

CHAPTER IV

Nature aNd exteNt of
EnvironmEntal accounting
and RepoRting pRactices of the
Sel ected Industries of AssAm

4.1 Introduction

This chapter deals with the nature and extent of Environmental Accounting and Reporting practices of the selected industries of Assam. First section of the chapter deals with the nature of Environmental Accounting and Reporting practices of the selected industries of Assam and second section of the chapter deals with extent of Environmental Accounting and Reporting practices of the selected industries of Assam. Content analysis has been used to analyse the nature of reporting and basis of extent of environmental information disclosures.

4.2 Nature of Environmental Accounting and Reporting (EAR)

Nature of Environmental Accounting and Reporting practices of the sample companies under industry groups in Assam have been analysed and interpreted in detail in this chapter. The Annual Reports of each individual sample companies under selected industries are studied in detail. To analyse the nature of EAR by the selected industries of Assam, two important aspects are considered, i.e., Place of EAR which indicates where the environmental information is located and Form of EAR represents what type of environmental information is disclosed. To identify the nature of EAR, different Environmental Information (EI) disclosures items have been identified from Annual Reports of the sample companies under industry groups are described as follows:

(i) Pollution Control

Pollution control is employed to limit damage done to the environment by the discharge of harmful substances. Specific means of pollution control might include refuse disposal emission control systems for automobiles, sedimentation tanks in sewage systems, the electrostatic precipitation of impurities from industrial gas, or the practice of recycling. Pollution control does not mean an abandonment of existing productive human activities but their reordering so as to guarantee that their side effects do not outweigh their advantages. Industrial organisations are now taking preventive measure to minimize pollution by adopting environmental friendly techniques and replacing traditional machines.

(ii) Environmental Awards

An environmental award is usually awarded for activities that lead to the protection of the environment. An environmental performance of a firm is recognized by different government and non-government agencies. The Environmental Achievement Awards recognize departmental employees and partners who have attained exceptional achievement for their environmental activities. The number of environmental awards and achievements has been considered as a parameter for evaluation of better Environmental Management.

(iii) ISO 14001

ISO 14001 is the world's leading environmental management system standard. Benefits of implementing the standard include reducing environmental impact, reducing waste and energy use, and cutting the costs of running a business.

It is a powerful management tool that can be utilized by an organization. The benefits of ISO 14001 are not just applicable to the organization which adopts it. An organization normally employs a generalized strategic planning process to determine what products, services and activities it should produce to respond to the market. The generalized strategic planning process normally follows the plan, do, check and act concepts. ISO 14001 can be integrated into an organization's strategic planning process.

(iv) Energy conservation

Energy conservation means reduction in energy consumption but without making any sacrifice of quantity and quality of production. It can be defined as the substitution of energy with capital, labour, material and time. It is the deliberate practice or an attempt to save electricity, fuel oil or gas or any other combustible material, to be able to put to additional use for additional productivity without spending any additional resources or money. Energy conservation is the act of using energy in a more efficient and effective manner. Energy conservation is disclosed by almost all the companies in their Annual Reports since it is statutorily required under Section 217 (1)(e) of the Companies Act, 1956, read with the companies (disclosure of particulars in the report of Board of Directors Rules, 1988).

(v) Plantation/ Afforestation

Plantations and afforestation activities are done to minimize the harmful effects on environment. Since the primary interest in plantations is to produce

wood or pulp, the types of trees found in plantations are those that are best-suited to industrial applications. Plantations are always young forests in ecological terms and one of the best environmental conservation activities. Afforestation is very important to check the further degradation of environment is resorted to industrial concerns on a large scale.

(vi) Environmental Audit

Environmental audit is an investigation of processes and procedures of a company with respect to its compliance with applicable laws and regulations and impacts on environmental conditions. It is an important tool of Corporate Environment Management. It helps to improve better environmental performances of the organization.

(vii) Clean Development Mechanism

The Clean Development Mechanism (CDM) is an avenue for industrialised countries to undertake carbon abatement projects in developing countries. The mechanism is an element of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC). Carbon abatement credits occurring from these CDM projects can be used by developed countries to meet their Kyoto emission reduction targets. The CDM is one of three 'flexible mechanisms' defined under the Kyoto Protocol to the UNFCCC. It allows developed countries to undertake GHG emission reduction (or emission removal) projects in developing countries to counteract their own domestic emissions. Each CDM project generates Certified Emissions Reduction (CER) units, where one CER is equivalent to one

tonne of carbon dioxide (CO₂) or its equivalent for the other GHGs CER units can be traded or sold, and finally used by industrialised countries to meet part of their emission reduction targets under the Kyoto Protocol.

(viii) Safety, Health and Environment

Safety, Health and Environment is a very important aspect of environmental management of any organisation. A separate department on Environmental, Health and Safety (EHS) are found within many companies that consider environmental protection, occupational health and safety at work as important as providing quality products, and which therefore have managers and departments responsible for these issues. EHS management has two general objectives: prevention of incidents or accidents that might result from abnormal operating conditions on the one hand and reduction of adverse effects that result from normal operating conditions on the other hand. Regulatory requirements play an important role in both approaches and consequently, EHS managers must identify and understand relevant EHS regulations, the implications of which must be communicated to top management so the company can implement suitable measures.

(ix) Water Conservation

The water conservation measures need to be addressed at an industrial level for the reason that industries used water from lakes, river and oceans for its activities. Water conservation is a process of preserving the water for future use in industrial activities and the strategies and activities to manage water as a sustainable resource. Reuse of water when it is discharged from various processes

and improving the efficiency of water based equipments are the major goal of most of the industries. Even rain water harvesting is a popular method for conservation of water adopted by many industries, which are not only used for industrial activities but also for residential purpose. In fact, water conservation is considered very important parameter towards natural resource conservation.

(x) Green Belt Development

Green belt land refers to an area that is kept in reserve for an open space, most often around larger cities. The main purpose of the green belt policy is to protect the land around larger urban centers' from urban sprawl, and maintain the designated area for forestry and agriculture as well as to provide habitat to wildlife. By preventing the urban sprawl, it helps protect agricultural activities and the unique character of rural communities. Urban population, on the other hand, is provided an access to an open space which offers opportunities for outdoor activities and an access to clean air. Areas that are designated as green belt must not be built upon because green belt is defined as an open space, however, that does not mean that no buildings can be erected in green belt. Now-a- days, industries are involved largely in green belt development so as to increase their environmental activities.

(xi) Environmental Compliance

Environmental Compliance means conforming to environmental laws, regulations, standards and other requirements. In recent years, environmental concerns have led to a significant increase in the number and scope of compliance

imperatives across all global regulatory environments. Being closely related, environmental concerns and compliance activities are increasingly being integrated and aligned to some extent in order to avoid conflicts, wasteful overlaps and gaps. In order to comply with the above requirements and obligations, certain conditions within them must be met. It also involves pre-processing, performing calculations and validating the data for compliance with any alert or reporting levels, generating routine and compliance reports for authorities. The Government of India has promulgated various legislations for the industries towards protection of environmental resources.

(vi) Environmental Audit

Air quality monitoring is carried out to assess the extent of pollution, ensure compliance with national legislation, evaluate control options, and provide data for air quality modelling. There are a number of different methods to measure any given pollutant, varying in complexity, reliability, and detail of data. The process of monitoring particulate and gaseous emissions from a stationary source is often referred to as source sampling or source testing. Most of the industries are setting up air monitoring system in their industrial site.

(xiii) Solid Waste Management

Solid waste management is a very important part of industrial activities which refers to the methods and processes of dealing with solid waste at every stage from generation and collection through to final disposal. The amount of waste generated by industrial and other activities is posing great threat to the

environment. Waste needs to be dumped in order to prevent contact with humans or their immediate environment. Therefore, the main purpose of solid waste management is to isolate waste from humans and the environment in order to safeguard the surroundings around us.

(xiv) Training & Environmental Awareness

Training and environmental awareness to employees regarding environment has become an important part of organisational activities. There are two main reasons to train and aware employees on environmental management. Firstly, employee can have potential impacts on the environment and secondly any employee can have good ideas about how to improve environmental management efforts. Every employee should be aware of the environmental policy, the significant environmental aspects of their work activities, key EMS roles and responsibilities, and the importance of conformance with EMS requirements. Some organisations conduct environmental awareness seminars and also provide training to their employees so that they can carry on their activities in a manner friendly to the environmental and the natural resources.

(xv) Environmental Protection

Environmental protection includes all available practices used to protect the environment, whether on individual, organizational or global level. This basically means that each and every one of us can do something to protect our environment but of course, global actions are the ones that would help our environment the most. The environment is in the constant state of degradation due to so many

different environmental problems mainly caused by industrial activities. So, organisation should come forward to protect the impact of adverse effects on environment due to its activities.

(xvi) Corporate Social Responsibility (CSR)

The term Corporate Social Responsibility (CSR) became popular in the 1960s and has remained a term used indiscriminately by many to cover legal and moral responsibility more narrowly construed. CSR is titled to aid an organization's mission as well as a guide to what the company stands for to its consumers. Business ethics is the part of applied ethics that examines ethical principles and moral or ethical problems that can arise in a business environment. CSR aims to embrace responsibility for corporate actions and to encourage a positive impact on the environment and stakeholders including consumers, employees, investors, communities, and others. CSR had become an effective tool that synergies the efforts of corporate towards sustainable growth and development of societal objectives at large. The Companies Act, 2013 also put emphasizes on mandatory corporate social responsibility by the companies in India.

(xvii) Environment Management System (EMS)

An Environment Management System (EMS) is a systematic approach to ensure that environmental activities of an organization are well managed and continuously improving. The EMS helps organizations integrate environmental goals into day-to-day operations. It also helps identify the environmental aspects of the mission, highlight areas of risk, promote pollution prevention, and track

progress toward environmental goals. The EMS is designed to improve environmental and mission performance while reducing environmental risk and costs. For the protection of natural and environmental resources, industrial organisations have developed their own Environmental Management System.

(xviii) Biodiversity

Biodiversity consists of plants, animals and microbes which physically and chemically unite the atmosphere into one environmental system and makes it possible for millions of species, including people, to exist. By changing biodiversity, it will strongly affect human well-being and the well-being of every other living creature. It is foremost duty of the organizations to take care of the environment and its biodiversity as its activities harms the most.

(xix) Disaster Management Plan

The United Nations defines a disaster as a serious disruption of the functioning of a community or a society. Disasters involve widespread human, material, economic or environmental impacts, which exceed the ability of the affected community or society to cope using its own resources. The well known industrial disaster known as Bhopal Gas tragedy has caused a huge damage to the people and environment. In this regard, many industries have come with Disaster Management Plan to safeguard the unpredicted disasters caused by industrial accidents. These plans cover prevention, preparedness, relief and recovery.

(xx) Insurance for Environmental Issues

Environmental Insurance is a form of business insurance that covers companies and protects them from un-insured environmental liabilities they may occur. Standard public liability policies offer limited environmental cover and, therefore, questionable protection for pollution liabilities. In addition, new environmental legislation increases the range of risks and responsibilities for companies. This is very important for any organisation to make a protection cover in order to face future uncertainties.

(xxi) Noise Pollution

Noise pollution is the excessive noise that imbalance human and animal life. Industrial operational activities can cause noise pollution. In order to prevent noise pollution, industries should adopt sophisticated machines which has modern technology to minimize the level of noise to certain extent.

(xxii) Environment Friendly Techniques

Environment friendly techniques involve making use of alternative energy source to generate renewable energy, reducing the amount of resource consumption which is limited in this earth. The greatest benefits of environment friendly technology are the use of product that is renewable and its product is not polluting the environment. When there is less waste produces during the manufacture or production of products and the energy used is renewable this will become less stressful on the environment and there is less pollution and polluting chemicals and other substances.

(xxiii) Corporate Health, Safety and Environmental (HSE) Policy

Companies develop Corporate Health, Safety and Environmental (HSE) policy to deal with health and safety of employees and environment in particular. The main thrust of the policy is to create an atmosphere among the employees of an organization to safeguard its surroundings taking consideration of health and safety. The companies consider HSE policy as an integral part of their business planning and operation process and create appropriate medium for deliberations on Health, Safety and Environmental issues.

4.2.1 Place of Environmental Accounting and Reporting (EAR)

Place indicates the position of Environmental Accounting and Reporting information in Annual Report of a company. Companies disclose information in different sections of the Annual Report according to the standards set by the regulatory bodies. Generally, Annual Reports have been divided into different components/ sections/ categories where different types of information are disclosed. These are mainly: Chairman's Statement, Directors' Report, Annexure to Director's Report, Management Discussion and Analysis Report, Corporate Governance Report, Notes to Statement of Profit & Loss Account/ Financial Statements, Social Accounts/ Social Income Statements, Notice, Mission Statement, Commitment, Objectives & Obligations, Corporate Social Responsibility/ Social Responsibility Statement and Awards & Recognitions.

The place used by the companies for the disclosure of environmental information in Annual Reports is presented in Table 4.1.

Table 4.1: Place of Environmental Accounting and Reporting

Year(s)							
Components	2007-08 N=22	2008-09 N=22	2009-10 N=23	2010-11 N=23	2011-12 N=23	Total no. of Annual Reports (113)	% of Annual Reports
Chairman's Statement	2	2	2	2	3	11	9.73
Directors' Report	10	11	10	12	13	56	49.56
Annexure to Director's Report	19	20	20	20	20	99	87.61
Management Discussion and Analysis Report	3	5	3	4	5	20	17.70
Corporate Governance Report	0	0	0	0	1	1	0.88
Notes to Statement of Profit & Loss Account/financial statements	3	3	2	5	4	17	15.04
Social Accounts/ Social Income Statements	1	1	1	1	1	5	4.42
Notice	1	0	0	0	0	1	0.88
Mission Statement	1	1	1	2	3	8	7.08
Commitment	4	3	3	3	3	16	14.16
Objectives & Obligations	1	2	2	2	3	10	8.85
Corporate Social Responsibility/ Social Responsibility Statement	1	1	2	2	2	8	7.08
Awards & Recognitions	1	1	0	0	1	3	2.65
Vision and Values	1	1	2	2	2	8	7.08

Source: Computed from the Annual Reports of sample companies

The Annexure to Directors' Report has found 19 (86.36%) of the companies during the year 2007-08, disclosing environmental information, viz., conservation of energy, technology absorption and foreign exchange earnings and outgo. 10 (45.45%) companies disclosed their environmental information in Directors' Report and 4 (18.18%) have their commitment towards environment. 3 (13.64%) companies have disclosed in Management Discussion and Analysis Report and Notes to Statement of Profit & Loss Account/ financial statements. The disclosure of environmental information is not very appreciating in case of

Chairman's Statement. Only two companies, i.e., 2 (9.09%) have reported in Chairman's Statement.

During 2008-09, the Annexure to Directors' Report has found 20 (90.91%) of the companies disclosing environmental information, viz., conservation of energy, technology absorption and foreign exchange earnings and outgo. 11 (50%) companies disclosed their environmental information in Directors' Report and 5 (22.73%) companies have disclosed in Management Discussion and Analysis Report. 3 (13.64%) have their commitment towards environment and Notes to Statement of Profit & Loss Account/ financial statements. Only 2 (9.09%) companies have reported their environmental information in Chairman's Statement. The above indicates the place of environmental reporting of the sample companies in the year 2008-09.

From Table 4.1, it is seen that during 2009-10 Annexure to Directors' Report has found 20 (86.96%) of the companies disclosing environmental information, viz., conservation of energy, technology absorption and foreign exchange earnings and outgo. 10 (43.48%) companies disclosed their environmental information in Directors' Report. 3 (13.04%) companies have disclosed in Management Discussion and Analysis Report and also have their commitment towards environment. Only two companies, i.e., 2 (8.70%) have reported their environmental information in Chairman's Statement.

It is seen during 2010-11 that Annexure to Directors' Report has found 20 (86.96%) of the companies disclosing environmental information, viz., conservation of energy, technology absorption and foreign exchange earnings and

outgo. 12 (52.17%) companies disclosed their environmental information in Directors' Report. 5 (21.74%) in Notes to Statement of Profit & Loss Account/ financial statements and 4 (17.39%) in Management Discussion and Analysis Report. Only 2 (8.70%) companies have reported in Chairman's Statement.

In the year 2011-12, Annexure to Directors' Report has found 20 (86.96%) of the companies disclosing environmental information, viz., conservation of energy, technology absorption and foreign exchange earnings and outgo. 13 (56.52%) companies disclosed their environmental information in Directors' Report, 5 (21.74%) companies have reported in Management Discussion and Analysis Report and 4 (17.39%) in Notes to Statement of Profit & Loss Account/ financial statements. Also 3 (13.04%) companies have disclosed environmental information in Chairman's Statement, Mission Statement, Commitment and Objectives & Obligations.

The overall findings from five years showed that environmental information disclosed in Directors' Report was 49.56%, apart from Annexure to Directors' Report which was 87.61%. Moreover, Annexure to Directors' Report is mandatory for most of the companies. The next disclosing item of environmental information is Management Discussion and Analysis Report which was 17.70%. In Notes to Statement of Profit & Loss Account/ financial statements, disclosures on environmental information have found 15.04% in financial forms. Environmental disclosures of environmental information in Chairman's Statement were 9.73% which was less as compared to other type of disclosures.

4.2.2 Form of Environmental Accounting and Reporting (EAR)

Form of environmental accounting and reporting means how the companies are disclosing their environmental information in the annual reports whether descriptive or numerical, quantitative or qualitative, financial or non-financial, graphical, pictorial, etc. A company can disclose quantitative information on environment, e.g., information on environmental costs, benefits, assets or liabilities. Similarly, qualitative details on environmental policies and practices of a company can be reported by the management (Pahuja, 2009, p.158). It is generally believed that a company would adopt any one or more forms to put its Environmental Information (EI) in the Annual Report (Eresi, 1996, p.48). The table 4.2 showed the type of environmental information in the Annual Reports of the companies for the study period, i.e., from 2007-08 to 2011-12.

Table 4.2: Form of Environmental Accounting and Reporting

Year (s) / Form	2007-08 N=22	2008-09 N=22	2009-10 N=23	2010-11 N=23	2011-12 N=23	Total (113)	% of total
Descriptive	15	14	14	17	16	76	67.26
Quantitative	0	0	0	2	1	3	2.65
Financial	4	3	3	6	4	20	17.70
Graphical	1	0	0	0	0	1	0.88
Pictorial	0	0	1	2	0	3	2.65
Total reported form of disclosure	20	17	18	27	21	103	-

Source: Computed from the Annual Reports of sample companies

In the year 2007-08, 15 (68.18%) companies provide environmental information in descriptive form, 4 (18.18%) showed in financial form and only 1 (4.55%) company presented in graphical form. Whereas in the year 2008-09, 14

(63.64%) companies provide environmental information in descriptive form and 3 (13.64%) companies showed in financial form. The form of Environmental Reporting of the sample companies in the year 2009-10 shows, 14 (60.87%) companies provide environmental information in descriptive form, 3 (13.04%) companies showed in financial form and 1(4.35%) company in pictorial form.17 (73.91%) companies provide environmental information in descriptive form, 2 (8.70%) in quantitative form and 6 (26.09 %) showed in financial form in the year 2010-11. Whereas, 16 (69.57%) companies provide environmental information in descriptive form, 1(4.35%) in quantitative form, 4 (17.39 %) showed in financial form and 2 (8.70%) in pictorial form in the year 2011-12.

Table 4.3: Form of Environmental Accounting and Reporting by selected industries (Average no. of units)

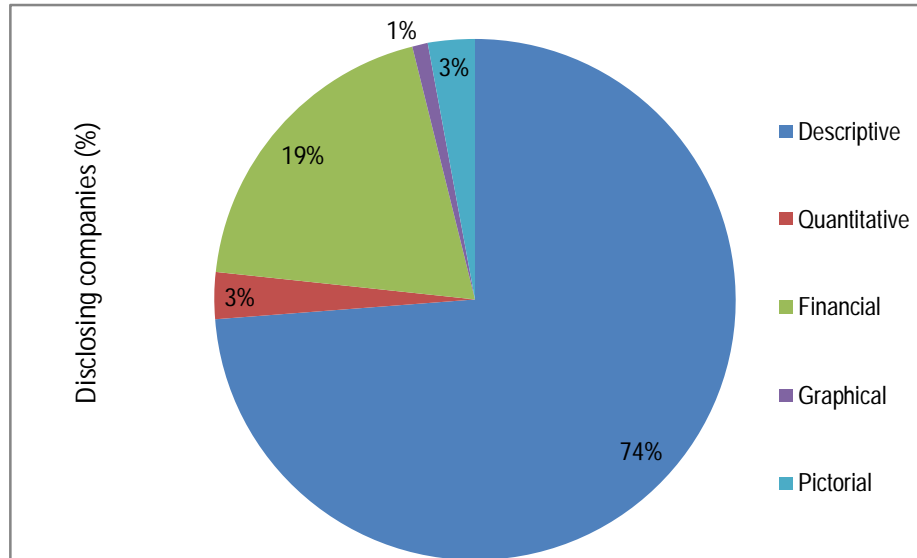
Industry	Descriptive	Quantitative	Financial	Graphical	Pictorial	Total
A	3	0	1	0	0	4
B	1	0	0	0	0	1
C	3	0	1	1	1	6
D	1	0	0	0	0	1
E	1	0	0	0	0	1
F	1	0	1	0	0	2
G	1	1	1	0	0	3
H	5	1	1	0	1	8
I	0	0	0	0	0	0
J	4	0	0	0	0	4
Total	20	2	5	1	2	30

Source: Computed from the Annual Reports of sample companies

Table 4.3 showed the form of reporting adopted by the sample companies under the industry groups. Companies disclosing environmental information have mostly adopted descriptive form for disclosure. Apart from descriptive form, other companies have shown in financial form. The other forms of disclosure used by the

companies were very less as compared to descriptive and financial forms which were widely used forms.

Figure 4.1: Pie- chart showing the form of Environmental Accounting and Reporting (%)



In the above figure 4.1, the pie-chart showed Environmental Accounting and Reporting of various form of disclosure. Here, only reported form of disclosure on environmental information is taken into consideration, i.e., N=103.

4.3 Extent of Environmental Accounting and Reporting (EAR)

In this section of the chapter, extent of Environmental Accounting and Reporting is ascertained with two aspects, i.e., i) Quantitative aspect and ii) Qualitative aspect. In ascertaining quantitative aspect, length of the environmental disclosure information in the Annual Report is considered. In qualitative aspect, various environmental items in the Annual Reports of the companies were taken into consideration. These items were sorted out from the Annual Reports of each companies and content analysis method is used for analysis purpose. In this study,

scoring technique is used. Non-weighted scores are used and given to each items of disclosure.

4.3.1 Length of Environmental Accounting and Reporting (EAR)

In this section of the study, length of the environmental disclosure information in the Annual Reports of the sample companies is analysed in detail.

Table 4.4: Ranges of words used for Environmental Accounting and Reporting by the sample companies

Year(s)/ Range of words used	2007-08		2008-09		2009-10		2010-11		2011-12	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-100	14	73.68	16	80	13	56.52	13	56.52	11	47.83
100-200	3	15.79	1	5	2	8.70	3	13.04	3	13.04
200-300	0	0	0	0	2	8.70	2	8.70	2	8.70
300-400	0	0	0	0	1	4.35	2	8.70	3	13.04
400-500	2	10.53	0	0	1	4.35	0	0	0	0
500-600	0	0	2	10	2	8.70	1	4.35	0	0
600-700	0	0	0	0	0	0	1	4.35	1	4.35
700-800	0	0	1	5	2	8.70	0	0	1	4.35
800-900	0	0	0	0	0	0	0	0	1	4.35
900-1000	0	0	0	0	0	0	0	0	1	4.35
Above 1000	0	0	0	0	0	0	1	4.35	0	0

Source: Computed from Annual Reports of the sample companies

From above table 4.4, it was found that most of the sample companies disclosed environmental information in descriptive form. Table 4.4 showed that 73.68% of the sample companies used 0-100 words, 15.79% used 100-200 words and 10.53% used 400-500 words in disclosing environmental information in their annual reports in 2007-08. In the year 2008-09, it was seen that 80% disclosed their environmental information below 100 words, 5% disclosed 100-200 words, and 10% disclosed 500-600 words and 5% disclosed 700-800 words. During 2009-10, 56.52% sample companies used 0-100 words, 8.70% used 100-200 words, and 8.70% also used 200-300 words, in disclosing environmental information. In 2010-

11, 56.52% of the sample companies used 0-100 words, 13.04% used 100-200 words, 8.70% used 200-300 words, 8.70% used 300-400 words, 4.35% used 500-600 words, 4.35% used 600-700 words and 4.35% used above 1000 words. It was seen that in the year 2011-12, 47.83% of the sample companies used 0-100 words, 13.04% used 100-200 words, 8.70% used 200-300 words, 13.04 used 300-400 words, 4.35% used 600-700 words, 4.35% used 700-800 words, 4.35% used 800-900 words and also 4.35% used 900-1000 words in disclosing environmental information. The analysis found that the disclosure level is very low and most of the sample companies only mentioned only few words. Maximum disclosure of environmental information was below 100 words.

Table 4.5: Mean and standard deviation of words for Environmental Accounting and Reporting

	2007-08	2008-09	2009-10	2010-11	2011-12
Mean	190.25	128.78	193.57	176.96	221
Std. Deviation	222.91	205.93	245.48	252.51	254.97
Minimum	0	0	0	0	0
Maximum	555	705	749	1009	819

Table 4.5 showed that sample companies used on average 190.25 words in 2007-08, 128.78 words in 2008-09, 193.57 words in 2009-10, 176.96 words in 2010-11 and 221 words in 2011-12 disclosing environmental information in annual reports of the sample companies. The standard deviation was 222.91 words in 2007-08, 205.93 words in 2008-09, 245.48 words in 2009-10, 252.51 words in 2010-11 and 254.97 words in 2011-12. The highest variation is found in case of words which varied from minimum 0 to maximum 555 in 2007-08, 705 in 2008-09, 749 in 2009-10, 1009 in 2010-11 and 819 in 2011-12.

Table 4.6: Ranges of sentences used for Environmental Accounting and Reporting

Range of sentences used	2007-08		2008-09		2009-10		2010-11		2011-12	
	No	%	No.	%	No.	%	No.	%	No.	%
0-10	18	85.71	19	82.61	17	73.91	18	78.26	15	65.22
10-20	2	9.52	2	8.70	2	8.70	3	13.04	5	21.74
20-30	1	4.76	2	8.70	3	13.04	1	4.35	1	4.35
30-40	0	0	0	0	1	4.35	1	4.35	1	4.35
40-50	0	0	0	0	0	0	0	0	1	4.35

Source: Computed from Annual Reports of the sample companies

Table 4.6 showed that 85.71% of the sample companies used 0-10 sentences; 9.52% used 10-20 sentences; and 4.76% used 20-30 sentences in disclosing environmental information in their annual reports in 2007-08. In the year 2008-09, it was seen that 82.61 disclosed their environmental information below 10 sentences, 8.70% disclosed 10-20 sentences and 8.70% disclosed 20-30 sentences. During 2009-10, 73.91% sample companies used 0-10 sentences, 8.70% used 10-20 sentences, 13.04% used 20-30 sentences and 4.35% used 30-40 sentences in disclosing environmental information. In 2010-11, 78.26% of the sample companies used 0-10 sentences, 13.04% used 10-20 sentences, 4.35% used 20-30 sentences and 4.35% used 30-40 sentences. It was found that in the year 2011-12, 65.22% of the sample companies used 0-10 sentences, 21.74% used 10-20 sentences, 4.35% used 20-30 sentences, 4.35% used 30-40 sentences and 4.35% used 40-50 sentences in disclosing environmental information. The analysis found that the disclosure level is not at all satisfactory and most of the sample companies only mentioned only few sentences. Maximum disclosure of environmental information was below 10 sentences.

Table 4.7: Mean and standard deviation of sentences for Environmental Accounting and Reporting

Year (s)	2007-08	2008-09	2009-10	2010-11	2011-12
Mean	4.40	5.09	7.39	6.52	9.70
Std. Deviation	6.32	7.52	9.26	8.41	12.12
Minimum	0	0	0	0	0
Maximum	21	28	33	30	47

Table 4.7 showed that sample companies used on average 4.40 sentences in 2007-08, 5.09 sentences in 2008-09, 7.39 sentences in 2009-10, 6.52 sentences in 2010-11 and 9.70 sentences in 2011-12 disclosing environmental information in annual reports of the sample companies. The standard deviation was 6.32 sentences in 2007-08, 7.52 sentences in 2008-09, 9.26 sentences in 2009-10, 8.41 sentences in 2010-11 and 12.12 sentences in 2011-12. The highest variation is found in case of words which varied from minimum 0 to maximum 21 in 2007-08, 28 in 2008-09, 33 in 2009-10, 30 in 2010-11 and 47 in 2011-12.

**Table 4.8: Length of Environmental Accounting and Reporting
(company wise)**

Companies	Average Words	Average Sentences
A1	61.2	3.2
A2	68.4	4
A3	147.8	4.4
B1	216.5	7.5
C1	304	11.2
C2	511	21
C3	669.2	21.6
D1	0	0
E1	147	5
F1	0	0
F2	94	4
G1	500.25	22.25
H1	364.6	13.2
H2	462.8	23
H3	27	1.4
H4	0	0
H5	493.20	19
G1	500.25	22.25
I1	16	1
I2	0	0
J1	95	3.8
J2	108.40	4
J3	37.80	2.4
J4	48.80	3.2

Source: Computed from the Annual Reports of sample companies

Figure 4.2: Showing length (sentences count) of Environmental Accounting and Reporting company wise

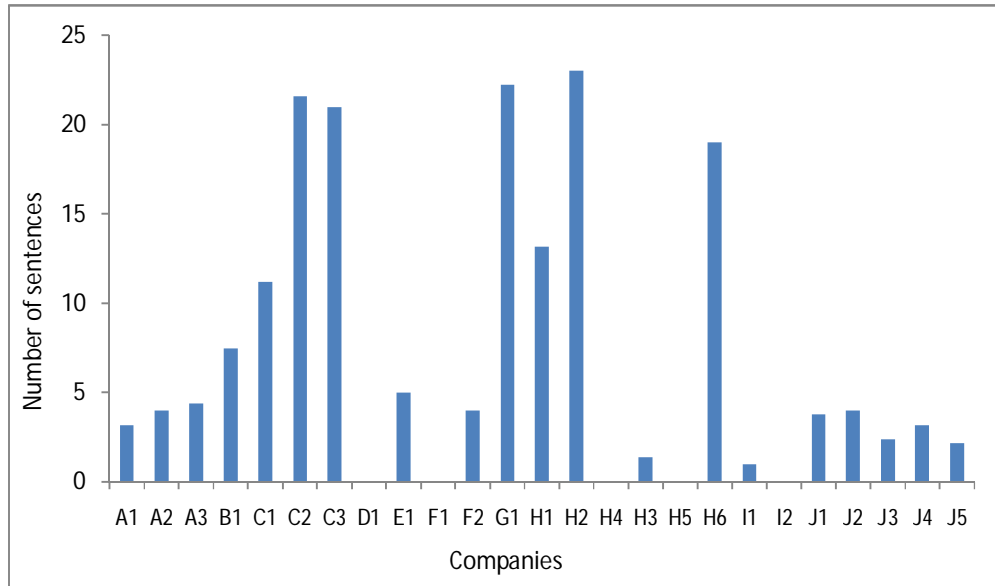
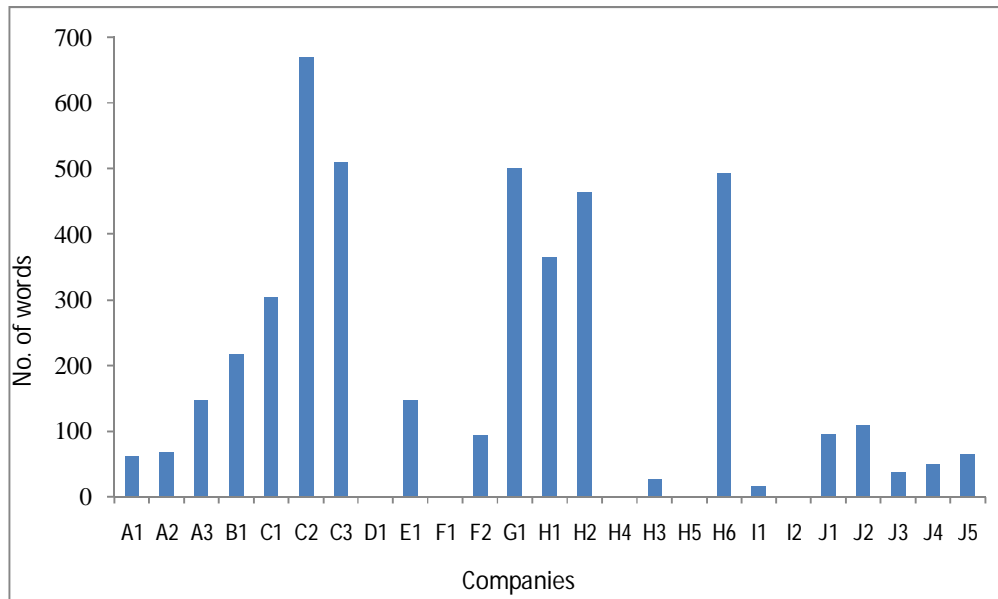


Figure 4.3: Showing length (words count) of Environmental Accounting and Reporting company wise



4.3.2 Extent of Environmental Information (EI) disclosures

Environmental Information (EI) disclosure is very important for overall assessment of the level of environmental information in Annual Reports. In this particular study, the total scores of environmental disclosure items have been considered to measure the extent of accounting and reporting of environmental information. In this study, all the scores of environmental items have been aggregated for each individual company to develop the environmental disclosures of the respective companies. A dichotomous procedure followed from a study conducted by Dutta & Bose (2008) was used to measure the Reporting Score (RS). A score of one (1) was awarded if an item was reported; otherwise a score of zero (0) was awarded. In this Study, a firm could score a maximum of 23 points and a minimum of zero (0). The item wise analysis of Environmental Disclosures in the year 2007-08, 2008-09, 2009-10, 2010-11 and 2011-12 measured in terms of reporting companies using the formula as under the number of companies disclosing i item

$$RS = \sum_{i=1}^{n=23} r_i$$

Where:

- RS = Reporting Score
- R i = A score of (1) if the item is reported and (0) if the item is not reported
- i = 1, 2, 3... 23
- n = Maximum number of items a company is expected to disclose (23 items)

The responsiveness of the sample companies in industries is shown in Table 4.9.

Table 4.9: Number of companies in industries disclosing Environmental Information

Industry	Disclosed	Not Disclosed	Total
A	3 (100)	0 (0)	3
B	1 (100)	0 (0)	1
C	3(100)	0 (0)	3
D	1 (100)	0 (0)	1
E	1 (100)	0 (0)	1
F	1 (50)	1(50)	2
G	1(100)	0 (0)	1
H	5 (83.33)	1(16.67)	6
I	0 (0)	2 (100)	2
J	5 (100)	0 (0)	5
Total	21 (84)	4 (16)	25

Table 4.9 showed that out of 25 sample companies under 10 industry groups in Assam, 21 (84%) companies disclosed environmental information. Only 4 (16%) sample companies did not disclosed any information on environment. Almost all the sample companies in industries disclosed some information towards environmental protection. It is worth to mention cement, fertilizer, oil refinery, petrochemicals, pulp and paper, power, coal, petroleum and natural gas and tea disclosed environmental information.

4.3.2.1 Analysis of Environmental Information Disclosures (year wise)

The disclosure practice of Environmental Information (EI) is one way in which a company can demonstrate its concern for environment. This information can be disclosed on several matters like pollution control, environmental awards, ISO 14001, energy conservation, etc. The disclosure of environmental items during the period 2007-08 to 2011-12, are analysed in Table 4.10.

Table 4.10: Environmental Information Disclosure items (Year wise)

Environmental disclosure items / Year	2007-08 N=22	2008-09 N=22	2009-10 N=23	2010-11 N=23	2011-12 N=23	Total	% of total
Pollution Control	9	9	9	11	12	50	44.25
Environmental Awards	6	5	4	4	6	25	22.12
ISO 14001	8	8	9	7	9	41	36.28
Energy Conservation	19	19	19	18	20	95	84.07
Plantation/ Afforestation	4	6	6	9	7	32	28.32
Environmental Audit	1	1	1	1	1	5	4.42
Clean Development Mechanism	3	3	3	2	2	13	11.50
Safety, Health and Environment	4	6	6	7	9	32	28.32
Water Conservation	1	1	1	2	2	7	6.19
Green Belt Development	0	2	1	1	2	6	5.31
Environmental Compliance	2	0	1	1	4	8	7.08
Air Monitoring	4	3	4	3	5	19	16.81
Solid Waste Management	1	1	3	2	4	11	9.73
Training and Environmental Awareness	3	4	5	2	4	18	15.93
Environmental Protection	6	4	3	4	2	19	16.81
CSR	5	6	8	8	12	39	34.51
Environment Management	3	3	3	4	3	16	14.20
Biodiversity	1	1	1	0	0	3	2.65
Disaster Management Plan	0	0	0	1	1	2	1.80
Insurance for Environmental Issues	0	0	0	1	1	2	1.80
Noise Pollution	0	0	0	0	1	1	0.88
Environment Friendly Techniques	6	1	2	2	1	12	10.62
Corporate Health, Safety and Environment (HSE) policy	1	1	3	1	1	7	6.19

Source: Computed from the annual reports of sample companies

During the year 2007-08, environmental disclosures were pursued by the companies in Assam. Taking into account all the items together, “Energy Conservation” and “Pollution Control” (86.36 and 40.91% of the companies disclosed each of these items) have been the favourite items for showcasing their environmental performance. The next most disclosed item is ISO 14001 (36.36%). Only six companies (27.27% of the sample) received Environmental Awards, showed consciousness towards Environmental Protection and adopted Environment

friendly techniques. Another disclosed item is CSR in which 22.73% companies are performing some activities towards society. 18.18% of companies are showing consciousness about Plantation/ afforestation, Safety, Health and Environment and Air Monitoring. These points highlight the information of the environmental disclosures of the companies in Assam.

During the year 2008-09, “Energy Conservation” and “Pollution Control” (86.36% and 40.91% of the companies disclosed each of these items) have been the favourite items depicting their environmental performance. The next most disclosed item is ISO 14001(36.36%). Plantation/ afforestation, Safety, Health and Environment and CSR each are mentioned by 27.27% of the companies. Only five companies (22.73% of the sample) claim to provide “Environmental Awards for protecting and preserving environment” and another 18.18% of companies have mentioned about Training and Environmental Awareness and Environmental Protection.

During the year 2009-10, energy Conservation (82.61%), Pollution Control and ISO 14001 (39.13%) and “CSR” (34.78%) and “Plantation/ Afforestation and Safety, Health and Environment” (26.09%) of the companies disclosed these items.

The next most disclosed item is Training and Environmental Awareness (21.74%). Environmental Awards and Air Monitoring has found the attention of 17.39% of the companies. Clean Development Mechanism, Solid Waste Management, Environmental Protection, Environment Management and Corporate Health, Safety and Environment (HSE) policy is claimed by 13.04% of the companies in this year.

During the year 2010-11, Energy conservation (78.26%), Pollution control (47.83%), Plantation/ afforestation (39.13%), “CSR” (34.78%), ISO 14001 and Safety, Health and Environment” (30.43%) were disclosed by the companies. Environmental Awards, Environmental Protection and Environment Management are the next most disclosed items have found the attention of 17.39% of the companies. Air monitoring is claimed by 13.04 % of the companies in this year. This table highlights the information of the environmental disclosures of the companies in Assam.

During the year 2011-12, environmental disclosures pursued by the top companies in Assam in 2011-12 were Energy conservation (86.96%), Pollution control and CSR (52.17%), ISO 14001 and Safety, Health and Environment” (39.13%), Plantation/ Afforestation (30.43%). Environmental Awards (26.09%) and Air Monitoring (21.74%) are other disclosed items in this year. Solid Waste Management, Training and Environmental Awareness and Environmental compliance (17.39%) have found place this year. The above table highlights the information of the environmental disclosures of the companies in Assam.

It has been observed that overall disclosure on environmental information by the sample companies in respect to ‘Pollution Control’ was 44.25% apart from Energy Conservation (84.07%) which is statutory disclosed for most of the companies, the other items of disclosure were ISO 14001 (36.28%), CSR (34.51%), Safety, Health and Environment and Plantation and Afforestation (28.32%).

4.3.2.2 Analysis of Environmental Information (EI) disclosures industry wise

Table 4.11 showed disclosure of information on energy by almost all sample companies since it is statutorily required under section 217(1) (e) of the Companies Act, 1956 read with (Disclosures of particulars in the report of Board of Directors) Rules, 1988. The list of 21 industries which should furnish information in Form A for Disclosure of particulars with Respect to Conservation of Energy do not cover except Power and Coal industries have not disclosed energy conservation in their Annual Reports, as these industries are not under the list of 21 industries. Among other items, it was found that pollution control was disclosed 100% by Fertilizer and Petrochemicals industries which were more as compared to other industries indicating positive awareness towards environmental protection. Other industries like Power and Plywood did not disclose any information about Pollution Control. The next item is environmental awards which were received more by Oil Refinery. The entire sample companies under industry like Fertilizer and Oil Refinery have adopted ISO 14001. 80% of the plantation and afforestation was done by Coal industry which was very encouraging. The other items of environmental disclosure are Safety, Health and Environment, Water Conservation, Environment Audit, Clean Development Mechanism, Green Belt Development, Environmental Compliance, Air Monitoring, Solid Waste Management, Training and Awareness, Environmental Protection, Corporate Social Responsibility, Environmental Protection and Biodiversity disclosed by the sample companies mostly. In terms of disclosure of items, it was observed that Fertilizer, Oil Refinery and Petroleum and Natural Gas industries performed better than other industries and covered most of these items.

Table 4.11: Environmental information disclosure items by sample companies in industries of Assam (%)

Environmental themes / items	A	B	C	D	E	F	G	H	I	J	Average
Pollution Control	66.67	100.00	54.50	100.00	20.00	0.00	40.00	40.00	0.00	36.00	45.27
Environmental Awards	13.33	20.00	63.60	0.00	0.00	0.00	40.00	43.33	0.00	0.00	19.33
ISO 14001	0.00	100.00	100.00	0.00	20.00	14.29	80.00	43.33	0.00	24.00	39.83
Energy Conservation	100.00	100.00	100.00	100.00	100.00	71.43	0.00	83.33	100.00	76.00	75.08
Plantation/ Afforestation	53.33	0.00	9.09	0.00	0.00	0.00	80.00	13.33	44.44	44.00	24.51
Environmental Audit	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00	1.67
Clean Development Mechanism	0.00	0.00	45.50	0.00	0.00	0.00	0.00	26.67	0.00	0.00	7.67
Safety, Health and Environment	33.33	100.00	45.50	0.00	0.00	0.00	60.00	43.33	0.00	4.00	29.07
Water Conservation	0.00	40.00	9.09	0.00	0.00	0.00	20.00	10.00	0.00	0.00	8.67
Green Belt Development	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.33	0.00	8.00	2.13
Environmental Compliance	6.67	20.00	9.09	0.00	20.00	0.00	0.00	3.33	0.00	12.00	7.20
Air Monitoring	0.00	80.00	54.50	0.00	0.00	0.00	20.00	26.67	0.00	0.00	19.33
Solid Waste Management	0.00	20.00	9.09	0.00	0.00	0.00	20.00	16.67	0.00	12.00	8.53
Training and Environmental Awareness	13.33	100.00	54.50	0.00	0.00	0.00	40.00	10.00	0.00	0.00	23.00
Environmental Protection	6.67	80.00	63.60	0.00	0.00	0.00	20.00	6.67	0.00	16.00	20.60
CSR/ Social Responsibility	80.00	20.00	18.20	0.00	20.00	14.29	60.00	33.33	0.00	36.00	29.03
Environment Management	0.00	100.00	9.09	0.00	0.00	0.00	80.00	0.00	0.00	24.00	22.07
Biodiversity	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Disaster Management Plan	0.00	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
Insurance for Environment Issues	0.00	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
Noise Pollution	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	2.00
Environment Friendly Techniques	0.00	0.00	9.09	0.00	0.00	0.00	0.00	10.00	0.00	16.00	3.60
Corporate HSE Policy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	16.00	2.60

Source: Computed from Annual Reports of the sample companies

4.4 Rank Analysis

In this study, environmental disclosure scores obtained from the environmental disclosure items have been aggregated for each individual company to develop the Environmental disclosure practices of the respective companies under the selected industry groups. The ranking of the selected companies has been assigned on the basis of average total scores achieved and the highest rank has been assigned for highest score and so on.

Table 4.12: Ranking of industries towards disclosure of environmental information

Industry	Total Score	Average Score	Rank
A	59	11.80	4
B	48	9.60	5
C	72	14.40	3
D	10	2.00	9
E	5	5.00	7
F	7	1.40	10
G	29	5.80	6
H	140	28.00	1
I	13	2.60	8
J	81	16.20	2

Source: Computed from the Annual Reports of sample companies

From the Table 4.12, it is observed that out of selected polluting industries in Assam, Petroleum and Natural Gas industry has scored the highest based on average total scores of the industry and it occupies the first rank position for securing highest average total scores of 28. The second and the third rank positions have been occupied by industries J (Tea) and C (Oil Refinery) respectively. Industry A (Cement) ranked fourth. The lowest rank position has been assigned to D (Petrochemicals) and F (Power) industry for securing the lowest average total scores of 2.00 and 1.40.

4.5 Statistical Analysis

This study used statistical analysis, namely, average, percentage, descriptive statistics and Pearson Correlation test (2 tailed) to see the relationship of words and sentences used in environmental information disclosure with size, profitability, debt-equity, liquidity and age of the sample companies to test the statistical significance of the variables and to explain the variation in the environmental information disclosure. Pearson Correlation test (2 tailed) was also conducted to see the relationship between environmental information disclosure and independent variables (size, profitability, debt-equity ratio, liquidity and age). Lastly, Regression analysis was conducted to see any variation between the dependent and independent variables. For this, a multiple regression model was constructed. The different variables selected were based on theoretical considerations. These variables were discussed in brief below:

- A. **Dependent Variable:** In this study, environmental information disclosure is identified as dependent variable. In order to examine the influence of the selected variables on environmental information disclosure practices of the sample companies, These items were calculated for every companies for each of the five years (2007-08, 2008-09,2009-10, 2010-11 and 2011-12).
- B. **Independent Variables:** The independent variables were identified on the basis of their theoretical relevance in explaining environmental information disclosures practices of the sample companies. The selected variables were:

• **Size of the company:** Most of the existing studies found positive relationship between environmental disclosures and size. A number of prior studies reported that large sized companies disclose more information on environment (Gray et al 2001; Jaffar et al 2002; Hamid, 2004). It is also argued contrary to the smaller enterprises, large-size companies need to raise more external funds. In order to attract the investors, larger companies are willing to disclose more information to reduce agency costs arising from asymmetric information and to gain public support. While size is widely known as a representative of firm visibility, it also represents firm capacity to be involved in social and environmental programmes and to report such activities. This study uses log of total assets as the indicator of size.

• **Profitability:** The economic performance of a firm is considered as an important factor in determining whether environmental issues will be a priority or not, it is also argued that in periods of low economic performance, the firm's economic objectives may be given more attention than environmental concerns. Perhaps investors generally perceive that in the absence of voluntary disclosure of environmental information, there is an indication of bad news about the firm. Similar to size, profitability in absolute terms also suffers from inherent weakness, because large firms usually have large amount of profit/loss in absolute terms. To avoid this problem, many studies used the ratios of profitability measures (e.g., Return on Assets, Return on Investment, Return on Equity, and Profit Margin). In the present study, profitability has been defined as the ratio of net profit after tax to total assets of the company.

- **Debt-Equity Ratio:** In this study, debt-equity is used as the ratio of outsiders' funds to shareholders funds. The companies with high debt-equity ratio are expected to disclose more environmental information than the companies with lower debt-equity ratio.
- **Liquidity:** Liquidity is used to measure company's current assets to current liabilities. This ratio identifies the liquidity position of the company.
- **Age of the company:** The age of the company is determined on the basis on the establishment of the company.

Table 4.13: Measurement of independent variables

Variables	Proxy Measurement	References
Size	Natural logarithm of total assets = (ln Total Assets)	Trotman and Bradley (1981), Hackston and Milne (1996) and Ho and Taylor (2007) cited in Mukherjee et al. 2010, p.34.
Profitability	Return on Total Assets = Profit After Tax/ Total Assets	Cowen et al. (1987) Mukherjee et al. (2010)
Debt- Equity Ratio	= Outsiders' Funds/ Shareholders' Funds	Pahuja (2000)
Liquidity	Current Ratio = Current Assets/Current Liabilities	Wallace et.al (1994)
Age	Age of the company = 1 if age > median value, otherwise 0	Joshi et al. (2011)

4.5.1 Descriptive Statistics

Descriptive statistics of the variables are shown in Table 4.14. To calculate mean and SD, all the variables were averaged over the five year period to reduce the measurement error due to random year to year variation in variables. It has been

found that environmental information disclosure has a mean value of 3.70 with SD of 2.75. The natural logarithm of total assets, which is taken as proxies for size, has a mean of 6.49 and standard deviation of 2.75. Profitability for the sample companies has a mean value of 0.08 and SD is 0.17. The debt-equity ratio has a mean value of 0.52 with a SD value of 0.60. The liquidity shows mean value of 1.45 and a standard deviation of 1.28. The age of the company on average is 48% with a standard deviation of 0.50.

Table 4.14: Descriptive Statistics for averaged Environment Disclosure, Size, Profitability, D/E Ratio, Liquidity and Age

Variables	Mean	SD
Environmental Disclosures	3.70	2.75
Size	6.49	2.75
Profitability	0.08	0.17
Debt-equity	0.52	0.60
Liquidity	1.45	1.28
Age	0.48	0.50

4.5.2 Correlation Coefficient Analysis of the Relationship between the Averaged Size, Profitability, D/E Ratio, Age and volume of words and number of sentences used in Environmental Accounting and Reporting of sample companies in industries in Assam

The analysis is done with the help of Pearson's Correlation test to determine the statistical significance of the relationship between the variables.

- **Size of the company**

Volume of words used in Environmental Accounting and Reporting

On the basis of size of the company and Volume of words (count) used in Environmental Accounting and Reporting, following results are obtained by applying Pearson’s correlation test:

Following results are obtained by applying Pearson’s correlation test:

	SIZE	WORDS
SIZE	1	
WORDS	.438*	1

*Correlation is significant at the 0.01 level (2-tailed)

Interpretation: There is a positive significant relationship between size of the company and the volume of words used in disclosure of Environmental Accounting and Reporting. The correlation is found significant as the sig value (0.000) is less than 0.01. The Pearson Value (0.438) showed a significant correlation which indicates that as the size of the companies’ increases; the more is the use of words used in disclosure of Environmental Accounting and Reporting.

Number of sentences used in Environmental Accounting and Reporting

Following results are obtained by applying Pearson’s correlation test:

	SIZE	SENTENCES
SIZE	1	
SENTENCES	.512*	1

*Correlation is significant at the 0.01 level (2-tailed)

Interpretation: There is a positive significant relationship between size of the company and number of sentences used in disclosing Environmental Accounting and Reporting. The correlation is found significant as the sig value (0.000) is less than 0.01. The Pearson Value (0.512) showed a significant correlation which indicates that as the size of the companies' increases; the more is the use of sentences used in disclosure of Environmental Accounting and Reporting.

- **Profitability of the company**

Volume of words used in Environmental Accounting and Reporting

	PRFTBLTY	WORDS
PRFTBLTY	1	
WORDS	.209*	1

*Correlation is significant at the 0.05 level (2-tailed)

Interpretation: There is a positive significant relationship between profitability of the company and volume of words used in disclosing Environmental Accounting and Reporting. The correlation is found significant as the sig value (0.019) is less than 0.05. The Pearson Value (0.209) showed a significant correlation which indicates that as the profitability of the companies' increases; the more is the use of words used in disclosure of Environmental Accounting and Reporting

Number of sentences used in Environmental Accounting and Reporting

	PRFTBLTY	SENTENCES
PRFTBLTY	1	
SENTENCES	.246*	1

* Correlation is significant at the 0.01 level (2-tailed)

Interpretation: There is a positive significant relationship between profitability of the company and number of sentences used in disclosing Environmental Accounting and Reporting. The correlation is found significant as the sig value (0.006) is less than 0.01. The Pearson Value (0.246) showed a significant correlation which indicates that as the size of the companies' increases; the more is the use of sentences used in disclosure of Environmental Accounting and Reporting.

- **Debt equity ratio of the company**

Volume of words used in Environmental Accounting and Reporting

Following results are obtained by applying Pearson's Correlation test:

	DBTEQTY	WORDS
DBTEQTY	1	
WORDS	-.180*	1

*Correlation is significant at the 0.05 level (2-tailed)

Interpretation: There is a negative significant relationship between debt-equity of the company and volume of words used in disclosing Environmental Accounting and Reporting. The correlation is found significant as the sig value (0.045) is less than 0.05. The Pearson Value (-0.180) showed a significant negative correlation which indicates that as the debt-equity of the companies' decreases; the more is the use of words used in disclosure of Environmental Accounting and Reporting.

Number of sentences used in disclosing Environmental Accounting and Reporting

	DBTEQTY	SENTENCES
DBTEQTY	1	
SENTENCES	-.187*	1

* Correlation is significant at the 0.05 level (2-tailed)

Interpretation: There is a negative significant relationship between debt-equity of the company and number of sentences used in disclosing Environmental Accounting and Reporting. The correlation is found significant as the sig value (0.037) is less than 0.05. The Pearson Value (-0.187) showed a significant negative correlation which indicates that as the debt-equity of the companies' decreases; the more is the use of sentences used in disclosure of Environmental Accounting and Reporting.

- **Liquidity of the company**

Volume of words used in disclosing Environmental Accounting and Reporting

	LQTY	WORDS
LQTY	1	
WORDS	.171*	1

*Correlation is significant at the 0.05 level (2-tailed)

Interpretation: There is a no significant relationship between liquidity of the company and number of words used in disclosing Environmental Accounting and Reporting. The correlation is found insignificant as the sig value (0.056) is more than 0.05. The Pearson Value (0.171) showed no significant correlation between liquidity of the companies' and the volume of words used in disclosure of Environmental Accounting and Reporting.

Number of sentences used in disclosing environmental Accounting and reporting

	LQTY	SENTENCES
LQTY	1	
SENTENCES	.143**	1

*Correlation is not significant at the 0.01 level (2 tailed)

Interpretation: There is a no significant relationship between liquidity of the company and number of sentences used in disclosing Environmental Accounting and Reporting. The correlation is found insignificant as the sig value (0.413) is more than 0.05. The Pearson Value (0.111) showed no significant correlation between liquidity of the companies' and the number of sentences used in disclosure of Environmental Accounting and Reporting.

- **Age of the company**

Volume of words used in disclosing environmental Accounting and reporting

	AGE	WORDS
AGE	1	
WORDS	-.025**	1

* Correlation is not significant at the 0.01 level (2 tailed)

Interpretation: There is a no significant relationship between age of the company and volume of words used in disclosing Environmental Accounting and Reporting. The correlation is found insignificant as the sig value (0.781) is more than 0.05. The Pearson Value (-0.025) showed no significant correlation between age of the companies' and the volume of words used in disclosure of Environmental Accounting and Reporting.

Number of sentences used in disclosing environmental Accounting and reporting

	AGE	SENTENCES
AGE	1	
SENTENCES	-.007**	1

* Correlation is not significant at the 0.01 level

Interpretation: There is a no significant relationship between age of the company and number of sentences used in disclosing Environmental Accounting and Reporting. The correlation is found insignificant as the sig value (0.939) is more than 0.05. The Pearson Value (-0.007) showed no significant correlation between age of the companies' and the number of sentences used in disclosure of Environmental Accounting and Reporting.

4.5.3 Correlation (Pearson) Coefficient Analysis of the relationship between the Size, D/E Ratio, Profitability, Liquidity and Environmental Disclosures for selected companies in Assam

In order to the find out the relationship between the variables (Size, D/E ratio, Profitability, Liquidity, Age and Environmental Disclosures) for selected companies under the major industry groups in Assam for the period under review, a correlation analysis was conducted

Table 4.15: Correlations (Pearson) Coefficient Analysis of the relationship between the Size, D/E Ratio, Profitability, Liquidity and Environmental Disclosures

Variables	Environmental Disclosure	Size	Profitability	Debt-Equity	Liquidity	Age
Environmental Disclosure	1					
Size	.516*	1				
Profitability	.122**	.037**	1			
Debt-Equity	-.131**	-.041**	-.187*	1		
Liquidity	.042**	.144**	.034**	-.002**	1	
Age	-.167**	.129**	-.018**	.419*	.000**	1

*Correlation is significant at the 0.01 level

** Correlation is not significant

The various variables were subjected to a correlation analysis to determine relationships that exist if any among the variables (Size, Profitability, D/E ratio Liquidity, Age and Environmental disclosure) as depicted in table 4.15. Findings provided with the aid of the Pearson correlation analysis for the selected companies in Assam as indicated in table 4.15 presents a correlation coefficient (r) result for the size as it relates to environmental disclosure to be (0.516). Nevertheless, results from the table below also indicate a coefficient correlation (r) of 0.516 for size as it relates to level of corporate environmental disclosure. This implies that a very strong positive correlation also does exist between the size of firms and the level of corporate environmental disclosure among the selected companies in Assam; and it is also significant at 1% level.

4.5.4 Regression Analysis

In this study, regression analysis has been used to test the statistical significance of the dependent variable (environmental information disclosures) on the independent variables, viz., size, profitability, debt-equity, liquidity and age of the sample companies and to explain the variation in the environmental disclosure.

The multiple regression model is specified as:

$$\text{ENVDISCLR} = \alpha + \beta_1 \text{SIZE} + \beta_2 \text{PRFTBLY} + \beta_3 \text{DBTEUTY} + \beta_4 \text{LQDTY} + \beta_5 \text{AG} + e$$

Where

α = constant

ENVDISCLR = Environmental Disclosures

SIZE = Size

PRFTBLY = Profitability

DBTEUTY = Debt-equity

LQDTY = Liquidity

AG = Age

e = error

Table 4.16: Multiple Regression Results

Variable	Beta co-efficient (β)	t-value (t)	p-value (p)
(Constant)	0.244	.348**	.728
SZE	0.640	7.157*	.000
PRFTBLY	1.903	1.314**	.191
DBTEUTY	0.059	.129**	.897
LQDTY	0.100	-.527**	.599
AG	-1.538	-2.870*	.005
F = 11.863 p = .000			
R ² = 0.333			
Predictors: (Constant), Size, Profitability, Debt-Equity, Liquidity and Age			
Dependent Variable: Environmental Disclosure			

Note: * Significant at 1 % level (2 -tailed)

** Insignificant at 1% level (2-tailed)

Interpretation:

The study reveals that value of F is 11.863 which are significant at 0.01 level as the value of p is .000. The value of R2 is 0.333, thereby, indicating that probably there are more explanatory independent variables which have not been included in the model. On the other hand, the coefficient values of the multiple regression model (Table 4.16) reveals that size of the company and age of the company turned out to be same as expected because these two variables have significant influence on environmental disclosure at 0.01 levels. It is observed that age has negative significant influence on environmental disclosure at 1 percent level. The study also revealed that there is a strong negative relationship between the environmental disclosure and the age of the selected companies of Assam.

Moreover, Profitability, Debt-Equity and Liquidity have positive influence but insignificant relationship with environmental disclosure practices of the companies. The R Square under the model is 0.333, which indicates that the model is capable of explaining 33.3% of variability of the disclosure of environmental information in the companies of Assam in the study. The adjusted R-square indicates that 30.5% of variations in the dependent variable in the model used here are explained by the variations in the independent variables. Furthermore, the F-ratio indicates that the regression model significantly explains the variations in environmental disclosure of companies in Assam. The study documents the positive relationship between environmental disclosure and size of the company.