = 129.056 - 0.0600795*Year of Incorporation - 0.00017584*Sales + 0.00019329*Revenue - 0.000689094*COMPEMP + 0.000596922*PAT (2010) + 0.000051262*No of Employees - 0.0000258198*Total assets (2010) + 0.00000790131*ACE (2010) - 0.0723156*RONW - 0.00465256*ROCE - 0.863062*Beta - 0.00195396*AVGMP |

18. The R-Squared statistic indicates that the model as fitted explains 16.1148% of the variability in ERI Score. TA, Age, sales, PAT (a) was entered into the first block and next four variables AVGMP, BETA, DER, RONW (a) were entered into the second block. Entering variables into two stages helped improve the explanation of the variability of ERI score by 8%.

19. The company determines the environmental reporting of the top companies in India. So, for this purpose, the size need to be measures in terms of total sales and total assets of the companies.

20. There does not exist a statistically significant relationship between ERI Score for 2010 and Year of Incorporation, Era of origin, profitability of last year (Absolute terms), compensation paid to the employees, profitability for the
current year, RONW, ROCE and financial leverage or systematic risk of the company at the 95.0% or higher confidence level. ANOVA tables show the p values greater or equal to 0.05 in associating ERI score with era, Year of origin, profitability of last year (Absolute terms), and compensation paid to the employees, profitability for the current year, RONW, ROCE and financial leverage or systematic risk of the company.

21. The R-squared statistics in case of these determinants indicate that the models as fitted for these variables don’t explain significant variability in ERI Score for 2010. The correlation coefficient between ERI score and these variables is also found to be relatively weak.

22. Size of the company measured in terms of sales for the current year and the total assets does determine the environmental disclosures made by the company. These findings are in synchronisation with Gray et al. (2001) reporting that the relation between the volume of disclosure in each individual year from 1988 to 1995 inclusive, together with the whole eight-year period, is related to the turnover, capital employed, number of employees and profit and that larger firms have disclosed more environmental information. Cormier et al. (2005) also firm size is one of the characteristics that determined the degree of environmental disclosure by German firms. So it can be concluded that bigger the size of the company, grater the amount of ERI disclosures by the Indian companies.

23. The results of industry group confirm findings from some earlier studies that industry groups have no significant influence on extent of environmental disclosures. In the similar manner, there are no significant differences between environmental disclosures made by public and private sector companies,
though it is found that public sector companies are more vocal about their environmental efforts.

The above findings indicate that the environmental disclosures are variable over the years. Size of the companies and profitability of the companies appear to have most significant impact upon the extent and amount of environmental disclosures.

The disclosures of carbon related disclosures are very negligible. The environmental disclosures are low and mainly narrative. Indian firms appear to disclose narrative type information far more than the quantitative and monetary information. The main reasons for low disclosures could be the lax mandatory requirements for communicating environment and energy information.

**Suggestions:**

The following suggestions have been made to make the environment management system and the reporting practices more effective in the corporate enterprises

1. There is need for an integrated law on environment clearances and companies must be oriented towards their responsibilities towards maintenance and protection of environment and energy responsibilities. Some efforts are being made in this direction by the government. There is a need that further requirements of environmental disclosures be imposed in all industries not only at the outset of the company but the continuance of operations of company as well. The encouragement of its communication is overdue now.
2. The companies should prepare their own environment management and conservation programme as per their requirement showing the items of environment conservations to be covered, such as, environmental management, Pollution control, recycling of wastes and tree plantation etc.

3. The Budgeted expenditure of environment management programme both capital and revenue and source of fund to be utilized should also be shown in the statement. This would help to make proper control over the implementation of an environment management programme.

4. The companies should incorporate all significant information relating to environment management in a separate section of the annual report. The corporate environmental information provided through these channels may serve the users at the initial stages.

5. All reports of environment management are not quantifiable at present due to paucity of proper measurement techniques and therefore both qualitative and quantitative information should be provided. A separate environment Audit system should be developed by the corporations and the report on environment management should be duly audited by the auditor.

6. There are wide variations in the environment accounting and reporting practices as to the treatment of pollution controls costs and expenditure. Hence global benchmarks should be followed in this regard.

7. The accounting framework for the purpose of measurement and reporting of environmental information must be worked out. It is very difficult to accurately measure the environmental impacts caused by the actions of corporates.
8. Keeping in mind the need for the disclosures on the environment management and reporting system’ Accounting standards’ for this purpose should be formulated by the professional bodies and these should be made mandatory.

9. Specific legal provisions should be incorporated in the legislations regarding the disclosure on conservation of environment to serve the purpose of reporting. Like a clause on the environment and ecological protection can be inserted in the Companies Act, 1956 and in the respective legislations of the other countries.

10. Environmental accounting as a part of corporate social accounting practices should appraise the top managements of the costs involved in environmental pollution and degradation.

11. The best practices of environmental management should be encouraged in the corporate enterprises since it is through increased environmental management that the stakeholders can perceive environmental management practices more positively in terms of reduced implicit costs e.g. pollution abatement facilities and penalties, and in terms of involving the environmental-related activities.

12. Environmental performance indicators should be developed to render environmental data more understandable and comparable. The most common indicators link physical data on emission with figures like quantity of production, sales, value-added and transformation cost etc could be used by the corporate enterprises.

13. An effective corporate governance system should be developed for the corporate enterprises. Good corporate governance is essential to build
credibility, manage companies efficiently and transparently and promote corporate ethical practices.

14. The Concept of Corporate Governance has started gaining momentum due to the deregulation, privatization, and globalization trends unleashed in the process of reforms in the various emerging markets and has led to renewed interest and need for good governance in the corporate sector.

15. Disclosure of environmental information on the voluntary basis should be encouraged. This would help the companies in realizing good premium for their stocks in the capital market and increase its goodwill.

16. The corporations can achieve significant cost savings by the reduction of waste and more efficient use of various natural resources such as electricity, water, gas, energy and fuels. These firms can avoid fines and penalties from not meeting environmental legislation by identifying environmental risks and addressing weaknesses. Better environmental disclosures can also lead to decrease in insurance costs by showing and implementing better risk management. Better environmental disclosures may also lead to better environmental efforts.

17. There can be improvements in disclosures by better implementation of the law. The environmental law in India is not integrated and follows piecemeal approach to the environmental issues facing the nation. In India environmental statute though imposing in range and scope are more often observed in breach than practice. These results are in sync with a recent study contending that though some sincere efforts have been made by the Indian organizations to implement EMS and their performance have been very good, still
countrywide efforts are not adequate (Khanna, 2010).

18. The Indian companies need to be aware of their energy consumption. government is moving towards some stringent steps for making the companies energy aware for example the union government recently, has notified unit-specific energy use norms that would require some 478 units companies to put in an investment of Rs 10,000 crore to Rs 12,000 crore in energy-efficiency projects under Energy Conservation Act, 2011. The Bureau of Energy Efficiency (BEE) presented the view that “mandatory norms have not been notified under any international convention; it would help the country to prepare for any future global norms besides helping in checking energy requirements. Overall, implementation of the norms would reduce energy consumption of these units by an average three-five per cent over three years”.

A debate is going on at the global level that what should be the best measure of business performance, is it Profitability or Corporate Social and Environmental responsibility or both? Under the new socio-economic environment, the corporation is much more responsible as a citizen of the country for environmental issues. The main objectives of the business are quality, profitability and environmental responsibility. Hence the need for sustainable development in the economy. This is the only solution for to overcome the environmental problems and to maintain a proper ecological balance.

The overall analysis indicates that the globalization and liberalization trends have shaped the new face of corporate environment disclosures and environment management in the emerging market economies. Hence the need for harmonization of environmental accounting standards and adopting the
environment management benchmarks to attain the true advantages of economic transition at the global level.

**Scope for future research:**

The study suggests that the environmental disclosures are low in the corporate sector in India. Further research can investigate the environmental efforts made by the companies which are listed in NASDAQ and other global stock exchanges. The case of small and medium scale industries in India is also worth examining.

Further research can be conducted on green marketing, voluntary disclosures as to environment management, corporate governance and to understand the perception of the various parties who are directly or indirectly affected by positive or negative efforts made by the companies in India.

Future research can focus on the companies which have crossed the beginning stage of EMS implementation and conclusions can be drawn with respect to their effectiveness and impact on financial performance. The Sector wise performance is another area of further research in the field of environment management and disclosures.