

Environmental Accounting Disclosure Practices in Bangladesh and Its Impact on Investor Decisions

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Abstract

The focus of this study is to identify the environmental disclosures made by Bangladeshi companies and analyze the overall disclosure practice of the countries' industries. And also collect the investor's feedback on whether or not environmental disclosure information is making a difference in their decision making process and their opinion about the company. For conducting the research, the study has used 5 sectors- Engineering, Pharmaceuticals, Food, Textile and Fuel and Power along with 10 companies with each stratum. This study has used the standard environmental disclosure index developed by prior researchers to show the volume of the selected companies' environmental disclosures in the annual reports. To show the impact of the environmental disclosures on the investors' decision, the study has conducted a survey among the investors. The study shows evidence that reinforces the fact that Bangladeshi companies are disclosing less environmental information than an ideal company should. Also there are lack of regulation and interest in disclosing proper information. Although by conducting a survey it was seen that majority of investors and probable investors are interested in these information and are supportive of eco-friendly companies.

Keywords: Environmental Accounting, Investor's Decision, Bangladeshi Industries, Content Analysis, Annual Reports.

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Introduction

In present time there remains a very common argument in the world of business and in the society that we live in about the boundaries of corporate accountability. Merely, it is concerned with two insightful questions: ‘What it is that accounting should actually measure?’ and ‘Whom should a business be accountable to?’ This argument is revealed in some models as like the stakeholder/stockholder continuum and as it is discussed in Gray, Owen and Adams’s seven situations on the topic of corporate responsibility (Gray, R., Owen, D. and Adams, C., 1996). A commonly seen traditional acceptance is that industries are needed to report only the items which can be measured in numeric terms and those that are mandatory according to statutory requirements, accounting standards or existing regulations. A range of other pressures has increased on businesses in recent years, however. Among these is the belief that business are ‘citizens’ of society in that they benefit from society and so owe duties back to society in the same way that individual human citizens do. Many people no longer believe that businesses are able to take from society without also accounting back to society (and not just to shareholders), on how it has behaved with regard to its environmental impacts. In most countries, environmental reporting is entirely voluntary in terms of statute or listing rules. In effect, however, it has become difficult to resist for large companies concerned about their reputations, certainly in highly developed countries in which large companies experience high political visibility. Because it is technically voluntary, companies can academically accept any approach to environmental reporting that they like, but in practice, a number of voluntary reporting frameworks have been adopted. The best known and most common of these is called the Global Reporting Initiative (or GRI). Also there are ISO and SEEA guidelines.

The main objective of the study is to examine the environmental accounting and reporting practices followed by corporate sectors in Bangladesh. To ascertain the extent of mandatory and voluntary disclosure of environment information in the annual report and to assess the need for a specific regulatory framework (including accounting guidelines, principles and standards) in the area of environmental accounting and reporting. An attempt has also been made to analyze the impact of selected company and industry specific variables on these practices. The main purpose of including environmental information in an annual report is to gain the acceptance of the users of the information. The users of the information may be investors, governments and also other stockholders (such as; public). As the reputation plays a vital role in building a sustainable organization, the opinion of the investors is considered very valuable. Hence the study attempts to put forward the impact of environmental information on investors. The result of the study will give insight into the impact environmental information has on the decision making process of the investors. By knowing these information the organizations will be able to

Objectives of the Study

The study was conducted to get an overall assessment of the current situation of environmental accounting disclosure practices in Bangladesh. To attain the outcome some objectives were determined at the beginning of the study.

The main objectives of the study are:

1. To have a clear understanding of environmental accounting
2. To have a clear idea of the current position of the companies regarding environmental accounting
3. To understand the disclosure practices of different Bangladeshi companies
4. To understand the impact of environmental disclosure information on investor decisions

Questions to be answered

Initially the research was developed keeping in mind a series of questions that would help reach the final conclusion. They are:

1. What is environmental accounting?
2. What is the current situation on environmental accounting?
3. What are the position of the organizations of Bangladesh regarding the matter?
4. What are the limitations of the system?
5. What are the common disclosure practices in present time?
6. What impact does these information have on investors?
7. Are these effects significant?

Literature Review

In the twenty-first century, several unresolved experiments have been acquired by us from the earlier century, and one of the experiments is the protection of the environment. Many warning signals are seen for example in many countries the extreme pollution and the natural properties diminution is seen. Industries which aren't environmentally sustainable is causing health hazards, obstructing life on the earth, and destroying the upcoming patrimony. It is becoming a global problem. (Idowu, S. O., & Louche, C. 2011). Economic activities are producing an increasing number of social and environmental consequences as organizations do not work in isolation from the social, political and institutional framework in which economic activity takes place (Gray et al. (1996). Gray, R., Kouhy, R., & Lavers, S. (1995) points out that corporations do not function in segregation from the governmental, communal and institutional framework from which economic activities are operating. DiMaggio, Paul J. and Walter W. Powell. (1983) debate that organizational structure and practices are driven by homogeneity of organizational isomorphism. In this situation, organizations are pushed to be like other firms that deal with similar environmental conditions. In environmental reporting framework this would have been how the environmental reporting process of an enterprise was developed and changed over the period (Deegan and Samkin, 2009). Another study conducted on relation between environmental disclosure and performance indicates that the poor

performer industry is the one who makes the most disclosures and the majority of these disclosures appear within notes (Hughes, S.B., Anderson, A., & Golden, S, 2001). It means the rate of disclosure was dissimilar among organizations who were ranked good, mixed or poor in environmental reporting and activities. In another study Cormier, D T & Morgan, M (2004) surveyed the degree of web-based environmental disclosure as well as its determinants. They discovered the firm's context with industry, explaining both print and web environmental disclosure with the help of the important roles of wide trends and practices. Considering environmental reporting in public companies as a statutory requirement and key factor of a firm, Pramanik (2002) analyzed reports on environmental protection activities by public limited companies residing in India. The study was based on 50 annual reports published by various large and medium size companies in different industries, mainly those that affected the environment directly or indirectly. The conclusion of the study was that companies had taken reporting on environmental more a statutory obligation and less as a social responsibility. In a different study Neu, D. & Warsame, H. & Pedwell, K.(1998) analyzed the environmental disclosures in the annual reports of Canadian public companies functioning in the mineral extraction, forestry, oil and gas, and chemical industries over three years 1982 to 1991. Their study focused on three concerns: the influence of external pressure on environmental disclosures in annual reports, including the number and techniques used in disclosure; the characteristics of environmental disclosure and other “social” disclosure; and the relation between environmental disclosure and firm performance. The studies conducted on environmental disclosure indicates that it is an important topic in recent times and it is related to the overall sustainability of an organization. Gray et al. (1995) Following a literature review of the corporate social reporting, its major theoretical fixation and pragmatic conclusions, attempts to re-examine the theoretical aspects that exist between “classical” political economy perception of social disclosure and those from more “bourgeois” viewpoint. It also emphasizes that political economy, legitimacy theory and stakeholder theory does not need to be theories that compete with each other, rather if studied correctly, can work as alternative and mutually enhancing theories from different levels of resolution. The study also indicates proof from 13 years of social disclosure by UK companies and attempts to analyze that from different levels. There is not much disbelief in the fact that social disclosure practice has changed radically over the years. The theoretical assumptions give assurance to offer dissimilar, but mutually improving, judgement of these circumstances.

Sustainable development was originally inferred as a prerequisite to protecting the environment (Beckerman, 1994). While Elkington (1998) tries to complement the traditional financial results with evolved thinking with an environmental result that is insufficient.

“Environmental management accounting (EMA)” was established from corporate environmental accounting and diverged along the track of management accounting. Environmental accounting, persisted to develop along the outlines of financial accounting and dispensed with institutionalizing environmental matters (Christmann, 2000).

On another terms, the physical technique is very important in achieving physical data linked to resources which allows to get ready the environmental statistics and is believed to be the initial phase in the Monetary Method. Nonetheless, of the difficulties associated

to the monetary process, it extended 72 interest and such information will authorize to distinguish the profit and loss related to environmental activities and in gaining an ecologically accustomed economic indicator (Hamid, 2002).

Research Methodology and Descriptive Statistics

Sample Selection

Dhaka Stock Exchange (DSE) has 22 sectors and Chittagong Stock Exchange has 18 sectors. Different sample companies have been selected from different companies for preventing the contaminated results from inter-industry factors. For the sample selection Stratified sample technique has been used. Five sectors have been selected from the available sectors which are textile, pharmaceuticals, engineering, food and power & fuel. 10 companies from each stratum have been selected from the stratified five sectors. List of the 50 companies has been provided in Appendix-1. To analyze public opinion regarding environmental accounting first their reaction on different matters concerning the topic needed to be collected. Survey technique has been used on random people who are investors or probable investors. The sample size of the survey was decided to be approximately 80 participants, among which 50 are investors and 30 are probable investors. The participants were chosen at random and were asked to give their unbiased opinion regarding the matter. Also it was attempted that there remain a significant level of diversity between the participants so that a more accurate conclusion can be drawn from the study. The survey questionnaire is exhibited in Appendix-5

Selection of period

As the study has been conducted in 2018, to make this research up to date, the data needs to be of latest and current year. As a result, 50 annual reports of the 50 sample companies have been collected from the year 2017 because the annual report of 2017 was the latest data in 2018.

Data Collection

The research paper has been conducted on the basis of secondary data. The secondary data has been collected from annual reports of the selected sample companies, research papers, etc. Maximum annual reports were collected from the websites of the respective companies and remaining annual reports, which were not possible to collect from the websites, were collected from DSE. Research papers were also collected from websites. To analyze the impact of environmental information on investor's primary data was collected through survey process. A questionnaire consisting 20 questions regarding the matter was set to collect the opinions of the investors and probable investors. Out of 80 participants everyone answered all 20 questions, there were no blank answers. The frequency (how many people opted for Yes/No/ maybe) of each question is given in Appendix-4.

Content Analysis

For the measurement of the volume of the environmental information disclosure, content analysis approach has been conducted. From the prior literature review studies, total 48 items have been presented (Appendix-2) which are divided into 5 classes as Environmental policy items (5), Environmental product-process items (20), Environmental Energy items (10), Environmental financial items (6) and Environmental other items (7). The data set of 48 items were gathered from the prior study of Dutta and Bose (2008), Islam and Deegan (2010), Hossain, Islam and Andrew (2006), Zhang et al (2009), Kamal, Gallhofer and Haslam (2006), Hossain M (2016) and others.

Calculation of the reporting Index

Weighted disclosure index and un-weighted disclosure index have been used for determining the volume of environmental disclosure information. This study has adopted a dichotomous procedure in which an item scores '1', if disclosed and '0' if not disclosed which were adopted by the prior researchers as Ahmed and Nicholls (1994), Cook (1991 and 1992), Hossain M (2016) and Ullah (2013). Thus, the study has used this un-weighted disclosure index methodology. As suggested by Cook (1992), the total disclosure method measurement are as follows:

$$TD = \sum_{i=1}^n di$$

Where, TD= Total Disclosure

d= 1 if the items are disclosed

0= if the items are not disclosed

n= number of items

Findings and Analysis

Environmental Disclosures practices in the selected sample companies

In recent time environmental issues are becoming very important. An article publishes in "The Daily Star" by K. M. Nazmul Islam and Dr. Ahmed Kamruzzaman Majumder (2010, July 23) has stated environmental accounting as the key to sustainable development of our country.

Segmentation of Annual Reports on the basis of finding disclosures

This Chart discloses the segmentation of the sources of the information required from the annual reports. The chart exhibits that majority of information is being given in a separate segment for environmental disclosure by those companies that are giving information. Some companies have included environmental cause into their objectives and mission and vision.

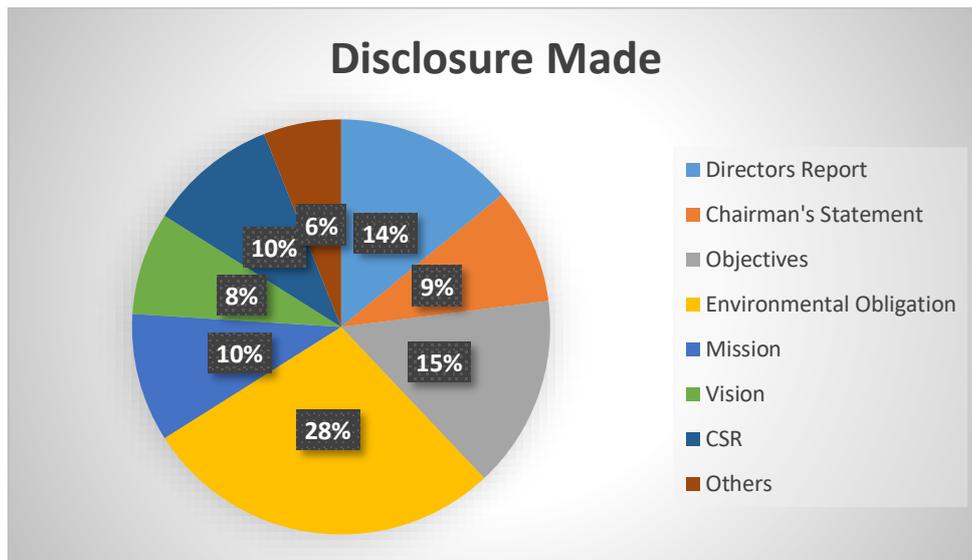


Figure 1: Segmentation of Annual Reports on the basis of finding disclosures

The companies' incorporating environmental factors into their management process are disclosing information in the Directors Report section and Chairman's Statements. Very few CSR activities are concerning environmental causes.

Total Environment Disclosure under different classes

For the calculation of total environmental disclosure here five different individual classes is used. These are environmental policy, environmental product and process, environmental energy, environmental financial and environmental other. Well here the table shows different calculated results. In the table it highlights that the mean disclosure value, standard deviation, sample variance, minimum and maximum value of each different category. From the table It is found that maximum mean of 3.90 items disclosed by environmental product and process items then the second highest items is environmental other items 2.14 and then third highest items is environmental policy items 1.84. From those five the lowest one is environmental financial items 0.94.

Table 1 Total Environment Disclosure under different classes

	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other
Mean	1.84	3.9	1.3	0.94	2.14
Standard Deviation	1.218228892	3.284161124	1.568178457	0.956396297	1.470943054
Sample Variance	1.484081633	10.78571429	2.459183673	0.914693878	2.163673469
Minimum	0	0	0	0	0
Maximum	5	15	9	5	6

Ranking of Sample Companies on the basis of total disclosure score

Table 2 Ranking of Sample Companies on the basis of total disclosure score

Rank	Company Name	Total	Percentage	Rank	Company Name	Total	Percentage
1	Tosrifa Industries Limited	39	81%	26	Bangladesh Building Systems	7	15%
2	BSRM Steels Limited	26	54%	27	Aristo Pharma	7	15%
3	MJL bangladesh lid	21	44%	28	GBB power ltd	7	15%
4	Apex Spinning & Knitting Mills Limited	20	42%	29	Haque Food Industries Limited	7	15%
5	Appollo Ispat Complex Limited	19	40%	30	Nabisco Biscuit And Bread Factory Ltd	7	15%
6	Stylecraft limited	18	38%	31	National Polymer Industries Ltd.	6	13%
7	Ratanpur Steel Re-Rolling Mills Ltd	17	35%	32	Ibnsina Pharma	6	13%
8	Western Marine Shipyard Ltd.	17	35%	33	Reneta Limited	6	13%
9	ACI pharmaceuticals	17	35%	34	Khulna power company ltd	6	13%
10	Akij Food and Beverage	17	35%	35	Jamuna oil company ltd	6	13%
11	Summit power ltd	15	31%	36	Familytex (BD) Limited	6	13%
12	United power company ltd	15	31%	37	Bombay Sweets & Co. Ltd	6	13%
13	Igloo Foods Ltd	14	29%	38	Quasem Industries Limited	5	10%
14	GPH Ispat Ltd.	13	27%	39	SINGER Bangladesh Limited	5	10%
15	Simtex Industries Limited	11	23%	40	GSK Bangladesh	5	10%
16	Deshbandhu Polymer Limited	10	21%	41	Titas gas company ltd	5	10%
17	Baraka power ltd	10	21%	42	Linde Bangladesh ltd	5	10%

Rank	Company Name	Total	Percentage	Rank	Company Name	Total	Percentage
18	Square Textile Ltd.	10	21%	43	Meghna petroleum ltd	5	10%
19	Fuwang Foods	10	21%	44	Alif Manufacturing Company Ltd.	5	10%
20	Orion Pharma	9	19%	45	Zeal bangla	5	10%
21	Dragon Sweater and Spinning Limited	9	19%	46	Delta Pharma Limited	4	8%
22	Prince Food Products Ltd	9	19%	47	Beximco Pharma	4	8%
23	Olympic Industries Limited	9	19%	48	Delta Spinners Ltd.	4	8%
24	Square Pharmaceuticals	8	17%	49	Eskayef Pharmaceuticals	3	6%
25	Bangladesh Agro-Processors' Association	8	17%	50	Metro Spinning Limited	3	6%

The above table shows the ranking on the basis of their disclosure score. Here we can see that this ranking is to evaluate their relative positions. Analyzing 10 companies of 5 industries this rank is done. The table exhibits that Tosrifa Industries discloses maximum items, they score 39 items which is 81% of expected items. After this disclosure item is getting down. Most of the companies disclose 5 or 6 items. This number indicates that most of the company discloses very few items. Renowned Pharmaceuticals Company like Beximco give only 4 item disclosure that represents only 8% of the expected items. There is not any specific industry whose all company disclose maximum number of items. Overall it can be said that the environmental disclosure performance of the sample companies are not satisfactory in Bangladesh.

Range of total disclosures by the sample companies

The following table shows that most of the companies disclosed environmental information is written form and pictures disclosed chart in their annual reports. Maximum 52% of the selected sample companies used range of 10%-20% and disclosed environmental information in their annual reports. Out of this total sample only two companies maintain more than 50% environmental disclosure information but majority of sample companies didn't provide any necessary disclosure. In this study we have got less environmental disclosure related information. There should be add more environmental related information in their annual report.

Table 3 Range of total disclosures by the sample companies

% of Disclosure	No. of companies	% of Companies
Less than 10%	5	10%
10%-20%	26	52%
20%-30%	7	14%
30%-40%	7	14%
40%-50%	3	6%
50%-over	2	4%
Total	50	100%

Comparison of Disclosures of different sectors

This following table shows that sample companies both Engineering and Textile sectors have same average of 12.5 in disclosing environmental information in annual report. Pharmaceuticals has mean of 6.9, Fuel & Power 9.5 and Food & Allied has an average of 9.2 in disclosing the environmental information in the annual reports of 2017. The highest standard deviation, that is, highest variation is found in case of textile sectors which varied from minimum 3 to maximum 39. accordingly in case of Pharmaceutical sectors minimum 3 to maximum 17, Fuel & Power sectors minimum 5 to maximum 21, engineering sectors minimum 5 to maximum 26, Food & Allied sectors minimum 5 to maximum 17.

Table 4 Comparison of Disclosures of different sectors

	Engineering	Pharmaceuticals	Fuel & Power	Textile	Food & Allied
Mean	12.5	6.9	9.5	12.5	9.2
Standard Deviation	7.12	4.01	5.62	10.91	3.71
Sample Variance	50.72	16.10	31.61	118.94	13.73
Minimum	5	3	5	3	5
Maximum	26	17	21	39	17

Environmental items' percentage of sample companies

The following chart indicates the percentage of disclosure made by the companies based on the five categories of environmental information. For a company to have a sound disclosure system the following elements need to be present in their annual reports. These percentage also indicate the current condition of environmental disclosures being made by companies in Bangladesh. For example: GPH Ispat Ltd. discloses 80% of environmental policy information required

Table 5 Environmental items' percentage of sample companies

Com. Name	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other	Com. Name	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other
GPH Ispat Ltd.	80%	25%	0%	33%	29%	Linde Bangladesh ltd	40%	5%	0%	17%	14%
BSRM Steels Limited	80%	60%	20%	33%	86%	United power company ltd	60%	30%	20%	17%	43%
Appollo Ispat Complex Limited	80%	50%	0%	17%	57%	Meghn a petroleum ltd	40%	5%	0%	0%	29%
Banglades Building Systems Ltd	20%	20%	0%	0%	29%	Khuln a power company ltd	40%	0%	20%	0%	29%
National Polymer Industries Ltd.	20%	5%	0%	17%	43%	Jamun a oil company ltd	40%	10%	0%	0%	29%
Quasem Industries Limited	40%	0%	0%	0%	43%	Alif Manufacturing Company Ltd.	20%	5%	10%	33%	0%
Ratanpur Steel Mills Ltd	60%	45%	10%	17%	43%	Delta Spinners Ltd.	0%	5%	10%	17%	14%
SINGER Bangladesh Limited	40%	10%	0%	0%	14%	Tosrif a Industries Limited	100%	75%	90%	83%	71%
Western Marine Shipyard Ltd.	40%	35%	10%	33%	71%	Square Textile Ltd.	20%	15%	20%	33%	29%

Com. Name	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other	Com. Name	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other
Deshbandhu Polymer Limited	40%	20%	0%	17%	43%	Stylecraft limited	40%	45%	20%	33%	43%
ACI pharmaceuticals	60%	35%	20%	33%	43%	Metro Spinning Limited	0%	0%	0%	33%	14%
Orion Pharma	0%	30%	20%	0%	14%	Apex Spinning & Knitting Mills Ltd	80%	35%	40%	0%	71%
GSK Bangladesh	20%	15%	0%	17%	0%	Familytex (BD) Limited	20%	0%	20%	17%	29%
Ibnsina Pharma	40%	10%	0%	0%	29%	Dragon Sweater and Spinning Ltd	20%	15%	10%	33%	29%
Delta Pharma Limited	20%	10%	10%	0%	0%	Simtex Industries Limited	40%	20%	10%	33%	29%
Eskayef Pharmaceuticals	0%	10%	0%	0%	14%	Akij Food and Beverage	40%	30%	40%	17%	57%
Aristo Pharma	20%	25%	10%	0%	0%	Igloo Foods Ltd	20%	40%	30%	0%	29%
Beximco Pharma	20%	10%	10%	0%	0%	Prince Food Products Ltd	40%	15%	20%	17%	14%
Reneta Limited	20%	5%	10%	0%	43%	Bangladesh Agro-	40%	20%	0%	17%	14%

Com. Name	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other	Com. Name	Env. Policy	Env. Product & Process	Env. Energy	Env. Financial	Env. Other
						Processors					
Square Pharmaceuticals	20%	15%	20%	0%	29%	Fuwang Foods	20%	25%	20%	0%	29%
GBB power ltd	20%	10%	0%	17%	43%	Zeal bangla	0%	10%	20%	17%	0%
Baraka power ltd	60%	15%	0%	17%	43%	Haque Food Industries Limited	20%	20%	10%	17%	0%
MJL bangladesh lid	80%	40%	40%	17%	57%	Bombay Sweets & Co. Ltd	20%	10%	10%	17%	14%
Summit power ltd	80%	20%	10%	33%	57%	Olympic Industries Limited	40%	10%	20%	17%	29%
Titas gas company ltd	40%	0%	10%	0%	29%	Nabisco Biscuit And Bread Factory	40%	10%	10%	17%	14%

The following chart presents the average disclosures of various environmental elements made by the five industry sectors:

Table 6 Average percentage of disclosures by the selected industries

Industry	Engineering	Pharmaceuticals	Power	Textile	Food
Env. Policy	50%	22%	50%	34%	28%
Env. Product & Process	27%	17%	14%	22%	19%
Env. Energy	4%	10%	10%	23%	18%

Env. Financial	17%	5%	12%	32%	14%
Env. Other	46%	17%	37%	33%	20%

The industry average indicated that the highest number of disclosures regarding environmental policy are reported by the engineering industry. And the highest number of financial disclosures are reported by the textile industry. None of the industries are significant number of product & process or energy information that is required. The numbers indicate the overall situation of the current industry practices. However, these numbers may be subject to extreme values.

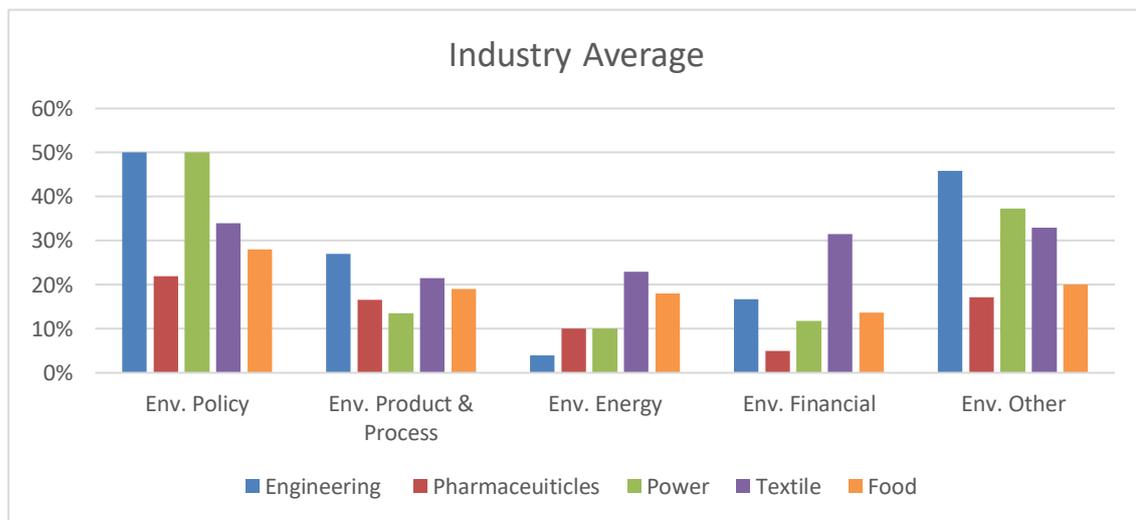


Figure 2. Average disclosures made by the industries

Types of disclosures made by the selected sample companies

This table which is exhibited in Appendix-3 presents the type of items that is disclosed by the selected sample companies. The table shows that almost 62% of the sample companies disclose about their concern for the environment by providing the statement of “company will and company does” type nature. Besides, most of the selected sample companies disclose about maintaining the balance of the environment (58%), concern about protecting and enhancing the well-being of future generation (56%) and contribution in terms of cash or art/sculptors to beautify the environment (44%). Other items of disclosure exhibited in the disclosure index are disclosed by 10-40% of the selected companies except the types of disclosures like discussion of the company’s efforts to reduce energy consumption, direct energy use, disclosing energy savings resulting from product recycling, concern about noise pollution, indirect Energy use, the enhancement of a moral responsibility influenced by Islamic principles, past and current expenditure for pollution control are less than 10% disclosed by the selected sample companies.

Impact of Environmental Accounting Disclosure on Investor’s Decision

From the observation it can be established that the Bangladeshi companies are not disclosing enough environmental information. Even if the company is environmentally sustainable some companies are not interested in disclosing information. But by properly disclosing environmental information a company can be benefitted in a number of ways. One of the first priorities of any firm is to establish a good reputation and also to gain the interest of investors. To show how environmental accounting can help in achieving these goals a survey was done. The survey will give insight into how environmental disclosures made by the company effects investors and probable investor decisions. It will also show whether the impact is significant or are people neutral towards environmental activities. Finally the result will help firms take a good decision regarding the level of disclosure they want to continue giving.

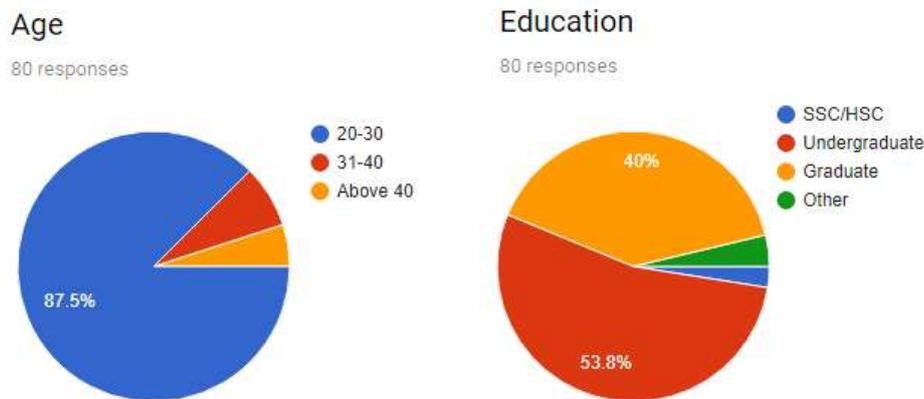


Figure 3. The classification of the survey participants on the basis of their age and educational background

Percentage of Participants opted for options

Using Microsoft Excel and the data collected from the survey the following percentages were calculated. The chart below represents what percentage of participated opted for one option.

For example:

- 69% people think that a company's environmental data is relevant (Q2).
- 81% people disagree with the fact that only a company's financial information is enough to make it sustainable (Q6).
- 11% people are undecided whether Bangladeshi companies give enough environmental disclosure or not (Q8).

The rest of the data can be interpreted in the same manner as described in the above example.

Table 7 Percentage of Participants opted for options

Question No	Statement	Agree	Disagree	Undecided
Q1	Environmental factors are important	98%	1%	1%
Q2	Environmental data published by the company is important	69%	11%	20%
Q3	Organizational activities are affecting the environment	94%	4%	3%
Q4	Having awareness regarding environmental information published in their annual report	41%	49%	10%
Q5	Companies play a vital role in preserving our environment	51%	23%	26%
Q6	Financial disclosure is an important indicator to sustainable development	10%	81%	9%
Q7	Should companies publish more information related to environment in their annual report	89%	4%	8%
Q8	The importance people give to environmental factors	5%	84%	11%
Q9	Investing in an environmentally friendly organization	86%	3%	11%
Q10	Some companies do not give any disclosure at all, is it ethical	6%	93%	1%
Q11	Companies will benefit profit wise if they disclose environmental information	51%	14%	35%
Q12	Will recommend a company to someone if you the company is environmentally sustainable	80%	8%	13%
Q13	Investing in a company that is damaging our environment but generates high profits	10%	80%	10%
Q14	Investing in an organization that is environmentally sustainable but generates less profit	43%	23%	35%
Q15	Investing in an Eco-friendly company over a regular company	81%	3%	16%
Q16	Investing in a company that manufactures products that are harming the environment	4%	85%	11%
Q17	Investing in a company that is harming wildlife	5%	90%	5%

Question No	Statement	Agree	Disagree	Undecided
Q18	Introduction of more regulations concerning the disclosure of environmental information in Bangladesh	90%	1%	9%
Q19	A company's reputation will increase if it is Eco-friendly	86%	5%	9%
Q20	The participants found companies that do not provide adequate environmental information	68%	15%	18%

Graphical Representation of Survey Results

These question wise graphs will help understand the results even better and help to draw an appropriate conclusion:

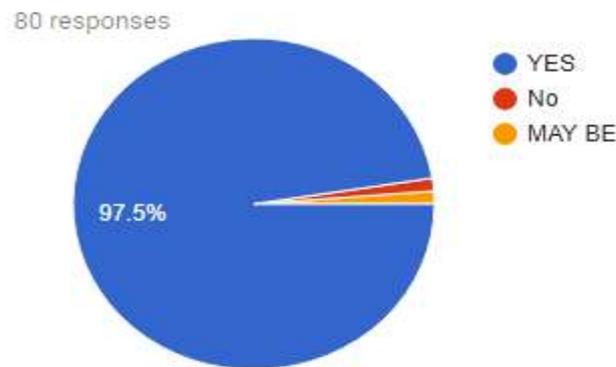


Figure 4. The importance people give to environmental factors

In response to this question 97.5% people agreed that environment plays a vital role. Which indicates that majority of people are considering environmental factors very important.

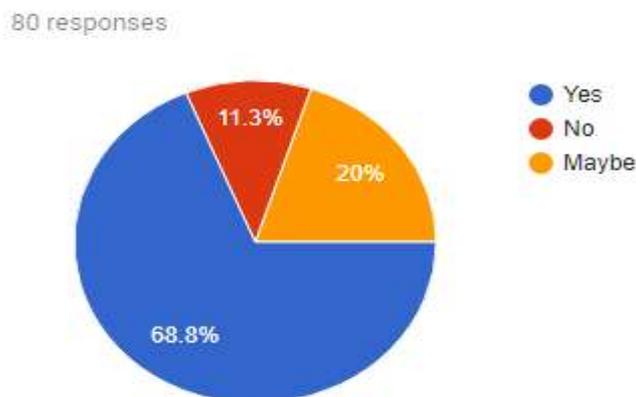


Figure 5. The importance people are giving to environmental data published by the company

68.8% people find environmental data relevant and 20% are undecided. Which indicates the significance of environmental information in decision making. It also implies that people would take environmental information into considerations for many decisions

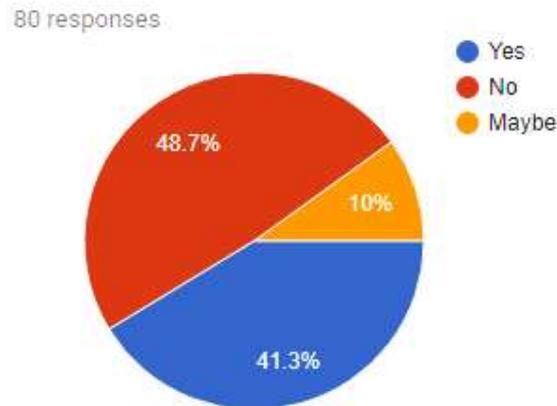


Figure 6. Public awareness about environmental information published in annual reports

Although there is not a significant number of difference but more people are oblivious to environmental information which indicates companies are not presenting the information properly. This is an indicator of our poor environmental accounting disclosure practices.

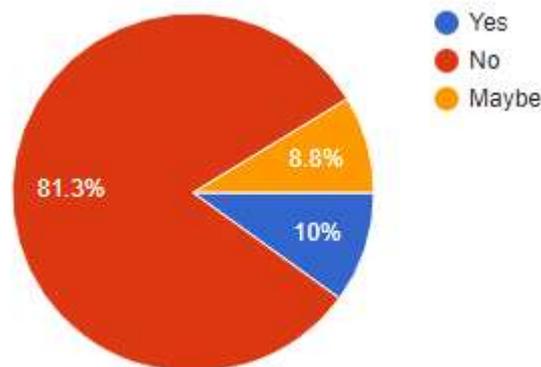


Figure 7. Importance to financial disclosure as an indicator to sustainable development

Here, 81.3% respondents agreed to the fact that only financial information is not enough for a company to be sustainable. When making an investment decision the sustainability of a company is vital. So environmental factors should be considered relevant information.



Figure 8. Company's publishing more information related to environment in their annual report

88.8% people have agreed that companies need to disclose more information, this also indicates that these people are interested in the information. While 83.8% have agreed that there aren't enough disclosures being made. This is also an indicator of the lack of information published. But it also shows that investors want companies to disclose more information regarding environmental factors.

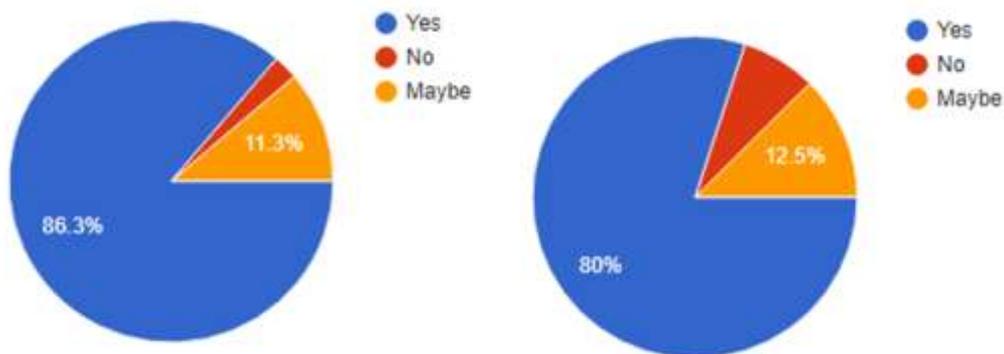


Figure 9. Investing in an environmentally friendly organization

This answer directly shows that 86.3% people are interested in investing eco-friendly organizations. And also 80% will recommend a company just cause its eco-friendly. This illustrations people are not only interested but also they are ready to recommend an eco-friendly organization to their acquaintances.

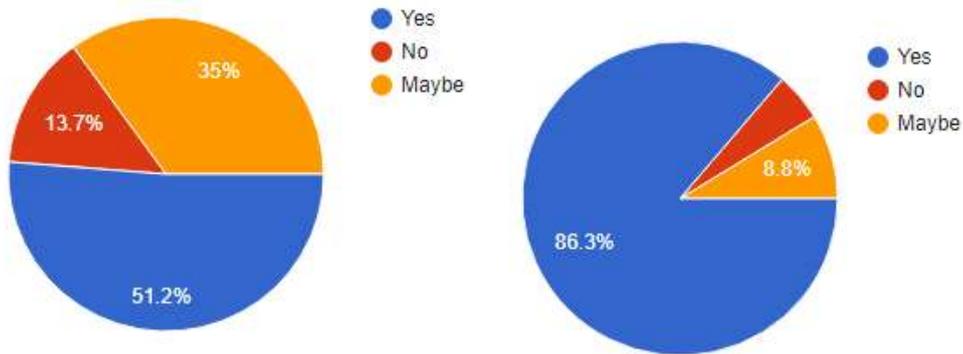


Figure 10. Company’s benefit profit and reputation wise if they disclose environmental information

Majority of the participants agree that companies will benefit profit and reputation wise if they disclose more environmental information. 51.2% agreeing to more profit generation and 86.3% agreeing to better reputation in the market. Both beneficial for the organization.

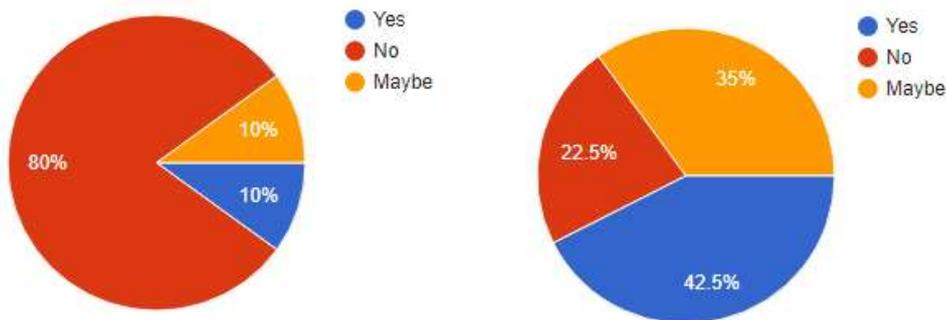


Figure 11. Invest in a company that is damaging our environment but generates high profits or vice versa

80% people will not invest in a company that’s harming the environment even if it generates high profits. While 42.5% will invest in an eco-friendly company even if it has low returns. This shows that profit is not the only thing being considered when making an investment decision. In some cases people may even reject a profitable company if it is against the environment. On another note, some people may even invest in a company that generates less profit but is eco-friendly.

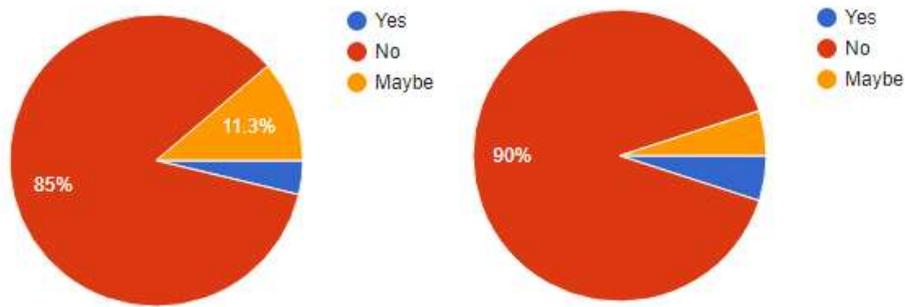


Figure 12. Investing in a company that is harming wildlife

This indicates people’s unwillingness to invest in an environmentally harmful company. 85% people will not invest if the product process is harming the environment and 90% people will not invest if it harming wildlife.

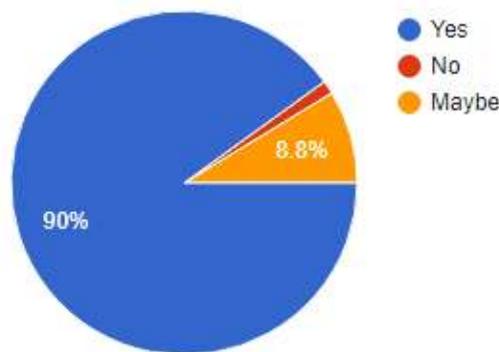


Figure 13: Should there be more regulations concerning the disclosure of environmental information in Bangladesh

The previous observation made on the disclosure practices of companies gives indication towards the lack of regulations. It is also the opinion of 90% of the investors that there be more regulations concerning environmental disclosure practices. It strengthens the argument that there is lack of appropriate rules and regulations regarding environmental accounting in our country. Majority agree that this practice should change.

Conclusion and Recommendations

Current situation of disclosure practices

After observing the environmental disclosure practices the following points can be highlighted. Initially it seemed there is very less number of disclosures happening in companies. There are some companies that disclose useful information but overall market performance is still not quite up to standard. The following points can also be seen:

- The lack of regulations and its impact on the amount of disclosures made is very obvious.
- Industry average for most cases are very poor. There is extreme lack of environmental information.
- “ISO 14008 certified” organizations are disclosing more information than those that are not certified.
- Engineering and Textile industry are disclosing the most information and the Pharmaceuticals industry is disclosing the least information.
- Although most of these companies should publish environmental information but the results show that most companies are reluctant.
- Only a few companies have published detailed information about their environmental activities.
- There is significantly less percentage of environmental financial information in any of the company’s annual report.
- None of these companies are following integrated reporting system.
- There is significantly less specific policy mentioned for the use of direct and indirect energy in the selected companies’ annual reports.
- Lack of concern for Green House effects or Carbon emission.
- Some companies are working towards becoming more environmentally sustainable.

Interpreting the data gained from survey

The survey was conducted to measure the impact of accounting disclosures on investors and probable investors. With the intention to arrive to the conclusion whether investors are leaning towards companies with adequate environmental accounting policies, another analysis was done. The survey results were divided into two categories, one category in favor of environmental disclosure and another indicating reluctance towards the subject. The analysis showed that 63% people voted for the importance of environmental disclosure and 11% were undecided which leaves only 21% who were not influenced by environmental factors. Again, 63% people were not satisfied with the current disclosure practices and want more information and also stronger regulations, 20% were against the matter and 18% were undecided in their decision. In most cases the majority voted in favor of environmental disclosures. People have agreed that the good will of a company is related to environmental information. Some investors are willing to make their investment decision based on their environmental information. People have also expressed that companies have a duty towards the environment. At present environmental awareness and green organizations are on the rise and organizations sole

purpose cannot be to only confine to making money. So the need and acceptance of environmental accounting information is increasing day by day. In some cases people have shown reluctance to invest in companies that are harming the nature or eco system in any way. The overall result indicates that majority of investors are taking environmental disclosures seriously and it is impacting on their decision making process. So it can be said that if an organization is eco-friendly it will not only benefit reputation wise but also profit and financing wise. In most cases investors are being attracted by environmentally sustainable companies which equals to or financing opportunities. Also there arises the fact of global acceptance. As we all know environmental sustainability is a most discussed topic in the global market in recent years. It is in the best interest in the company if it decides to include environmental disclosures in its annual reports.

Recommendations

After thoroughly examining the topic the following recommendations are given:

- Creating a well-developed structure regarding environmental accounting.
- If a uniform set of rules is set for all companies then it will become easier to compare and use environmental information.
- Only voluntary disclosure is not enough as companies only disclose parts of the information.
- Imposing more government regulations and employ people to a routine follow-up.
- Audit can be performed to check if information is correct or note.
- Publishing quantitative data regarding environmental costs and other environmental factors should be included in the annual reports. In the current situation only descriptive information is found. No or significantly less numerical data on the subject was found in any companies' annual report.
- The opinion of the investors show that they are interested in the information this can be pointed as a positive step that are giving importance to the subject matter.
- Creating awareness among investors, shareholders and managers is necessary.
- In this age of globalization adopting environmental accounting would open new possibilities in the international market.
- The accountants and users both have to be educated properly on the subject as it is still in developing stages.
- Most of the companies which are actually disclosing information are giving a very vague description. No monetary value or quantitative information was given. This factor has to be looked into. Only qualitative information is not enough. Companies are to be forced to disclosure their environmental cost information.

As the study only focuses the disclosure practices and its impact on investors, there would be a suggestion for the further research to explore the firm's different factors' influence on environmental disclosures practices and to explore the role of Environmental Accounting and Reporting in creating environmental awareness among the corporate stakeholders in Bangladesh.

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Appendices

Appendix 1: List of the Selected Sample Companies

The following annual reports of the following companies of Bangladesh was collected for analysis. In order to show the recent position of environmental disclosures in the country the annual report of 2017 is being analyzed. The list of the companies are:

- | | |
|-----------------------|---|
| | 1. GPH Ispat Ltd. |
| | 2. BSRM Steels Limited |
| | 3. Appollo Ispat Complex Limited |
| | 4. Banglades Building Systems Ltd |
| | 5. National Polymer Industries Ltd. |
| | 6. Quasem Industries Limited |
| Engineering Sector | 7. Ratanpur Steel Re-Rolling Mills Ltd |
| | 8. SINGER Bangladesh Limited |
| | 9. Western Marine Shipyard Ltd. |
| | 10. Deshbandhu Polymer Limited |
| | 1. ACI pharmaceuticals |
| | 2. Orion Pharma |
| | 3. GSK Bangladesh |
| | 4. Ibsina Pharma |
| | 5. Delta Pharma Limited |
| | 6. Eskayef Pharmaceuticals |
| Pharmaceutical Sector | 7. Aristo Pharma |
| | 8. Beximco Pharma |
| | 9. Reneta Limited |
| | 10. Square Pharmaceuticals |
| | 1. GBB power ltd |
| | 2. Baraka power ltd |
| | 3. MJL bangladesh lid |
| | 4. Summit power ltd |
| | 5. Titas gas transmission and distribution company ltd |
| | 6. Linde Bangladesh ltd |
| | 7. United power generation and distribution company ltd |
| | 8. Meghna petroleum ltd |
| Fuel and Power Sector | 9. Khulna power company ltd |
| | 10. Jamuna oil company ltd |
| | 1. Alif Manufacturing Company Ltd. |
| | 2. Delta Spinners Ltd. |

- | | |
|------------------------|---|
| | 3. Tosrifa Industries Limited |
| | 4. Square Textile Ltd. |
| | 5. Stylecraft limited |
| | 6. Metro Spinning Limited |
| | 7. Apex Spinning & Knitting Mills Limited |
| Textile Sector | 8. Familytex (BD) Limited |
| | 9. Dragon Sweater and Spinning Limited |
| | 10. Simtex Industries Limited |
| | 1. Akij Food and Beverage |
| | 2. Igloo Foods Ltd |
| | 3. Prince Food Products Ltd |
| | 4. Bangladesh Agro-Processors' Association (BAPA) |
| | 5. Fuwang Foods |
| | 6. Zeal bangla |
| Food and Allied Sector | 7. Haque Food Industries Limited |
| | 8. Bombay Sweets & Co. Ltd |
| | 9. Olympic Industries Limited |
| | 10. Nabisco Biscuit And Bread Factory Limited |

Appendix 2: Environmental items considered for development of Disclosure Index

A. Environment Policy

Serial No	Items
1	Actual statement of policy
2	Statements indicating that pollution from operations has been or will be reduced
3	General statements of "the company will, the company does" nature
4	Investment appraisal to include consideration of the environment
5	Disclosing the company's energy policies

B. Environmental product-process

Serial No	Items
1	Waste(s) management
2	Eco-efficiency
3	Pollution and emissions- noise, spills, visual quality, including any attempts to identify, improve, control, treat or prevent
4	Carbon sequestration, climate change
5	Products and product development, improvements in products (including products that care for and help protect the environment)
6	Air emission information
7	Water discharge information
8	Research on new methods of production to reduce environmental pollution
9	Pollution –prevention technologies
10	Pollution control of industrial process
11	Pollution reductions in the conduct of business operations
12	Solid waste disposal information
13	Conservation of natural resources
14	Recycling plant of waste products
15	Installation of effluent treatment plant
16	Land reclamation and forestation programs
17	Raw materials conservation
18	Designing facilities harmonious with the environment
19	Undertaking wildlife conservation
20	Noise

C. Environmental Energy

Serial No	Items
1	Energy saving and conservation
2	Use/development/exploration of new sources, efficiency, insulation etc.
3	Utilization of waste materials for energy conservation
4	Discussion of the company's efforts to reduce energy consumption
5	Voicing the company's concern about the energy shortage
6	Direct energy use
7	Indirect Energy use
8	Disclosing energy savings resulting from product recycling
9	Disclosing increased energy efficiency of products
10	Receiving an award for an energy conservation programme

D. Environmental financial

Serial No	Items
1	Discussion of areas with financial/economic impact
2	Discussion of environmental-economic interaction
3	Contingencies, provisions
4	Environmentally-related loans, grants; costs of purchasing and installing environmental friendly machines and equipment; maintenance and consultancy costs
5	Past and current expenditure for pollution control
6	Future estimates of expenditures for pollution control equipment and facilities

E. Environment Others

Serial No	Items
1	Environmental education (note: care should be exercised noting the overlap with community)
2	Environmental awards; employee environmental training and awareness; partnerships between environmental research institutions and business
3	The enhancement of a moral responsibility influenced by Islamic principles
4	Maintenance the balance of environment
5	To protect and enhance the well-being of future generations
6	Contributions in terms of cash or art/sculptures to beautify the environment
7	Undertaking environmental impact studies to monitor the company's impact on the environment

Appendix 3: Types of disclosures made by the selected sample companies

Disclosures Items	Numbers of Companies Disclosed	Percentage
Environmental policy		
Actual statement of policy	21	42%
Statements indicating that pollution from operations has been or will be reduced	21	42%
General statements of "the company will, the company does" nature	31	62%
Investment appraisal to include consideration of the environment	13	26%
Disclosing the company's energy polices	6	12%
Environmental product-process:		
Waste(s) management	15	30%
Eco-efficiency	17	34%
Pollution and emissions- noise, spills, visual quality, including any attempts to identify, improve, control, treat or prevent	15	30%
Carbon sequestration, climate change	6	12%
Products and product development, improvements in products (including products that care for and help protect the environment)	17	34%
Air emission information	5	10%
Water discharge information	9	18%
Research on new methods of production to reduce environmental pollution	8	16%
Pollution –prevention technologies	12	24%
Pollution control of industrial process	7	14%
Pollution reductions in the conduct of business operations	14	28%
Solid waste disposal information	7	14%
Conservation of natural resources	8	16%
Recycling plant of waste products	8	16%
Installation of effluent treatment plant	9	18%
Land reclamation and forestation programs	9	18%
Raw materials conservation	7	14%
Designing facilities harmonious with the environment	15	30%
Undertaking wildlife conservation	5	10%
Noise	2	4%
Environmental Energy		
Energy saving and conservation	15	30%
Use/development/exploration of new sources, efficiency, insulation etc.	7	14%

Utilization of waste materials for energy conservation	10	20%
Discussion of the company's efforts to reduce energy consumption	4	8%
Voicing the company's concern about the energy shortage	8	16%
Direct energy use	4	8%
Indirect Energy use	2	4%
Disclosing energy savings resulting from product recycling	3	6%
Disclosing increased energy efficiency of products	7	14%
Receiving an award for an energy conservation programme	5	10%
Environmental financial:		
Discussion of areas with financial/economic impact	8	16%
Discussion of environmental-economic interaction	14	28%
Contingencies, provisions	7	14%
Environmentally-related loans, grants; costs of purchasing and installing environmental friendly machines and equipment; maintenance and consultancy costs	12	24%
Past and current expenditure for pollution control	1	2%
Future estimates of expenditures for pollution control equipment and facilities	5	10%
Environmental other:		
Environmental education (note: care should be exercised noting the overlap with community)	7	14%
Environmental awards; employee environmental training and awareness; partnerships between environmental research institutions and business	10	20%
The enhancement of a moral responsibility influenced by Islamic principles	2	4%
Maintenance the balance of environment	29	58%
To protect and enhance the well-being of future generations	28	56%
Contributions in terms of cash or art/sculptures to beautify the environment	22	44%
Undertaking environmental impact studies to monitor the company's impact on the environment	9	18%

Appendix-4: The result of the survey

[The result can be interpreted as similar to this example: 78 people out of 80 opted for option “Yes” for Question 1(Q1), 1 person opted for “No” and 1 person was undecided about his/her answer]

Question No	Answered	Blank Answered	Yes	No	Maybe
Q1	80	0	78	1	1
Q2	80	0	55	9	16
Q3	80	0	75	3	2
Q4	80	0	33	39	8
Q5	80	0	41	18	21
Q6	80	0	8	65	7
Q7	80	0	71	3	6
Q8	80	0	4	67	9
Q9	80	0	69	2	9
Q10	80	0	5	74	1
Q11	80	0	41	11	28
Q12	80	0	64	6	10
Q13	80	0	8	64	8
Q14	80	0	34	18	28
Q15	80	0	65	2	13
Q16	80	0	3	68	9
Q17	80	0	4	72	4
Q18	80	0	72	1	7
Q19	80	0	69	4	7
Q20	80	0	54	12	14

Appendix -5: Questionnaire

The following survey is to collect the opinion of the investors of the companies of Bangladesh. How much importance they are giving to environmental information published by the companies and how they react:

1. Do you think environment plays a vital role in our lives?
2. Is a company's environmental data relevant to you?
3. Do you think only financial disclosure is enough for a company to be sustainable?
4. Do you think that different organizational activities are effecting our environment?
5. Are you aware of the environmental information the companies publish in their annual report?
6. Do you think companies play a role in preserving our environment?
7. Do you think companies should publish more information related to environment in their annual report?
8. Will you recommend a company to someone you know if you find out that it is environmentally sustainable?
9. As an investor do you want to invest in an environmentally friendly organization?
10. Would you invest in an organization that is environmentally sustainable but generates less profit than its competitors?
11. Would you invest in a company that is damaging our environment but generates high profits?
12. Do you think Bangladeshi companies give enough environmental disclosure?
13. Some companies do not give any disclosure at all, do you think it is right?
14. Will you choose to invest in an eco-friendly company over a regular company?
15. Will you invest in a company even if you know its products or production process is harming the environment?
16. Would you invest in a company that is harming wildlife?
17. Do you think there should be more regulations concerning the disclosure of environmental information in Bangladesh?
18. Do you the reputation of a company will increase if it is eco-friendly?



19. Do you think companies will benefit profit wise if they disclose environmental information?
20. Do you find companies that do not provide adequate environmental information?