

Environmental Reporting Practices in annual Reports of selected pharmaceutical and chemical companies in Bangladesh

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ABSTRACT: *The present study is a critical investigation of the environmental disclosures practices by selected Pharmaceutical and Chemical industries in Bangladesh. The study disclosed that an average sample companies only 9.97 Pharmaceutical and Chemical Companies should disclose more information in the annual report but we have identified only very few information. For conducting our smooth analysis, we have selected 15 Pharmaceutical and Chemical Companies of Bangladesh purposively from the study, we have identified only two companies disclosed maximum 18 environmental factors in their annual report out of 74 factors.*

Keywords: *Environment, Disclosures, Pharmaceutical & Chemical Industries, Annual Report & Bangladesh*

I. INTRODUCTION

In the present era environment has become a very decisive matter not only for our personal life but also our business life. Every companies greatly accents on the improvement of environment quality. For establishing this purpose Environmental Accounting (EA) more specifically, Environmental Management Accounting (EMA) has emerged during the last two decades. EA is a broad term that is practiced most of the companies in the context of different meaning meanings and applications. The main focusing area of EMA is supplying better information on the actual environmental costs to the management of an organization which are already incurred by the (Shil & Iqbal, 2005). In the Earth Summit Rio de Janeiro (1992), world leaders started raising their voice regarding the environment as a top of the agenda. After holding the Earth Summit Rio de Janeiro many organizations started their concerns for the environmental effects of their operational activities and realized the need for actual information on environmental costs for the better improvement of the organizations and in decision making. Disclosure of different environmental related information in corporate annual reports begins in the 1970s and it expanded in the 1990s (Kukobo et al, 2002). Before 1990s, there was no specific evidence that any listed company in Dhaka Stock Exchange (DSE) has disclosed environmental related information in their annual reports (Shil & Iqbal, 2005). In this paper we investigate the level of corporate environmental information voluntary disclosure in the annual report of different listed pharmaceuticals and chemicals companies in Bangladesh. Pharmaceuticals and chemicals companies are highly associated with the environment and they have a great reliance to environment. Since Environmental pollution in these industries are too acute that, it is require justifying how much they are producing environmental information in their annual reports. The more environmental information they produce in their annual reports, the more they are aware regarding environment. We find that more and more companies disclose environmental information frequently and accurately year by year, which illustrate the companies' enhanced awareness of social environment. But it is still not enough for investors and public to judge on the company's environmental performance. Therefore it is necessary to enforce compulsory disclosure for selected companies to develop environmental accounting. The concept of environmental reporting is relatively new in Bangladesh. Very few studies have been conducted on environmental reporting in the context of Bangladesh (Dutta & Bose, 2008). So, this finds different environmental information disclosed in the annual reports of different companies for developing consciousness among the companies regarding environment.

II. LITERATURE REVIEW

Neu & Warsame et al (1998) analyzed some Canadian companies operating in the mineral extraction, forestry, oil and gas and chemical industries by focusing on following concerns: in annual reports, the influence of external pressure concerning environmental disclosures; the characteristics of environmental disclosure vis-à-vis other "social" disclosure; and the association of environmental disclosure and actual performance.

Carol A. Adams & Nongnooch Kuasirikun (2000) examined in detail how ethical reporting practices developed differently in two Western nations (UK and German chemical and pharmaceutical companies). They also explored some of the factors which might be thought to have caused this diversity in reporting between the two countries including: industry initiatives; extent of regulations demanding ethical responsibility; and other social and political pressures.

Moneva & Liena (2000) found that the environmental reporting of sample companies have a fundamentally narrative character, although there has been an increase in both quantitative and financial reporting, as well as in the number of companies that are reporting.

Hughes et al (2001) used content analysis to analyze the annual report to find out disclosure differed between firms who had been rated good, mixed or poor in their environmental activities.

Dennis M. Patten(2002) examined the relation between 1990 annual report environmental disclosures for a sample of 131 US companies and their environmental performance as based on toxics release data from 1988 (made available in 1990). He further explained that the disclosure level of firms from non-environmentally sensitive industries is more affected by toxic release levels than is the disclosure of firms from environmentally sensitive industries.

Anita Jose&Shang-Mei Lee (2007) investigated the environmental management policies and practices of the 200 largest corporations in the world based on a content analysis of the environmental reports of Fortune's Global 200 companies. They analyzed the content of corporate environmental disclosures with respect to the following seven areas: environmental planning considerations, top management support to the institutionalization of environmental concerns, environmental structures and organizing specifics, environmental leadership activities, environmental control, external validations or certifications of environmental programs, and forms of corporate environmental disclosures.

From above literature review we can understand that foreign companies may have incentive to disclose favorable information to benefit the firms and cover unfavorable information. But we cannot assume these findings apply to Bangladeshi listed companies, and we try to find-out the intention of Bangladeshi companies to disclose the environmental information in their annual reports.

Bangladesh Government started taking different initiatives regarding environmental management of Bangladesh since the 1990s in order to develop the environmental condition of Bangladesh, "The Bangladesh Environmental protection Act, 1995, was passed. In present corporate environmental reporting is compulsory in Bangladesh. But under the Bangladesh environmental protection Act, 1995, companies may be asked to disclose environmental information as and when required (Belal,2000).

III. OBJECTIVES OF THE STUDY

Main Objective:-

The environmental reporting practices in the annual report of the selected Pharmaceuticals & Chemicals companies in Bangladesh will be analyzed by this study.

Specific Objective:

1. To identify disclosure level of environmental accounting and reporting practices in the annual reports of selected Pharmaceuticals & Chemicals companies in Bangladesh.
2. To identify the problems involved in environmental accounting and reporting practices in the sample companies.

IV. METHODOLOGY OF THE STUDY

We have selected sample, selection period, environmental reporting index, source of data and techniques used for content analysis.

a. Sample selection:

Dhaka stock exchange (DSE) has 25 Pharmaceuticals and Chemicals companies and Chittagong stock exchange has 20 companies. We have selected only 15 Pharmaceuticals and Chemicals companies for conducting this analysis (Appendix 1).

b. Selection period:

For making coeval and up to date we have taken latest data. The annual report of 2013 is the latest data in 2014.

c. Source of data:

This paper is fully depends on secondary data. Data have been selected from different research papers, books, annual reports of the selected companies etc. Most of the annual report collected from companies' website and rest of from Dhaka stock exchange.

d. Content analysis:

Content analysis was followed in analyzing the annual reports to measure the volume of environmental information disclosure. Total 74 items of environmental information (Appendix-3) was exhibited through literature review analysis. These 74 items were divided in six classes as environmental practices (Nine), Environmental audit (Seven), Environmental product and process (Twenty three), Environmental financial related data (Thirteen), Environmental power (Ten) and other Environmental (Eleven). The data set of 74 items were taken from the study of Shirley et al. (2009), Lodhia (1999), Dutta and Bose (2008), Islam and Deegan (2010), Hossain, Islam and Andrew (2006), Zhang etal (2009), Kamal, Gallhofer and Haslam (2006) and others.

e. Different techniques:

There are different techniques used for data analysis include average, S.D., co-efficient of variation, percentage and correlation and spss 20 version software.

V. ANALYSIS OF THE STUDY

The environmental analysis can support the green image of companies. Companies' annual report shows more information in recent times.

a. Analysis Of Sentences And Word Disclosed:

Most of the companies disclosed environmental information is written form and pictures but only two companies disclosed chart in their annual reports. Maximum 33.33% of the selected sample companies used range 101 to 150 word and 5 to 10 sentences is disclosing environmental information in their annual reports. Maximum 416 words and 32 sentences are used in ACI ltd. In this study we have got less environmental disclosure related information. There should be add more environmental related information in their annual report.

Table-1

Range of word Used	No. of Company	% in the sample
Below 50	3	20%
50-100	4	26.67%
101-150	5	33.33%
151-200	2	13.33%
Above200	1	6.67%
Total	15	100%

Table-2

Range of sentence Used	No. of Company	% in the sample
Below 5	3	20%
5-10	5	33.33%
11-15	4	26.67%
16-20	2	13.33%
Above 20	1	6.67%
Total	15	100%

Table no-3 shows that sample companies used on as average 125.333 words and 10.667 sentences in annual report. The highest variation is found in words. That is minimum 1 to 416.

Table 3: Descriptive statistics

	No. of Company	Minimum	Maximum	Mean	Std. Deviation
Word	15	1	416	125.333	100.05832
Sentence	15	00	32	10.4667	8.33124
Valid N	15				

b. Level of disclosure:

Total environmental disclosure was calculated by six individual classes. These are environmental policy items, environmental audit items, environmental products and process, environmental of financial related data, environmental power and other environmental related data. Table-4 shows that the mean, standard deviation, variance, minimum and maximum score of each category. Maximum mean 2.8667 is found from environmental power items and minimum mean from environmental audit.

Table 4: Statistics

	Env. Policy	Env. Products & Process	Env. Power	Env. Audit	Env. Financial	Env. Others	Total Factors
Mean	1.3667	2.4333	2.8667	.4000	.6667	2.733	9.9667
Std. Deviation	2.57963	2.48645	2.99523	.63246	.83994	2.34519	5.22352
Variance	3.295	2.910	4.581	.400	.710	2.410	18.383
Minimum	00	00	00	00	00	00	00
Maximum	5	5	6	2	2	4	15

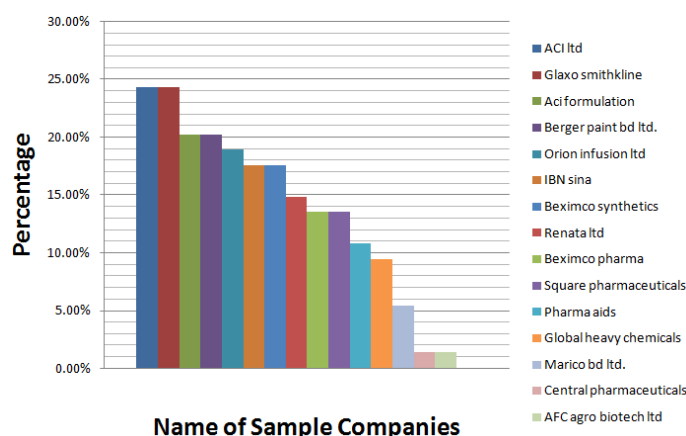


Table 5: Total Environmental Disclosure by Sample Company

In above chart its showing that which company did what percentage of environment disclosed.

c. Ranking of sample companies:

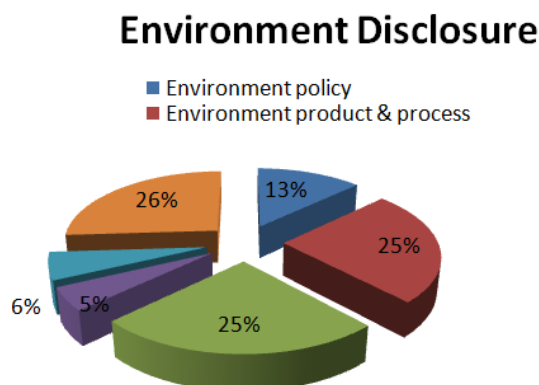
Table 6 provides the ranking of the companies on the basis of un-weighted total environmental disclosure score. The maximum 18 items are disclosed jointly ACI and Glaxo Smithkline ltd. in their annual report. Minimum one item is shown Central Pharmaceuticals and AFC Agro Biotech ltd, ACI Formulation and Berger Paint BD ltd. are disclosed 15 items each, IBN Sina Dorion Infusion ltd are disclosed 13 and 14 items each, Square Pharmaceuticals and BEXIMCO Pharma ltd. are disclosed 10 items each.

Table 6: Ranking of sample companies based on total disclosure score

SL	Company name	Env. Policy	Env. Products & Process	Env. Power	Env. Audit	Env. Financial	Env. Other	Total factors
1	ACI ltd	4	6	4	1	0	3	18
2	Glaxo smithkline	3	4	3	2	0	6	18
3	Aci formulation	0	7	2	1	2	3	15
4	Berger paint bd ltd.	2	5	5	0	0	3	15
5	Orion infusion ltd	0	3	7	0	1	3	14
6	IBN sina	0	2	5	0	2	4	13
7	Beximco synthetics	3	3	1	0	1	5	13
8	Renata ltd	2	3	1	1	0	4	11
9	Beximco pharma	2	2	1	0	2	3	10
10	Square pharmaceuticals	4	3	0	0	0	3	10
11	Pharma aids	0	0	6	0	1	1	8
12	Global heavy chemicals	0	2	4	0	0	1	7
13	Marico bd ltd.	1	0	1	0	0	2	4
14	Central pharmaceuticals	0	0	0	1	0	0	1
15	AFC agro biotech ltd	0	0	0	0	1	0	1

d. Environmental classes percentage:

This part are disclosed different environmental accounting classes, environmental policy items 13%, environmental audit 5%, environmental product and process items 25%, environmental power items 26%, environmental financial related items 6% and environmental other items disclosed 28%.



e. Environmental elements percentage:

Table-7 shows different environmental related percentages. This study we have not find out any company shows all types of elements. Six companies show five types and two companies show one type

Table: 7

Serial	Company name	Env. Policy	Env. Product & Process	Env. Power	Env. Audit	Env. Financial	Env. Other
1	ACI ltd	22%	33%	22%	6%	0%	16%
2	Aci formulation	0%	47%	13%	7%	13%	20%
3	Glaxo smithkline	17%	22%	17%	11%	0%	33%
4	Renata ltd	18%	27%	9%	9%	0%	36%
5	Pharma aids	0%	0%	75%	0%	13%	12%
6	Berger paint bd ltd.	13%	33%	33%	0%	0%	20%
7	Beximco synthetics	23%	23%	8%	0%	7%	38%
8	Beximco pharma	20%	20%	10%	0%	20%	30%
9	Central pharmaceuticals	0%	0%	0%	100%	0%	0%
10	Global heavy chemicals	0%	28%	57%	0%	0%	14%
11	Marico bd ltd.	25%	0%	25%	0%	0%	50%
12	Orion infusion ltd	0%	21%	50%	0%	7%	21%
13	IBN sina	0%	15%	38%	0%	15%	31%
14	Square pharmaceuticals	40%	30%	0%	0%	0%	30%
15	AFC agro biotech ltd	0%	0%	0%	0%	100%	0%

VI. FINDINGS

From our study we found the following findings:

1. It is found that all of our sample companies are reporting more or less environmental related information in their annual reports
2. After scrutiny regarding environmental disclosure practiced in annual report of selected Pharmaceuticals and Chemicals companies in Bangladesh, it is found that ACI limited and Glaxo SmithKline disclosed maximum information regarding environment in their annual reports and Central Pharmaceuticals and AFC Agro Biotech limited disclosed minimum level of environmental related information comparing to other sample companies.
3. The following problems are identified regarding environmental reporting practiced in the annual reports by sample companies:
 - a) The level of environmental related information disclosed by the sample companies is not satisfactory.
 - b) Our sample companies do not have any specific plan or guideline for environmental reporting.

- c) The high standard deviation in total environmental disclosure indicates high variation among the pharmaceuticals & Chemicals companies in addressing environmental issues in their annual report.
- d) From the study it is found that maximum pharmaceuticals and chemical companies don't maintain any fund for protecting environment.
- e) Pharmaceuticals and Chemicals companies don't have any monitoring cell to protect environment from their activities.

VII. RECOMMENDATIONS

The following points are recommendation to the relevant authorities regarding disclosure of environmental issues of the Pharmaceuticals & Chemicals industries in Bangladesh

- a) Pharmaceuticals and Chemicals companies should disclose sufficient information regarding environmental issue in their annual reports.
- b) Pharmaceuticals and Chemicals companies should have specific policies or guidelines for environmental accounting and reporting practices.
- c) Pharmaceuticals and Chemicals companies should have reserve fund by which they can contribute to environmental beautification.
- d) Pharmaceuticals and Chemicals companies should establish waste management policy by which they can utilize the waste and recycle the waste.

Government and concern regulatory authorities should take more efficient rules and regulations which are more conceive to Pharmaceuticals and Chemicals companies

VIII. DIRECTION OF FURTHER STUDY

Present study addressed only environmental disclosure in the annual reports of the Pharmaceuticals & Chemicals companies in Bangladesh. There are huge scopes of conducting more studies in the same direction in the following areas, relationship between environmental disclosure and financial performance of the listed companies in Bangladesh importance of environmental disclosure in creating environmental awareness among the corporate stakeholder in Bangladesh , environment disclosure practices in Bangladesh: prospects and challenges and green accounting: An analysis from Islamic perspective.

IX. CONCLUSION

We tried to find out the companies concern regarding environment by this research. There are some companies those are more concern regarding environment but there are some companies too those are indifferent regarding environmental aspects. We tried to find out significant relationship between some independent factors and environmental disclosure factors through this research. We only found a significant relationship assets and disclosure factors. We didn't find any relationship between other factors and disclosure factors. So, there are huge scopes to further research on environmental disclosure for finding significant relationship among different factors. So, we can draw a conclusion that this research reports will help for further study and it will be beneficial for the companies which are not enough concern regarding environment.

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**Appendix
Appendix -1**

Name of the company	
1.	ACI formulation ltd
2.	ACI limited
3.	Glaxo Smith Kline
4.	Reneta Ltd
5.	Pharma Aids Ltd
6.	Berger paints Bd Ltd
7.	Beximco Synthetics
8.	Beximco pharma
9.	Ceter pharmaceuticals
10.	Global heavy chemicals
11.	Marico bd ltd
12.	Orion infusion ltd
13.	IBN Sina
14.	Square pharmaceuticals ltd
15.	AFC Agro Biotech ltd

Appendix-2

List of companies under study & their Environmental Disclosures

SN	Company name	Env. Policy	Env. Pollution	Env. Energy	Env. Audit	Env. Financial	Env. Other	Total factors
1	ACI ltd	4	6	4	1	0	3	18
2	Aci formulation	0	7	2	1	2	3	15
3	Glaxo smithkline	3	4	3	2	0	6	18
4	Renata ltd	2	3	1	1	0	4	11
5	Pharma aids	0	0	6	0	1	1	8
6	Berger paint bd ltd.	2	5	5	0	0	3	15
7	Beximco synthetics	3	3	1	0	1	5	13
8	Beximco pharma	2	2	1	0	2	3	10
9	Centralpharmaceuticals	0	0	0	1	0	0	1
10	Global heavychemicals	0	2	4	0	0	1	7
11	Marico bd ltd.	1	0	1	0	0	2	4
12	Orion infusion ltd	0	3	7	0	1	3	14
13	IBN sina	0	2	5	0	2	4	13
14	Squarepharmaceuticals	4	3	0	0	0	3	10
15	AFC agro biotech ltd	0	0	0	0	1	0	1

Appendix-3

Number of Sentences, words used in the corporate annual reports of the sample companies are as follows:

Company name	Number of Words	Number of sentence
ACI formulation ltd	141	17
ACI limited	416	32
Glaxo SmithKline	197	20
Renata Ltd	95	7
Pharma Aids Ltd	47	5
Berger paints Bd Ltd	96	12

Beximco Synthetics	149	13
Beximco pharma	198	14
Center pharmaceuticals	94	7
Global heavy chemicals	3	0
Marico bd ltd	63	2
Orion infusion ltd	143	11
IBN Sina	139	8
Square pharmaceuticals ltd	98	9
AFC Agro Biotech ltd	1	0

Appendix-4

Environmental items considered for development of Disclosure Index

A. Environmental policy:

Serial No.	Elements
1	Real statement
2	Statements of outside motive
3	Simple statement of “The company desire, the company does” Behaviour
4	Investment evaluation to reord consideration of the environment
5	The environmental management systems
6	Distinctive purpose
7	Security and healty policy
8	The company soul part
9	Environmental policies for the company.

B.Environmental Audit:

Serial No.	Elements
1	Incidents and penalty for non-compliances
2	Environmental review, area, audit, evaluation, including independent attestation.
3	Environmental Management Systems/ISO 14001
4	Air quality assessment
5	Accomplishment of environmental policies
6	Environmental standard rules and regulations
7	The estimation of Environmental risk

B. Environmental-productand process:

Serial No.	Elements
1	Waste(s) adminstration
2	Eco-efficiency
3	Packaging and take a fancy to.
4	Pollution and discharge- noise, visual quality, recording to identify, improve and control.
5	Carbon sequestration, climate variation
6	Development product, improvements in products.
7	Air discharge
8	Discharge of information water.
9	Research related information including new methods of production and reduce pollution.
10	Technologies on contamination and prevention.
11	Contamination control of industrial process.
12	Pollution reduce on business functions.
13	Waste disposal information.
14	Natural resources.

15	Recycling of waste products.
16	Installation of feeder treatment plant.
17	Land restoration programmes.
18	Raw materials preservation.
19	Designing similar with the environment
20	Wildlife preservation plan.
21	Future pollution expenditure and control equipment.
22	Operating costs of past and present related with pollution.
23	Air quality assessment

C. Environmentally of financial-related data:

Serial No.	Elements
1	Reference to economic impact
2	Investment rating
3	Area of financial impact
4	Discussion of environmental-economic interaction
5	Liabilities related: Provisions, Contingencies
6	Loans-grants; costs of purchasing and installing cost, maintenance and consultancy cost.
7	Expenditure for pollution control: present and past.
8	Expenditure for pollution control and equipment and facilities: future.
9	A record of specific fund allocation.
10	A record of the use of specific fund.
11	Incidents and penalties for non-compliance.
12	Pollution and control related financing.
13	Environmental donation.

D. Power:

Serial No.	Elements
1	Power saving and preservation.
2	Exploration of new sources, efficiency etc.
3	Utilization of waste materials for energy conservation
4	Reduce energy consumption
5	Voicing the company's concern about the energy shortage.
6	Direct power use.
7	Indirect power use.
8	Chemical power use.
9	Fuel and power use.
10.	Conservation of energy for business operations.

E. Other environmental related:

Serial No.	Elements
1	Landscaping
2	Reserve for public pleasantly.
3	Involvement with design.
4	Environmental learning.
5	Environmental rewards; training for employee; participants between environmental research group and business community.
6	The enhancement of ethics and morality.
7	Environmental equilibrium.
8	To protect and enhance of next generation.
9	Promotion of environmental education.
10	Environmental sustainability project.
11.	Research on new methods for reducing environmental contamination.
12	To get support from public and private to protect the environment.