

# Environment Management and Environmental Disclosures: A Comparison of Corporate Practices Across Malaysia, Singapore and India<sup>†</sup>

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*The main objective of the study is to examine the environmental management and disclosure practices employed by the various corporate enterprises in Singapore, Malaysia and India. An attempt has also been made to study the regulatory framework of environment management of the corporate sector. The study concludes that in the recent era, the concerns about environmental issues have gained momentum in the countries under study. They generally link environmental disclosure and financial performance measures and this should provide an incentive for companies to increase the content of their environmental management and reporting in their corporate reports. Mere compliance with legislative requirements is not sufficient by the corporate enterprises rather the companies should consider this as a part of their corporate social responsibility.*

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## INTRODUCTION

The micro and macro aspects of environmental management have shaped new face of corporate environment reporting. The present practices indicate that the corporations disclose only the statutory information and the information relating to environmental disclosures are ignored by the companies. In order to make the corporate report more useful to the users, the same should include the voluntary disclosures like corporate social cost-benefit analysis, environmental accounting, and the extent of convergence to the global environment disclosure standards.

The corporations all over the world have to play an important role in resolving the environmental challenges facing the world because of the resources they command and the extent to which they may be responsible for environmental degradation. Current disclosure practices followed by most of the companies do not fully reflect the environmental impact of corporate operations.

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It is now being realized by the economists, environmentalists, business managers and accountants that (1) if the benefits from rising incomes are offset by the costs imposed on health and quality of life by pollution, this cannot be called development; and (2) environmental damage can undermine future productivity. The corporate managers also need to remember the effects of their investment decisions on the environment.

The need for corporate environment disclosures arises to comply with the statutory requirements, public opinion and the logic of public accountability. The reform process in India since 1991-92 has certainly improved the performance of the different sectors in the Indian economy. The Indian Corporate sector has started realizing the need for adequate corporate environment and social disclosures in order to repose the confidence of the stakeholders in the working of their enterprises and performance.

### RATIONALE OF STUDY

When we are marching ahead towards the 21<sup>st</sup> century, there is consensus among stakeholders that corporate environmental performance involves the integration of environmental considerations into the corporate business practices, and reporting of environmental performance that is measurable and comparable over time.

The concept of corporate governance in India has started gaining momentum and the deregulation, privatization, and globalization trends unleashed in the process of reforms led to renewed interest and need for good governance in the Country's corporate sector in order to have transparency and better environmental disclosure by the corporates.

The purpose of creating awareness of environment management by corporate sector is to help improve practices of environment where this subject has received scant attention. Industrial development in market oriented economies like Malaysia, Singapore and India in Asia-Pacific region is taking place at an accelerated rate since economic liberalization began in these countries. Hence it is of great interest to study the environmental management and disclosure practices of various corporate enterprises in these economies.

There is an urgent need to ensure a secure environment for the future. As the limits of industrialization are extending to International frontiers, the problem of environmental imbalances is causing a great concern to our environment. Since Industries are the major polluters of the environment, hence an attempt has been made in this study to analyze the role of corporates in ensuring environmental management and the disclosures made by them in their corporate statements and reports.

The main objective of the study is to examine the environmental management and disclosure practices employed by the various corporate enterprises in Singapore, Malaysia and India. An attempt has also been made to study the regulatory framework of environment management in the corporate sector.

## METHODOLOGY

### SOURCES OF DATA COLLECTION

The study is primarily based on the secondary data. The secondary data has been collected from the Annual Reports of corporate enterprises and the various Publications of the Government of Malaysia, Singapore and India. The companies for the secondary data have been selected on the basis of stock market index in the respective economies. The companies sampled were listed on the Bombay Stock Exchange, Singapore Stock Exchange and the Kuala Lumpur Stock Exchange (KLSE). The most recently available corporate annual reports of these companies were analyzed for the purpose of this study.

Environmental accounting is the most important source of corporate environmental disclosures, but there is no prescribed structure for corporate environmental reporting. Hence, an effort is made in this study through primary data to examine the views of executives from corporate regarding the corporate environmental management and disclosures.

### RESEARCH DESIGN

The listed 500 companies of BSE Index Stocks constitute the universe of the study for Indian companies. Annual reports of 100 companies for the year 2003-04 belonging to different age group, listing status, sectors/industries, sizes (turnover and shareholders funds wise) and profitability level comprise the sample of the present study. An exploratory research design has been followed for this study.

Environmental management and disclosure practices have been worked out on the basis of constructing 'index of disclosure' containing 10 items of information is based on major aspects of information disclosed in the annual reports of Indian companies. In this study every item was given equal weight, because each item in the index was equally important. Thus a total weight of 10 points is given in the index of disclosure of environment. For calculating company-wise disclosure, a score sheet for all the items for each company was prepared. The total score indicates the extent of information disclosed in the annual reports of companies. For calculating item-wise score, scores assigned to different items in the score sheet of all the companies were added.

### SELECTION OF SAMPLE

The companies were selected based on their activeness as well as relevance to environmental reporting. A simple random sample of 100 companies from BSE Index has been selected using a simple random sampling technique. The primary data has been collected from certain companies to know the best practices of environment management and the extent of corporate environmental disclosures in Singapore, Malaysia and India. The 45 listed companies under ST Index of Singapore Stock Exchange and the 100 listed companies under KLCI Index of KLSE constitute the universe of the study.

Environmental disclosure has been measured by constructing index of disclosure for the corporate enterprises in Singapore, Malaysia and India.

## ANALYSIS OF DATA

The analysis of data is made on the basis of various statistical tools like percentage, arithmetic mean, standard deviation and coefficient of variation, etc.

In other words, the research methodology of study is centered on the following:

1. Understanding existing scenario of environment management and disclosure in Malaysia, Singapore and India;
2. Collection of relevant information relating to environmental disclosure from the literature;
3. Analysis of the data collected; and
4. Suggesting possible measures/steps needed to have effective environment management.

The nature of disclosure of environmental information is identified by a careful overview of annual reports noting there from the place used (e.g., Chairman's address, Directors' report, management discussion and analysis, supplementary statement, etc.) forms preferred and type of information disclosed (about the type of pollution, i.e., air, water, noise, etc., control measures, costs incurred, classification of costs into capital or revenue, social activities and benefits, etc.).

## RATIONALE OF ENVIRONMENT MANAGEMENT

The environmental issues have assumed utmost priority at the international level. There is a growing pressure for the corporate enterprises to consider environmental effects of their operation. As a result, accounting and disclosure of environmental matters have rapidly been emerging as an important dimension of environment management.

Environmental reporting is an extension of environment accounting and it means incorporation of environmental issues into the corporate annual reports of corporate entities. It denotes voluntary and involuntary disclosures by corporate entities on the impact of its activities on environment. The corporate entities in the certain developed countries are paying closer attention to stakeholders' demand for environmental impacts and operational performances, which is useful to relevant stakeholders in assessing their relationship with the reporting entity.

There is no denying the fact that disclosures of environmental issues are gaining momentum in the corporate world. There has been a trend toward environment management and increased disclosure in annual reports, but meaningful disclosure has not been achieved in socially related company activities such as pollution control.

So, reporting is yet to attain the desired shape in terms of both the quantity and the quality.

### ***Environmental Disclosures Benchmarks***

Corporate environmental reporting is done on mandatory or voluntary basis. Mandatory reporting of environmental information is currently limited to a few countries like USA, Sweden and Netherlands. In USA, the companies are required to provide information on material environmental liabilities to Securities Exchange Commission and to submit data on the emissions to the toxic release inventory. In Sweden, the companies have to report their environmental performance in relation to government regulations. In the Netherlands, it is legally required to publish an annual environmental report. In 1992, India became the first country in the world to require environmental audits by law, insisting that the results be reported to State Pollution Boards. However, such information is still not being required by the Government to be publicly disclosed, say through an annual report.

In Malaysia, there is awareness among the companies regarding their social responsibility, but there is limited social disclosure regarding the environment-related issues. There is a separate department in the Government which looks after the environment related issues. The lack of concern and absence of environment-related activities was probably due to the fact that there is no mandatory requirement in this regard. The environmental disclosures by the companies in their annual reports are not mandatory requirements in Singapore. Some Singapore-based companies are starting to come clean on environmental issues and are reflecting "green" issues in their annual reports. Taking the lead are the oil companies like listed Singapore Petroleum Company (SPC) which has been including segments on environmental issues in its corporate reports.

## **ENVIRONMENTAL MANAGEMENT AND DISCLOSURE PRACTICES OF INDIAN COMPANIES**

Mandatory requirements improve credibility of the organization whereas voluntary disclosure not only invites positive investor sentiments, but it also improves chances of attracting more investment. 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, social accounting, human resource accounting, value added, marketing information and financial analysis.

There is no denying the fact that disclosures of environmental issues are gaining momentum in the corporate world. There has been a trend toward environment management and increased disclosure in annual reports, but meaningful disclosure

has not been achieved in socially related company activities such as pollution control. So, reporting is yet to attain the desired shape in terms of both the quantity and the quality. This lacking may be attributable mainly to (i) the absence of any standard specifying the kind of information to be disclosed; and (ii) the absence of any compulsion on the firms regarding such disclosures. Sporadic attempts have been made in this regard in the different countries to streamline the environmental reporting practices. They have come up mainly in the form of legislations; a comprehensive accounting standard is yet to come up. In India, a few such legislations require submission of different environment statements to be respective regulatory bodies. But nothing as yet does exist, which requires disclosure of environmental information through annual reports. Under these circumstances it is quite encouraging to note that companies are voluntarily disclosing environmental (howsoever inadequate that may be) through their annual reports.

In this section an attempt has been made to study the environment management and disclosures practices in India, to identify the nature and assess the extent of environmental disclosures and to identify the association, if any, between the corporate attributes and the listed 500 companies of BSE Index Stocks constitute the universe of the study. Annual reports of 100 companies for the year 2003-04 belonging to different age group, listing status, sectors/industries, sizes (turnover and shareholders funds wise) and profitability level comprise the sample of the present study. A simple random sample of 100 companies has been selected using a simple random sampling technique.

#### INDEX OF DISCLOSURE

Environmental management practices have been worked out on the basis of constructing "Index of disclosure" containing 10 items of information is based on major aspects of information disclosed in the annual reports of Indian companies. In this study every item was given equal weight, because each item in the index was equally important. Thus a total weight of 10 points is given in the index of disclosure of environment. For calculating company-wise disclosure, a score sheet for all the items for each company was prepared. The total score indicates the extent of information disclosed in the annual reports of companies. For calculating item-wise score, scores assigned to different items in the score sheet of all the companies were added. Table 1 depicts the computation of Disclosure Index.

Table 2 depicts the place in the annual report used by the companies for making environmental disclosure and Table 3 depicts the headings/titles used by the companies for reporting information relating to environment in their annual reports.

Out of which 23 companies have been awarded world class Environment Management System ISO 14001 and certified by an internationally accredited agency. 20 companies (86.96%) belong to A group and 3 companies (13.04%) belong to B1 group of BSE.

**Table 1: Environmental Disclosure Index**

S. No.	Items of Disclosure	Weight
1.	Pollution Abatement	1
2.	Environment Improvement	1
3.	Social Obligations	1
4.	Number of Trees Planted	1
5.	Safety Concern	1
6.	Reduction of Effluent Pollution in plants	1
7.	Environment Expenditure and Investment	1
8.	Health Concern	1
9.	Environment Management System (ISO 14001)	1
10.	Waste Management	1
<b>Total</b>		<b>10</b>

**Table 2: Environmental Disclosures in the Annual Report**

Place in Annual Report	Used by Companies	%
Directors' Report	30	46.87
Management Discussion and Analysis	18	28.12
Supplementary Statement	16	25.00
<b>Total</b>	<b>64</b>	

As per Table 4, the highest environmental disclosure score is accounted for by the environment improvement followed by safety concern and the least for the Environment Expenditure and Investment.

A quick glance at the Table 5 reveals that maximum mean environmental disclosure 85% is by Cement and Steel Sector followed by paints with 75% disclosure level. Further least mean disclosure by Cable Telecom companies with 6.7% followed by Textile companies with 10.9%.

On the basis of percentage mean disclosure obtained by different sectors in the sample companies, Table 6 depicts that the top most position with 85 is taken by Cement and Steel followed by Paints with 75. Cable Telecom companies have least disclosure Percentage of 6.7 followed by Textile companies with 10.9. As overall mean disclosure by the companies are 47.6 that shows 31 companies from 6 different sectors Cement and Steel, Paints, Diversified, Refinery, Fertilizers and Chemicals and

**Table 3: Areas of Corporate Environmental Disclosure**

Title/Heading	Used by Companies	%
1. Environment Policy	1	1.56
2. Environment Report	5	7.81
3. Environment and Safety	9	14.06
4. Environment management system	3	4.69
5. Environment Health Safety (EHS)	15	23.44
Health Safety Environment (HSE)		
Safety Health Environment (SHE)		
6. Corporate Social Responsibility (CSR)	6	9.37
7. Environment and Social Concern	1	1.56
8. Corporate Citizenship	2	3.12
9. Rural and Community Development Activities	6	7.81
10. Social Report	1	1.56
11. Environment and Risk Management	2	3.12
12. Community Service/Welfare	4	6.25
13. Public Parks and Garden	2	3.12
14. Eco Friendly Environment	2	3.12
15. Environment Protection and Safety	2	3.12
16. Environment and Pollution Control	1	1.56
17. Year in Review/Highlights	2	3.12
18. Environment Engineering	1	1.56
<b>Total</b>	<b>64</b>	

Petrochemicals have scored more than overall mean disclosure score and remaining 69 companies from 12 sectors have scored less than overall mean disclosure.

From the Table 7 it is clear that 60% of companies in the sample of study have percentage disclosure score in the range 40% to 100%. Mean disclosure of all the 100 companies is 47.60 with standard deviation 32.16 and coefficient of variation is 67.56%. This shows that environmental disclosure is less than 50% of "Index of environment disclosure" prepared for this purpose and further there are variation of 67.56% in environmental disclosure practices.



**Table 4: Overall Item Wise Disclosure**

S. No.	Area of Information	Disclosure Score
1.	Pollution Abatement	52
2.	Environment Improvement	63
3.	Social Obligations	54
4.	Number of Trees Planted	28
5.	Safety Concern	56
6.	Reduction of Effluent Pollution in plants	35
7.	Environment Expenditure and Investment	19
8.	Health Concern	55
9.	Environment Management System (ISO 14001)	23
10.	Waste Management	31

**Table 5: Overall Sector Wise Disclosure and Statistical Results**

S. No.	Sector/Industry	Mean	SD	CV
1.	Pharmaceutical	38.4	27.4	71.28
2.	Textile	10.9	28.7	263.3
3.	Personal Care	25	25	100
4.	Automobile and Auto Ancillaries	44.4	40.7	91.67
5.	Diversified	73.3	30.9	42.17
6.	Computer Software and Hardware	45	36.4	80.89
7.	Shipping	26.7	37.7	141.19
8.	Fertilizers and Chemicals	60.8	26.6	43.75
9.	Cement and Steel	85	20.6	24.23
10.	Electric Equipment	33.3	23.5	70.80
11.	Cable Telecom	6.7	9.4	140.80
12.	Petrochemicals	60	30	50
13.	Refinery	65	25	38.46
14.	Paints	75	15	20
15.	Detergents and Soaps	30	30	100
16.	Construction and Engg.	30	30	100
17.	Engines	25	25	100
18.	Miscellaneous and Others	28.4	28.5	100.37

**Table 6: Overall Sector wise Disclosure and Their Ranking**

S. No.	Sector/Industry	Disclosure (%)	Rank
1.	Cement and Steel (4)	85	I
2.	Paints (2)	75	II
3.	Diversified (9)	73.3	III
4.	Refinery (2)	65	IV
5.	Fertilizers and Chemicals (12)	60.8	V
6.	Petrochemicals (2)	60	VI
7.	Computer Software and Hardware (4)	45	VII
8.	Automobile and Auto Ancillaries (9)	44.4	VIII
9.	Pharmaceuticals (13)	38.4	IX
10.	Electric Equipments (3)	33.3	X
11.	Detergents and Soaps (2)	30	XI
12.	Construction and Engineering (2)	30	XI
13.	Miscellaneous and Others (13)	28.4	XII
14.	Shipping (3)	26.7	XIII
15.	Personal Care (4)	25	XIV
16.	Engines (2)	25	XIV
17.	Textiles (11)	10.9	XV
18.	Cable Telecom (3)	6.7	XVI

**Note:** Figures in Parenthesis show Number of Companies.

To measure the degree of relationship between the corporate attributes (like age of the company, size of the company, profitability of the company and the Environmental Disclosure Score (EDS) made by the company, coefficient of correlation, probable error and coefficient of determination have been calculated. The brief analysis and interpretation of all the attributes affecting EDS is:

**Age of the company and EDS:** Analysis of the data shows that there is negative correlation/relationship between the age of the company and EDS ( $r = -0.51$ ). 26% variation in EDS has been calculated by the age of the company ( $R^2 = 0.26$ ). As the value of  $r$  is more than two times of PE that shows the value of  $r$  is not so significant.

**Table 7: Disclosure-Wise Distribution of Companies**

% Disclosure	Number of Companies	Percentage
0-20	36	36
20-40	4	4
40-60	20	20
60-80	16	16
80-100	24	24
<b>Total</b>	<b>100</b>	<b>100</b>

**Note:** Mean Environmental Disclosure Score = 47.60; Standard Deviation = 32.16; Coefficient of Variation = 67.56.

**Table 8: Corporate Attributes and Environmental Disclosure Score (EDS)  
(Companies Making Environmental Disclosure in Brackets)****Table 8.1: Age of the Company and EDS**

Number of (in Years)	Environmental Sample Companies	Disclosure Score (%)
10-30	42 (28)	36.90
30-50	28 (15)	50.35
50-70	23 (16)	44.34
70 and above	07 (05)	22.85
<b>Total</b>	<b>100 (64)</b>	

**Note:** Coefficient of Correlation ( $r$ ) = -0.51; Probable Error (PE) = 0.249; Coefficient of Determination ( $r^2$ ) = 0.26.

**Table 8.2: Profitability and EDS**

Profitability	Number of Companies	Environmental Disclosure Sample Score (%)
Loss Making	12 (05)	20.00
Moderately Profitable (PBT as% of sales-upto 15%)	55 (33)	38.54
Highly Profitable (PBT as% of sales-above 15%)	33 (26)	56.97
<b>Total</b>	<b>100 (64)</b>	

**Note:** Coefficient of Correlation ( $r$ ) = 1; Probable Error (PE) = 0; Coefficient of Determination ( $r^2$ ) = 1.

**Table 8.3: Size of the Company (Measured by Shareholders' Funds) and EDS**

Shareholders' Funds ₹(in cr)	Number of Sample Companies	Environmental Disclosure Score (%)
Less than 300	40 (20)	24.5
300-600	22 (15)	36.82
600 & above	38 (29)	65.26
<b>Total</b>	<b>100 (64)</b>	

Note: Coefficient of Correlation (r) = 0.993; Probable Error (PE) = 0.0046; Coefficient of Determination (r<sup>2</sup>) = 0.987.

**Table 8.4: BSE Classification and EDS**

BSE Classification	Number of Sample Companies	Environmental Disclosure score (%)
Group A	61 (48)	54.57
Group B1	33 (15)	25.45
Group B2	06 (01)	10
<b>Total</b>	<b>100 (64)</b>	

**Table 8.5: Nature of Industry/Sector and EDS**

S. No.	Industry/Sector	No. of Sample Companies	Disclosure (%)	Rank
1.	Cement and Steel	4 (4)	85	I
2.	Paints	2 (2)	75	II
3.	Diversified	9 (8)	73.3	III
4.	Refinery	2 (2)	65	IV
5.	Fertilisers and Chemicals	12 (11)	60.8	V
6.	Petrochemicals	2 (2)	60	VI
7.	Computer Software and Hardware	4 (3)	45	VII
8.	Automobile and Auto Ancillaries	9 (5)	44.4	VIII
9.	Pharmaceuticals	13 (9)	38.4	IX
10.	Electric Equipments	3 (2)	33.3	X
11.	Detergents and Soaps	2 (1)	30	XI
12.	Construction and Engineering	2 (2)	30	XI
13.	Miscellaneous and Others	13 (6)	28.4	XII

Table 8.5 (Cont.)

S. No.	Industry/Sector	No. of Sample Companies	Disclosure (%)	Rank
14.	Shipping	3 (1)	26.7	XIII
15.	Personal Care	4 (2)	25	XIV
16.	Engines	2 (1)	25	XIV
17.	Textiles	11 (2)	10.9	XV
18.	Cable Telecom	3 (1)	6.7	XVI
	<b>Total</b>	<b>100 (64)</b>		

The brief analysis and interpretation of all the attributes affecting EDS is shown in Table 8.1 to 8.5.

**Profitability and EDS:** There is perfect positive relationship between profitability (PBT as percentage of sales) and EDS ( $r = 1$ ). 100 percent variation in EDS is explained by the profitability of the company ( $R^2 = 1$ ). As value of PE = 0, therefore value of  $r$  is very much significant.

**Size of the company and EDS:** Again there is a perfect positive relationship between the size of the company (measured by shareholder's fund) and EDS ( $r = 0.993$ ). 98% variation in EDS is explained by the size of the company ( $R^2 = 0.98$ ). As value of  $r$  is more than six times the PE,  $r$  is practically certain that is value of  $r$  is significant.

**BSE classification and EDS:** 61 companies from Group A classification of BSE have made EDS percentage of 54.75 which is more than the overall mean EDS, i.e., 47.60 percent. EDS of 33 companies in Group B1 of BSE is 25.45% much below than overall mean EDS. Only one company in Group B2 has made EDS of 10% the extent of environmental disclosures.

The maximum Environmental Disclosure (ED) is reported for environmental information by the companies followed by Safety concern, health concern, Social obligations and pollution abatements. Only 19 companies have reported information regarding environment expenditure and investment followed by the item number of trees planted, which has been disclosed by 28 companies from the sample. Only 23 companies have been certified ISO 14001 for environment management system by an International Accredited Agency.

Out of the sample of 100 companies, only 64 companies have made ED in their annual reports. 9 companies (Ashok Leyland, Grasim Industries, HLL, Indian Rayon and Industries, Indo Gulf Corporation, Infosys Technologies, ITC, SAIL and TISCO) of the sample have disclosed the maximum items of the information, i.e., 10 and have been ranked No. 1 as per the environment disclosure index. In the list. 8 companies (Asian Paints, ACC, Chambal Fertilizers, Hero Honda, IPCL, Kochi Refineries, Reliance Industries and have ranked second in the list.

The study indicates that the EDS is the highest in the Cement and Steel followed by Paints and least EDS was made by Cable Telecom companies followed by Textile companies. As overall mean disclosure by the companies are 47.6 that shows 31 companies from 6 different sectors Cement and Steel, Paints, Diversified, Refinery, Fertilizers and Chemicals and Petrochemicals have scored more than overall mean disclosure score and remaining 69 companies from 12 sectors have scored less than overall mean disclosure.

The study indicates that taking Profit Before Tax (PBT) as percentage of sales as a measure of profitability, the correlation between EDS and profitability of the company is perfectly positive and significant. Taking size of the company (as shareholder's fund) again there is perfect positive and significant correlation between EDS and the size of the company. As regards the age of the company and EDS, there is negative correlation but it is not so significant. EDS of companies in Group A of the sample is more than the overall mean EDS whereas EDS of companies in Group B 1 and B2 have much below the overall mean EDS.

ED practices by Indian companies are of a casual nature. Environmental reporting is yet to find a permanent position in the financial sections of the annual report. Positive relationship exists between the profitability, size of the company and EDS. It is however interesting to note that there is an increasing trend in EDS. It indicates that the companies in India are becoming more enlightened as to the corporate environmental disclosures.

## **ENVIRONMENT MANAGEMENT AND DISCLOSURE PRACTICES IN SOUTH EAST ASIA**

Fast rate of Industrialization and haze conditions caused by forest fires in some of the South East Asian countries have increased the awareness of the people towards the need to maintain a clean environment. Against the backdrop of rapid industrialization, Singapore economy which started in the 1960s with certain basic industries is at present dominated by high-technology export manufacturing companies. The concerns about environmental issues have gained momentum just as similarly experienced by other newly Industrializing countries. They generally link environmental disclosure and financial performance measures and this should provide an incentive for companies in Singapore to increase the content of their environmental management and reporting in their corporate reports. Mere compliance with legislative requirements is not sufficient by the corporate enterprises rather the companies should consider this as a part of their Corporate Social Responsibility (CSR).

It is through increased environmental disclosures that the traditional stakeholders can perceive environmental disclosures more positively in terms of reduced implicit costs, e.g., pollution abatement facilities and penalties, and in terms of involving the environmental-related activities.

The Singapore's economic development has picked up at a time when international environmental controls are becoming more important. With the pollution being caused by different Industrial enterprises, Singapore government has taken steps to restrict and regulate impact of their activities on the environment. Recognizing the potential adverse impact of these trends, the Singapore Environmental Council was set up to raise the awareness level of people towards environmental protection. This indicates that the companies are becoming more proactive and are requesting for more information on environmental management.

As of September 2001, some 260 Singapore companies have been accredited with the ISO 14001 international standard for environmental management systems. This indicates that environment awareness in government and business circles is increasing. This increased concern may indicate a push towards greater public reporting of environmental impacts by industry, thereby supporting the timeliness of this investigation into environmental reporting practices (ACCA, 2002).

There is discretion of Singapore companies to make environmental disclosures in the annual reports and it has resulted in significant variations in the extent and types of disclosures.

#### ENVIRONMENT MANAGEMENT BY CORPORATE ENTERPRISES IN SINGAPORE

Singapore as a country has very limited land area. As the land is used for housing, industrial development, and recreation, it is highly essential that waste, from all of the above is safely managed to protect environment and to have sustainable development. There is a regulatory framework for the environmental management in Singapore. This is governed by: (i) codes of practices and standards; and (ii) legislation such as Government Acts, Rules and Regulations.

The codes of practices and standards for environmental management are the guidelines issued by government agencies to regulate the environmental management system. Government Acts, rules and regulations are legislated by-laws, which are mandatory to be adhered to in environmental management procedures and measures to protect the people and sustain the environment.

#### REGULATORY FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT IN SINGAPORE

The regulatory framework on environmental management in Singapore has been categorized as under:

- a. Codes of practices and standards; and
- b. Legislation such as Government Acts, Rules and Regulations.

Codes of practices and standards for environmental management are functional or technical guidelines issued by government agencies, such as the National Environment

Agency (NEA) and Standards, Productivity and Innovation Board (SPRING Singapore). They are a written set of procedures and guiding principles used to assist and guide regarding proper environmental management in Singapore. The codes and standards are nationally recognized documents, established by consensus and prepared by a committee of well-qualified professionals that specialize in the fields of environmental issues.

### ***Environmental Disclosures by the Singaporean Companies***

In this section, an attempt has been made to study the environment disclosures practices in Singapore. The 45 listed companies under ST Index of Singapore Stock exchange constitute the universe of the study. Annual reports of companies belonging to different age group, listing status, sectors/industries, sizes (turnover and shareholders funds wise) and profitability level comprise the sample of the present study.

### ***Index of Disclosure***

Environmental management practices have been worked out on the basis of constructing "Index of disclosure" containing 10 items of information is based on major aspects of information disclosed in the annual reports of Singaporean companies. In this study every item was given equal weight, because each item in the index was equally important. Thus a total weight of 10 points is given in the index of disclosure of environment. For calculating company-wise disclosure, a score sheet for all the items for each company was prepared. The total score indicates the extent of information disclosed in the annual reports of companies. For calculating item-wise score, scores assigned to different items in the score sheet of all the companies were added. The Table 9 depicts the computation of Disclosure Index. There are 10 items which have been disclosed by the companies listed in the Singapore Stock Exchange. The various items of disclosures include pollution abatement, environment improvement, social obligations, number of trees planted, safety concern, and reduction of effluent pollution in plants, environment expenditure and investment, health concern, environment management system (ISO 14001) and waste management.

The analysis and interpretation of ED made by 45 sample companies of Singapore Stock Exchange indicates that only 9 companies, i.e., 20% of the sample have made environmental disclosure in their annual reports. Only 2 companies have been accredited by international certifying agencies with ISO 14001. The Environmental reporting is made in a supplementary statement in an annual report.

The title used for reporting environmental disclosure as well as social disclosure by the companies are: (a) embracing the community; (b) CSR report; (c) community bonding; (d) no harm to people, no damage to environment; (e) community relation; and (f) corporate citizenship.



S. No.	Items of Disclosure	Weight
1.	Pollution Abatement	1
2.	Environment Improvement	1
3.	Social Obligations	1
4.	Number of Trees Planted	1
5.	Safety Concern	1
6.	Reduction of Effluent Pollution in plants	1
7.	Environment Expenditure and Investment	1
8.	Health Concern	1
9.	Environment Management System (ISO 14001)	1
10.	Waste Management	1
	<b>Total</b>	<b>10</b>

The Table 10 indicates that 82.22% companies had an ED in the range of 00-20 and 11.11% companies had an ED of 20-40. The Mean EDS was 15.33.

Disclosure (%)	Number of Companies	Percentage
00-20	37	82.22
20-40	5	11.11
40-60	1	2.22
60-80	0	0
80-100	2	4.45
<b>Total</b>	<b>45</b>	<b>100</b>

**Note:** Mean Environmental Disclosure Score = 15.33; Standard Deviation = 13.90; Coefficient of Variation = 90.67.

As per Table 11, there are 7 items under the Social Disclosure Index which includes CSR, education, charitable activities, medical, sports, art and culture. The 84.44% companies had a disclosure score of 00-20, 6.67% and 6.67% companies each had a disclosure score of 40-60 and 60-80, respectively. The mean social disclosure score was 19.33.

**Table 11: Social Disclosure Index of Singaporean Companies**

S. No.	Items of Disclosure	Weight
1.	Corporate Social Responsibility	1
2.	Education	1
3.	Charitable Activities	1
4.	Medical	1
5.	Sports	1
6.	Art and Culture	1
7.	Tsunami Aid	1
	<b>Total</b>	<b>7</b>

**Table 12: Social Disclosure-Wise Distribution of Singaporean Companies**

% Disclosure	Number of Companies	Percentage
00-20	38	84.44
20-40	0	0.0
40-60	3	6.67
60-80	3	6.67
80-100	1	2.22
<b>Total</b>	<b>45</b>	<b>100</b>

Note: Mean Social Disclosure Score = 19.33; Standard Deviation = 22.93; Coefficient of Variation = 118.64.

## ENVIRONMENTAL MANAGEMENT IN THE CORPORATE ENTERPRISES IN MALAYSIA

### MALAYSIAN REGULATORY BODIES

#### *Registry of Companies*

The Registry of Companies (ROC) is a division under the Ministry of Domestic Trade and Consumer Affairs.

#### *Securities Commission*

The Securities Commission (SC) was set up on the 1<sup>st</sup> of March 1993, marking a significant milestone in the Government's commitment to have a central authority in the regulation and development of the securities and futures industries in Malaysia.

*Kuala Lumpur Stock Exchange*

The KLSE is a self-regulatory organization which governs the conduct of its members and member stock broking companies in securities dealings; enforces the listing requirements which spell out the listing and disclosure standards to be maintained by public listed companies; and which is also responsible for the surveillance of the market place.

**MESDAQ**

The Malaysian Exchange of Securities Dealing and Automated Quotation Bhd. (MESDAQ) is an electronic stock exchange on the most modern lines.

**ENVIRONMENT DISCLOSURES BY CORPORATE ENTERPRISES IN MALAYSIA**

Presently there is no statutory requirement in Malaysia requiring public listed companies to disclose environmental information to the public. The reporting companies use their published annual report for communicating environmental information to their stakeholders just with one page information.

A broad overview of the environmental, occupational safety and health legislative framework, corporate legal framework, KLSE listing requirements and accounting standards in Malaysia indicate that there are the following requirements under legislative enactments:

1. Section 17 of Occupational Safety and Health Act, 1994, requires the disclosure of information with respect to personal safety, which could be interpreted to cover Instances that affect both people and environment
2. Regulation 22 of Occupational Safety and Health (Control of Industrial Major Accidents) Regulations, 1996, for manufacturers to disclose 'information to the public' relating to 'the nature of a major accident hazard including its potential effects on the population and the environment'.
3. Listing requirements of KLSE: The revised listing requirements of KLSE include specific requirements for Continual Disclosure (chapter 9) and Corporate Governance Disclosure (chapter 15).

Though there is no specific regulation for disclosure of environmental information, the listing requirements do require disclosure of information that has the potential to influence the financial performance of a company.

**ENVIRONMENTAL REPORTING GUIDELINES FOR COMPANIES IN MALAYSIA**

The amendment (1996) to the Environmental Quality Act, 1974 in Section 33A (Environmental Audit), states:

1. The Director General may require the owner or occupier of any vehicle, ship or premises, irrespective of whether the vehicle, ship or premises are prescribed under Section 18 or otherwise, to carry out an environmental audit and to submit an audit report in the manner as may be prescribed by the Minister by Regulations made under this Act.
2. For the purpose of carrying out an environmental audit and to submit a report thereof, the owner or occupiers so directed shall appoint qualified personnel who are registered under Subsection (3).
3. For the purpose of this section, the Director General shall maintain a list of qualified personnel who may carry out any environmental audit and submit a report thereof.

## **MALAYSIAN ACCOUNTING STANDARDS BOARD**

The Malaysian Accounting Standards Board (MASB) has been established under the Financial Reporting Act 1997 as an independent authority to develop and issue accounting and financial reporting standards in Malaysia.

1. Paragraph 10 of MASB 1, which makes explicit reference to 'environmental reports and value added statements' encouraging companies 'to present additional information if management believes they will assist users in making economic decisions' and
2. MASB 20, which sets out accounting and disclosure requirements for the recognition of contingent liabilities and assets, although MASB 20 does not provide specific detail of the types of liability that companies are required to disclose

## **REPORTING FORMAT**

The reporting companies use their published annual report for communicating environmental information to their stakeholders. There was a general increase in terms of the number of pages companies allocated within their annual reports for communicating environmental information. In 1999, more than 95% of the reporting companies limited environmental information to one page within the annual report. By 2001, 40% were devoting more than one page to environmental information (Source- ACCA Environment Reporting Guidelines jointly with DOE).

## **ENVIRONMENTAL DISCLOSURE BY MALAYSIAN COMPANIES**

In this section an attempt has been made to study the environment disclosures practices in Malaysia. The 100 listed companies under KLCI Index of KLSE constitute the universe of the study. The Annual reports of 59 companies belonging to different age

group, listing status, sectors/industries, sizes (turnover and shareholders funds-wise) and profitability level comprise the sample of the present study.

### INDEX OF DISCLOSURE

Environmental management practices have been worked out on the basis of constructing 'Index of Disclosure' containing 10 items of information is based on major aspects of information disclosed in the annual reports by the companies listed in the KLSE. In this study every item was given equal weight, because each item in the index was equally important. Thus a total weight of 10 points is given in the index of disclosure of environment. For calculating company-wise disclosure, a score sheet for all the items for each company was prepared. The total score indicates the extent of information disclosed in the annual reports of companies. For calculating item-wise score, scores assigned to different items in the score sheet of all the companies were added.

Total environmental reporting is made in a supplementary statement in an annual report. The title used for reporting environmental as well as CSR. (a) CSR; (b) community; (c) social report; (d) community scene; (e) community relation; (f) committed to clean and safer environment; (g) HSSE-Health Safety Security and Environment; and (h) CSR is not just social obligation but also a way of life.

As per Table 13, 89.83% companies had an EDS of 00-20% and 6.78% companies were making disclosures to the extent of 20-40%. The mean disclosure score however was 12.71.

**Table 13: Environmental Disclosure wise Distribution of Malaysian Companies**

% Disclosure	Number of Companies	Percentage
00-20	53	89.83
20-40	4	6.78
40-60	2	3.39
<b>Total</b>	<b>59</b>	<b>100</b>

**Note:** Mean Environmental Disclosure Score = 12.71; Standard Deviation = 8.94; Coefficient of Variation = 70.03.

As per Table 14, there are 7 items of social disclosures by the KLCI companies which includes CSR, education, charitable activities, medical, sports, art and culture and Tsunami aid. Table 15 indicates that 83.06% sample companies had a Social disclosure score of 00-20 and 8.47% companies had a disclosure score of 20-40. The mean corporate social disclosure indicates that social disclosures score was 19.83.

**Table 14: Social Disclosure Index of Malaysia Companies**

S. No.	Items of Disclosure	Weight
1.	Corporate Social Responsibility	1
2.	Education	1
3.	Charitable Activities	1
4.	Medical	1
5.	Sports	1
6.	Art and Culture	1
7.	Tsunami Aid	1
	<b>Total</b>	<b>7</b>

**Table 15: Social Disclosure-Wise Distribution of Malaysian Companies**

% Disclosure	Number of Companies	Percentage
00-20	49	83.06
20-40	0	0
40-60	3	5.08
60-80	5	8.47
80-100	2	3.39
<b>Total</b>	<b>59</b>	<b>100</b>

**Note:** Mean Social Disclosure Score = 19.83; Standard Deviation = 22.52; Coefficient of Variation = 113.56.

## A COMPARATIVE ANALYSIS

In this section, a comparative analysis of ED by the Indian Companies, Singaporean and Malaysian companies has been carried out. The Environmental Reporting Practices of corporate enterprises in India indicates that listed companies in India are not legally required to make ED. The annual reports of very few companies make a mention about environment and that too in general terms without specifying any impending environmental liabilities or losses. The safety, occupational health and environmental protection have always been of prime concern to the company. The company's constant endeavour to improve the standards of safety and environment is reflected in the practice of setting annual targets for all-around improvement at all its manufacturing locations. Performance is monitored through regular safety and environmental audits, using internationally accepted methodologies. Safety training is imparted to employees at all levels.

In the promotion of environmental management in Singapore, key institutions include major government agencies that look after the environment, occupational safety and health related issues. There are also a number of non-government organizations (NGOs) which advocate good environment management practices and environmental protection programs. The Title used for reporting environmental disclosure as well as social disclosure by the companies are: (a) Embracing the community; (b) CSR report; (c) Community Bonding; (d) No harm to people, No damage to environment; (e) Community relation; and (f) Corporate citizenship.

Presently there is no statutory requirement in Malaysia requiring public listed companies to disclose environmental information to the public. The reporting companies use their published annual report for communicating environmental information to their stakeholders just with one page information.

From the Table 16, it is clear that mean environmental disclosure of Indian companies is 47.60, for Singaporean companies it is 15.33 and it happened to be 12.71 for Malaysian companies. The above Table indicates that the environmental disclosure is highest amongst the three countries and coefficient of variation (67.56) is the lowest for Indian companies that depicts more consistency and the less variability in the disclosure.

Countries	Mean	SD	CV
India	47.60	32.16	67.56
Singapore	15.33	13.90	90.67
Malaysia	12.71	8.94	70.03

Table 17 indicates that the Corporate Social Disclosure for Indian companies is 32.80, 19.33 for Singaporean companies and 19.83 for Malaysian companies. The Corporate Social Disclosure of Indian Companies is highest amongst the three countries and coefficient of variation (83.23) is the lowest for Indian companies that depict the more consistency and the less variability in the disclosure.

Countries	Mean	SD	CV
India	32.80	27.3	83.23
Singapore	19.33	22.93	118.64
Malaysia	19.83	22.52	113.56

## CONCLUSION AND SUGGESTIONS

Disclosure of information in the corporate reports regarding the impact of organization's activities on the environmental resources has emerged as an emerging and engaging area of study. Disclosure of environmental information is being viewed as an instrument, which can help in the management of precious environmental resources. But in the absence of comprehensive ED guidelines and standards, it is not very effective. The status of ED is very poor and there is no uniformity in reporting practices. This may be, due to its voluntary nature and the non availability of comprehensive disclosure guidelines regarding the contents of ED and its structure. Since there are no generally accepted accounting principles and standards in this respect, the corporate disclosure practice on management of environment is at the inception stage. The broad conclusions of the study as to environment management and disclosure practices of Indian, Singaporean and Malaysian companies have been highlighted in this section.

### ENVIRONMENT MANAGEMENT AND DISCLOSURES BY THE INDIAN COMPANIES

The globalization wave initiated by the Government of India in 1991 has put an impact on every aspect of business activity. There is a sea-change in laws governing corporate sector and the methods of raising finance by corporate sector. Indian companies are tapping global markets to raise funds through GDRs, ADRs, ECBs, syndicated loans, etc. Companies such as Infosys, Wipro, etc., having got their share listed on NYSE or LSE and NASDAQ. MNCs are entering expanding and consolidating in India through direct and portfolio investment. The concept of corporate governance in India has started gaining momentum and the deregulation, privatization, and globalization trends unleashed in the process of reforms led to renewed interest and need for good governance in the Country's corporate sector in order to have transparency and better disclosure by the corporates.

The maximum ED is reported for environmental information by the companies followed by safety concern, health concern, social obligations and pollution abatements. Only 19 companies have reported information regarding environment expenditure and investment followed by the item number of trees planted, which has been disclosed by 28 companies from the sample. Only 23 companies have been certified ISO 14001 for environment management system by an International Accredited Agency.

Out of the sample of 100 Indian companies, only 64 companies have made ED in their annual reports. The 9 companies (Ashok Leyland, Grasim Industries, HLL, Indian Rayon and Industries, Indo Gulf Corporation, Infosys Technologies, ITC, SAIL and TISCO) out of the sample companies have disclosed the maximum items of the information, i.e., 10 and have been ranked No. 1 as per the environment disclosure index. The 8 companies (Asian Paints, ACC, Chambal Fertilizers, Hero Honda, IPCL, Kochi Refineries, Reliance Industries and Tata Chemicals) have reported 9 items of



information of the index of disclosure prepared for the study and have ranked second in the list.

The study indicates that the EDS is the highest for the Cement and Steel followed by Paints and least EDS was made by Cable Telecom companies followed by Textile companies. As overall mean disclosure by the companies are 47.6 which shows that 31 companies from 6 different sectors Cement and Steel, Paints, Diversified, Refinery, Fertilizers and Chemicals and Petrochemicals have scored more than overall mean disclosure score and remaining 69 companies from 12 sectors have scored less than overall mean disclosure.

The study indicates that taking PBT as percentage of sales as a measure of profitability, the correlation between EDS and profitability of the company is perfectly positive and significant. Taking size of the company (as shareholder's fund) again there is perfect positive and significant correlation between EDS and the size of the company. As regards the age of the company and EDS there is negative correlation but it is not so significant. EDS of companies in Group A of the sample is more than the overall mean EDS whereas EDS of companies in Group B1 and B2 is much below the overall mean EDS.

ED practices by Indian companies are of a very casual in nature. Environmental reporting is yet to find a permanent position in the financial sections of the annual report. Environment expenditure and investment as an environment Theme, is not yet in a position to be used for reporting purposes. Positive relationship exists between the profitability, size of the company and EDS. It is however encouraging to note that there is an increasing trend in EDS. It indicates that the companies in India are becoming more enlightened as to the corporate environmental disclosures.

#### ENVIRONMENT MANAGEMENT AND DISCLOSURES BY THE CORPORATES IN SINGAPORE

In the recent era, the concerns about environmental issues have gained momentum in Singapore like many other Industrializing countries. They generally link ED and financial performance measures and this should provide an incentive for companies in Singapore to increase the content of their environmental management and reporting in their corporate reports. Mere compliance with legislative requirements is not sufficient by the corporate enterprises rather the companies should consider this as a part of their CSR.

The Singapore's economic development has picked up at a time when international environmental controls are becoming more stringent. With the pollution being caused by different Industrial enterprises, Singapore government has taken steps to restrict and regulate impact of their activities on the environment. Recognizing the potential adverse impact of these trends, the Singapore Environmental Council was set up to raise the awareness level of people towards environmental protection. This indicates

that the companies are becoming more proactive and are requesting for more information on environmental management.

As per an ACCA Report, 260 Singapore companies have been accredited with the ISO 14001 international standard for environmental management systems. This indicates that environment awareness in government and business circles is increasing. This increased concern may indicate a push towards greater public reporting of environmental impacts by industry, thereby supporting the timeliness of this investigation into environmental reporting practices (ACCA, 2002).

In the promotion of environmental management of Industries, key institutions include major government agencies that look after the environment, occupational safety and health related issues.

The Singapore Environment Council (SEC) evolved from the National Council on the Environment (NCE) which was formed in November 1990. The NCE was restructured to form a nationally oriented, independently managed body, to nurture, facilitate and co-ordinate environmental causes and groups in Singapore, including waste management.

The SEC is actively involved in green issues such as future limitations on growth, land use, water supply, pollution control, refuse disposal as well as the quality of life. It encourages members of the public to be more environmentally conscious and responsible, co-ordinates environmental promotion and protection undertaken in Singapore, including with other institutions and organizations. It also studies, develops and improves measures for the promotion and protection of the environment which are suitable for adoption by private and public organizations, educational institutions, community organizations, the media and the general public in Singapore.

The results of this study indicate that there are 10 items which have been disclosed by the companies listed in the Singapore Stock Exchange. The various items of disclosures include pollution abatement, environment improvement, social obligations, number of trees planted, safety concern, and reduction of effluent pollution in plants, environment expenditure and investment, health concern, environment management system (ISO 14001) and waste management.

The title used for reporting ED as well as social disclosure by the companies are: (a) embracing the community; (b) CSR report; (c) community bonding; (d) no harm to people, no damage to environment (e) community relation (f) corporate citizenship.

The study indicates that only 82.22% companies had an ED in the range of 00-20 and 11.11% companies had an ED in the range of 20-40. The mean EDS for the sample companies under ST index was 15.33. There are 7 items under the social disclosure index which includes CSR, education, charitable activities, medical, sports, art and culture. The 84.44% companies had a disclosure score of 00-20 where as

6.67% and 6.67% companies each had a disclosure score of 40-60 and 60-80, respectively. The mean social disclosure score of the sample companies was 19.33.

## ENVIRONMENT MANAGEMENT AND DISCLOSURES BY THE CORPORATES IN MALAYSIA

Presently there is no statutory requirement in Malaysia requiring public listed companies to disclose environmental information to the public.

A broad overview of the environmental, occupational safety and health legislative framework, corporate legal framework, KLSE listing requirements and accounting standards in Malaysia indicate that there are the requirements under legislative enactments as to the environment management by the companies.

The 100 listed companies under KLCI Index of KLSE constitute the universe of the study. The Annual reports of 59 companies belonging to different age group, listing status, sectors/industries, sizes (turnover and shareholders funds wise) and profitability level comprise the sample of the present study.

Total environmental reporting is made in a supplementary statement in an annual report. The Title used for reporting environmental as well as CSR. (a) CSR; (b) community; (c) social report; (d) community scene; (e) community relation; (f) committed to clean and safer environment; (g) HSSE-Health safety security and environment; and (h) CSR is not just social obligation but also a way of life.

The study indicates that the 89.83% companies had an EDS of 00-20 and 6.78% companies were making disclosures to the extent of 20-40. The mean disclosure score however was 12.71. There are 7 items of social disclosures by the KLCI companies which includes CSR, education, charitable activities, medical, sports, art and culture and Tsunami aid. The study indicates that 83.06% sample companies had a social disclosure score of 00-20 and 8.47% companies had a disclosure score of 60-80. The mean corporate social disclosure indicates that social disclosures Score was 19.83.

**A Comparative Analysis:** The Environmental Reporting Practices of companies in India indicates that listed companies in India are not legally required to make ED. The annual reports of very few companies make a mention about environment and that too in general terms without specifying any impending environmental liabilities or losses. The safety, occupational health and environmental protection have always been of prime concern to the corporates. Whereas in the promotion of environmental management in Singapore, key institutions include major government agencies that look after the environment, occupational safety and health related issues. Presently there is no statutory requirement in Malaysia requiring public listed companies to disclose environmental information to the public.

The constant endeavour of corporate enterprises in India to improve the standards of safety and environment is reflected in the practice of setting annual targets for all-

around improvement. Environmental performance is monitored through regular safety and environmental audits and the safety training is imparted to employees.

A comparative analysis on environment management and reporting practices in the three countries indicates that the mean environmental disclosure in case of Indian companies was 47.60, for Singaporean companies it came out to be 15.33 and for Malaysian companies it worked out to be 12.71. The study indicates that the ED in India is highest amongst the three countries and coefficient of variation (67.56) is the lowest for Indian companies that depict the more consistency and the less variability in the disclosure.

A comparative result of the study indicates that the Corporate Social Disclosure for Indian companies was 32.80, 19.33 for Singaporean companies and 19.83 for Malaysian companies. The Corporate Social Disclosure in case of Indian Companies is highest amongst the three countries and coefficient of variation (83.23) is the lowest for Indian companies that depict the more consistency and the less variability in the disclosure.

In Malaysia, there is awareness among the companies regarding their social responsibility, but there is limited social disclosure regarding the environment-related issues. There is a separate department in the Government which looks after the environment related issues. The lack of concern and absence of environment-related activities was probably due to the fact that there is no mandatory requirement in this regard.

The ED by the companies in their annual reports are not mandatory requirements in Singapore. Some Singapore-based companies are starting to come clean on environmental issues and are reflecting "green" issues in their annual reports. Taking the lead are the oil companies like listed Singapore Petroleum Company (SPC) which has been including Segments on environmental issues in its reports (Robert, Ng, Straits Times, August 10, 1993).

The level of environmental related disclosure in India in the corporate annual reports, both financial and non-financial is not very encouraging. Neither the Company Law nor the accounting standards/guidelines issued by the Institute of Chartered Accountants of India prescribes disclosure norms for the environment-related matters in the corporate financial statements. However, the Companies Bill, 1997 has proposed that every company should disclose the measures taken for the protection of environment through their Board of Director's Report.

## SUGGESTIONS

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

- a. The corporate enterprises should prepare their own environment management and conservation program 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.
- b. The budgeted expenditure 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 program.
- c. The companies should incorporate all significant information relating to environment management in a separate section of the annual report.
- d. 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. The corporate environmental information provided through these channels may serve the users at the initial stages.
- e. A separate environment audit system should be developed by the corporations and the report on environment management should be duly audited by the auditor.
- f. Corporates are confronted not only with the responsibility of acquiring pollution control devices but also with the problem of how to treat such items in the books of accounts. As a result 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.
- g. An 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. 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.
- h. 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.
- i. Environmental accounting as a part of corporate social accounting practices should appraise the top managements of the costs involved in environmental pollution and degradation. Besides providing information to all, environmental

accountants should create an environmental consciousness atmosphere in the corporate enterprises and prepare and publish the environmental balance sheets.

- j. 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.
- k. Environmental information is multi-disciplinary in nature and is difficult for stakeholders to understand it. 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.
- l. 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.
- m. 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.

A debate is going on at the International 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 socioeconomic 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. Being a corporate citizen, it is the responsibility of the corporations to include such objectives in their management control system for better environment management. The corporates have also a vital role to play in the achievements of such objectives by developing best practices of environmental management and environment accounting system.

Though environmental accounting is a part of a Corporate Social Accounting, its development is needed to solve the important issues involved in it. But the standard to be pronounced should dovetail the environmental hazards to be caused by the different industries and the costs to be incurred by the corporates and by the society to mitigate the ill effects. The environment is an inseparable part of life. This holds good

even for corporations. The corporate entities should also not disturb the environment balance but should greatly contribute to the sustainable development. An independent accounting standard on recording and reporting of environmental accounting would pave the way for the increased accountability on the part of companies. The overall analysis indicates that the globalization and liberalization trends have shaped the new face of corporate environment reporting 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.

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