# Corporate Environmental Reporting on the Internet in Bangladesh: An Exploratory Study

Probal Dutta\* and Sudipta Bose\*\*

This research paper investigates the utilization of corporate websites for communicating corporate environmental information by the listed companies of Bangladesh. The sample for the study consists of 104 listed companies. For the purpose of data collection, corporate websites of 104 companies for the period of three months (August 01, 2007 to November 03, 2007) were analyzed. A scoring scheme was developed to measure the level of web-based corporate environmental reporting. The study shows that web-based corporate environmental reporting in Bangladesh is still in its infancy as the level of environmental disclosures on corporate websites is very low. This paper adds to the existing body of literature on corporate environmental reporting studies by exploring online corporate environmental reporting practices in Bangladesh.

Field of Research: Accounting and Environmental Reporting

### 1. Introduction

The last few decades of the 20<sup>th</sup> century have witnessed a growing awareness of not only the severity but also the diversity of environmental problems (Sahay, 2004). Further, the expansion of knowledge about ecosystems has resulted in concerns about the environmental effects of production processes, product performances and business practices (Sahay, 2004). Since the publication of the Bruntdland Commission Report entitled 'Our Common Future' in 1987 and the Earth Summit in Rio de Janeiro in 1992, world leaders started putting the environment at the top of their agenda (Belal, 2000). After the holding of the Earth Summit in Rio de Janeiro in 1992, businesses were held increasingly responsible for the environmental impact of their operational activities (Belal, 2000) and people started recognizing the need for sound environmental information for improved decision-making (DEAT,2005). As a result, an increasing number of companies are now making environmental disclosures (Belal, 2000).

Bangladesh. E-mail: <a href="mailto:sudiptabose@hotmail.com">sudiptabose@hotmail.com</a>

<sup>\*</sup>Probal Dutta, BRAC Business School, BRAC University, 66, Mohakhali, Dhaka-1212, Bangladesh. E-mail: probal.bracu@gmail.com

<sup>\*\*</sup>Sudipta Bose, CMA, Grameenphone Limited, Plot # 3 & 5, Road # 113/A, Dhaka-1212,

Lodhia (2006) has defined corporate environmental reporting (CER) as a process through which "companies often disclose environmental information to their stakeholders to provide evidence that they are accountable for their activities and the resultant impact on the environment." Traditionally, companies disclose environmental information through print-media such as annual reports, standalone environmental reports, stand-alone corporate social responsibility reports, press releases, news media, advertisements, glossy booklets, newsletters, internal magazines and brochures (Zéghal and Ahmed, 1990; Tilt, 2001; Lodhia, 2005). After the advent of Internet, companies have started disseminating environmental information on their corporate websites.

Lymer and Tallberg (1997) have identified a number of advantages that the Internet offers over traditional print-media. First, the Internet offers a low cost solution (to both users and producers) to access of corporate data by using an established network structure that all can participate in easily. Second, it offers instant (relative to paper versions) access to data at convenient times for users. Third, it provides for a broadcast (mass communication) medium for corporate reports. Fourth, it offers dynamic updating potential (addressing timeliness implications). Fifth, the Internet has fewer constraints on presentation flexibility than traditional paper versions. Sixth, it offers access to greater volumes of data than previously possible. Seventh, it provides flexibility in user models of data provided. Eighth, it facilitates hypermedia delivery of data (using the inter-linking of information capabilities of the World Wide Web). And finally, it allows users to export data for manipulation. Because of these advantages, the Internet appears particularly pertinent to corporate reporting.

The concept of environmental reporting is relatively new in Bangladesh. Very few studies have been conducted on environmental reporting in the context of Bangladesh and to the authors' best knowledge, all of these studies have investigated into environmental reporting practices through print media. To the authors' best knowledge, studies, solely on web-based CER, do not exist in the context of Bangladesh and consequently, a gap exists in literature on CER studies. The present study attempts to address this gap in literature by analyzing the form and content of environmental disclosures in Bangladeshi listed companies' websites.

The rest of the paper consists of four sections. The following section assesses the existing literature on environmental reporting. The next section describes the methodology of the study. The penultimate section presents and analyzes the findings of the study. The fourth and final section provides a summary of the findings; draws conclusions and offers recommendations.

### 2. Literature Review

Corporate environmental reporting has been mainly a phenomenon of developed countries and consequently, most corporate environmental reporting studies

were confined to the developed countries (Belal, 2000). A handful of studies concentrated on the newly industrialized countries such as Korea, Hong Kong, Malaysia and Singapore and African countries such as South Africa, Nigeria and Uganda (Belal, 2000). In addition, a majority of corporate environmental reporting has primarily focused on conventional print media, especially annual reports, as a disclosure medium (Lodhia, 2005). This section sheds light on studies (in the international context as well as in the context of Bangladesh) on corporate environmental reporting through corporate annual reports and through corporate websites. In addition, attempts have been made in this section to illuminate the status of environmental reporting in Bangladesh.

## 2.1 Status of Environmental Reporting in Bangladesh

Bangladesh is experiencing a fast degradation of environment. Some examples of this degradation are Dhaka's terrible air pollution, the 'clinically dead' river Buriganga and widespread arsenic pollution in the underground water (Belal, 2000). The Government of Bangladesh started paying attention to the environmental management of Bangladesh since the 1990s and in order to improve the environmental condition, the Bangladesh Environmental Protection Act, 1995 was passed. Presently, corporate environmental reporting is not mandatory in Bangladesh. But under the Bangladesh Environmental Protection Act, 1995, companies may be asked to disclose environmental information as and when required (Belal, 2000). The only mandatory environmental disclosure requirement in Bangladesh is the disclosure of expenditures on energy use. Under Schedule-XI, Part-II of the Companies Act 1994 and under Schedule, Part-II of the Securities and Exchange Rules, 1987, the total amount spent on the use of energy is to be shown in notes to the financial statements under a separate head of expenditure.

### 2.2 Prior International Research

In Hong Kong, Ho *et al.* (1994) studied 182 companies and found that only 9 out of these 182 companies (4.9 percent) disclosed environmental information in their annual reports for the year 1991. In Korea, the study of Choi (1998) reveals that out of 770 listed companies 64 companies disclosed environmental information in their audited semi-annual financial statements for the year 1997. Tsang (1998) conducted a longitudinal study of social and environmental reporting practices by the banking, food and beverages and hotel industries over a ten-year period from 1986 to 1995. The researcher found that 17 (52 percent) out of 33 listed companies made social and environmental disclosure in their annual reports. The study observed a steady increase in social and environmental disclosures during the late 1980s and then a stable pattern since 1993. Kisenyi and Gray (1998) studied only four companies in Uganda and observed that none of them made any environmental disclosure in their annual reports. Savage (1994) studied 115 South African companies and found that approximately 63 percent companies had made environmental disclosures in

their annual reports and the length of disclosure made by the number of pages had been 0.5.

There is vast literature on web-based environmental communication and a majority of these studies are general and have focused primarily on environmental disclosures on corporate websites (Lodhia, 2006). Prior studies on web-based environmental communication revealed that the larger companies and those operating in developed countries are more likely to use the web for environmental communication (Craven and Otsmani, 1999; UNEP, 1999; Williams and Pei, 2000, as cited by Lodhia, 2006). The studies undertaken by UNEP (2001), Patten (2002), Rikhardsson et al. (2002), Patten and Crampton (2003) and Andrew (2003) have focused specifically on larger companies operating in the developed world. The common finding to these studies is that companies are not extensively utilising the web for environmental communication. Jones et al. (1999) analyzed the websites of 275 global companies. They also conducted a survey of 100 environmental managers, seeking their views on the use of their website for environmental communication. Their findings suggested that companies were not fully utilising the web for environmental communication. Adams and Frost (2004) did a comprehensive study of web-based environmental communication in Australia, United Kingdom (UK) and Germany. They analysed websites, sent surveys to corporate managers and also held interviews at specific companies. Their findings suggested that there was limited use of websites for environmental communication, companies did not have strategic considerations for the use of the web as a communication medium and website development was restricted.

## 2.3 Prior Research in Bangladesh

Very few studies on environmental reporting have been undertaken in the context of Bangladesh. All of these studies focused on environmental disclosure through print-media and more specifically, through corporate annual reports.

Bose (2006) analyzed 5 years' annual reports of 11 Petrobangla companies for examining their environmental reporting status. He found that in 1998-199 and 1999-2000, only 45.45% and in 2000-01, 63.63% and in 2001-02 and 2002-03, only 81.81% of Petrobangla companies disclosed environmental information in their annual reports. The nature of information disclosed was qualitative and descriptive; the reporting companies did not attempt to quantify the environmental information. In addition, companies provided only positive information and ignored negative information. This study also shows that most of the Petrobangla companies provided information only on protection of the environment, pollution control, planting of trees and other matters. They did not provide any information regarding waste generation, conservation of energy, water wastage, recycling of waste and noise nuisance. Environmental information was disclosed either in the Chairman's Statement or Director's Report.

Rahman and Muttakin (2005) surveyed 125 manufacturing companies listed on the Chittagong Stock Exchange (CSE) as on May 7, 2005. They analyzed the annual reports of these 125 companies for the year 2003/2004. The researchers found that only 5 companies (4 percent of 125 companies) disclosed environmental information in their annual reports. The information was descriptive in nature; no quantification thereof was made. They also report that the disclosure of environmental information was done in different places of the annual report and there was no standard environmental reporting framework.

Shil and Iqbal (2005) surveyed 121 manufacturing companies listed on the Dhaka Stock Exchange (DSE). They reported that only 13 companies (11 percent of 121 companies) disclosed environmental information in their annual reports. All companies disclosed qualitative information in the Directors' Report.

Bala and Yusuf (2003) analyzed the annual reports of 249 public limited companies (listed on the Dhaka Stock Exchange) for the year of 2001. They report that only 26 (10.4 percent of the total) companies disclosed environmental information in the Directors' Report or in the Chairman's Statement or elsewhere in their annual reports. The information disclosed was qualitative in nature and companies did not follow any specific or standard reporting format.

Hossain (2002) conducted a survey of annual reports of 150 non-financial companies (listed on the Dhaka Stock Exchange) for the year of 1998-99. The study reveals that only 5 percent of the companies under study disclosed environmental information in the Directors' Report or in the Chairman's Report of their annual reports and not a single company disseminated any quantitative information as to the environmental items. An interesting finding of this study is that subsidiaries of multinational companies did not disclose environmental information.

Imam (2000) analyzed annual reports of 34 companies listed with the stock exchanges of Bangladesh for the year of 1996-97 and found that only 22.5 percent of the sample companies provided environmental information in their annual reports.

Belal (1999) surveyed annual reports of 30 companies of Bangladesh of which 28 were listed and 2 were unlisted. He found that 90 percent of the companies under study made some environmental disclosure.

Prior studies in the context of Bangladesh have concentrated only on environmental reporting practices through corporate annual reports but they did not focus on web-based CER practices. The present study attempts to fill this gap in literature.

## 3. Methodology

## 3.1 Sample

The sample initially included all 352 companies listed with the stock exchanges in Bangladesh. Eight debentures, 15 mutual funds and 61 treasury bonds are also part of these 352 companies. Consequently, mutual funds, debentures and treasury bonds were excluded from the sample and therefore, the initial sample size of the present study reduced to 268. After extensive Internet search, 125 companies were found to have corporate websites but the websites of 21 out of these 125 companies were not accessible during the period of data collection and the rest of the companies (without websites, i.e., 143 companies) include the local subsidiaries of 4 multinational companies (MNCs) that do not have any local website though the parent companies of these MNCs have websites. As a result, the websites of these 4 multinational companies (MNCs) have not been considered. Consequently, the sample of the present study consists of 104 companies whose websites were accessible during the period of data collection.

## 3.2 Collection of Data and Measurement of the Level of Environmental Reporting

Data for this study were collected by browsing the websites of the sample companies. Firstly, the location of the corporate websites of the sample companies was identified. The websites of the stock exchanges were used to locate the homepage of the respective companies. In case of unavailability of such links, popular search engines such as MSN, Google, Yahoo, Alta Vista etc. were used to locate the homepage of the respective firms. The period of collecting data relating to on-line environmental reporting was from August 01, 2007 to November 03, 2007.

After collecting relevant data, a scoring scheme was developed in order to measure quantitatively the level of online environmental reporting. A dichotomous procedure was used to measure the reporting score (RS). A score of 1 was awarded if an item was reported; otherwise a score of 0 was awarded.

Finally, an environmental disclosure index (EDI) was developed (Table I). Earlier works (Hossain *et al.*, 2006; Belal, 2000; CPAA, 2007) were consulted in order to develop the EDI. The EDI contained 28 attributes. Consequently, a firm could score a maximum of 28 points and a minimum of 0. The formula for calculating the reporting score by using these 28 attributes is as follows:

$$\begin{array}{c} 28 \\ \text{RS} = \sum r_i \\ i = 1 \end{array}$$

Where RS = Reporting Score  $r_i = 1$  if the item is reported and 0 if the item is not reported i = 1, 2, 3...28.

## 4. Discussion of Findings

Of the 104 sample companies, only 17 companies (16.35 percent) disclosed environmental information on their websites. Out of these 17 companies, 3 (17.65 percent) companies belong to Pharmaceutical and Chemical sector and 2 (11.76 percent) companies from each of the four sectors such as Papers & Printing, Cement, Engineering & Electrical and Textile & Clothing sectors, disclose environmental information on their websites. All but one company (Dutch-Bangla Bank Ltd.) belong to environmentally sensitive industries. Table I provides the sector-wise distribution of 17 companies.

**Table I: The Sector-Wise Distribution of the Companies** 

SI. No.	Name of Company	Sector	URL
1.	Bata Shoe Co. (Bangladesh) Ltd.	Tannery	www.batabd.com
2.	Summit Power Ltd.	Fuel & Power	www.summit-centre.com
3.	Bangladesh Monospool Paper Manufacturing Company Ltd.	Papers & Printing	www.maguragroup.com
4.	Paper Processing & Packaging Ltd.	Papers & Printing	www.maguragroup.com
5.	Monno Ceramic Industries Ltd.	Ceramics	www.monno.com
6.	Lafarge Surma Cement Ltd.	Cement	www.lafarge-bd.com
7.	Meghna Cement Mills Ltd.	Cement	www.bashundharagroup.com
8.	Dutch-Bangla Bank Ltd.	Banking, Leasing & Finance	www.dbbl.com.bd
9.	Bangladesh Thai Aluminum Ltd.	Engineering & Electrical Products	www.btabd.com
10	S. Alam Cold Rolled Steels Ltd.	Engineering & Electrical Products	www.s-alam-group.com
11.	British American Tobacco Bangladesh Company Ltd. (BATBC)	Foods & Allied Products	http://207.56.111.185/batb
12.	Apex Spinning & Knitting Mills Ltd.	Textiles & Clothing	www.apexknitting.com
13.	Square Textiles Ltd.	Textiles & Clothing	www.square-bd.com
14.	ACI Ltd.	Pharmaceuticals & Chemicals	www.aci-bd.com
15.	Beximco Pharmaceuticals Ltd.	Pharmaceuticals & Chemicals	www.beximco-pharma.com
16.	Square Pharmaceuticals Ltd.	Pharmaceuticals & Chemicals	www.squarepharma.com.bd
17.	Bangladesh Shipping Corporation	Miscellaneous	www.bsc.gov.bd

Table II provides descriptive statistics of reporting score (RS) for the sample companies. The mean of the RS for 17 corporate websites was 3.06 points, which indicates a very low level of on-line corporate environmental reporting by different listed companies of Bangladesh. The standard deviation for 17 corporate websites was 1.95 and their RS was ranged from 1 point to 8 points, indicating a medium variation in the disclosure level of corporate environmental information on corporate websites.

**Table II: Descriptive Statistics of Reporting Score** 

Items	Corporate Websites	
No. of Observations	17	
Mean	3.06	
Standard Deviation	1.95	
Maximum	8	
Minimum	1	
Range	7	

Fifty percent of the items included in the EDI were not disclosed by any of the reporting companies. Table III presents both disclosed and non-disclosed items of environmental information. Not a single company disclosed quantitative facts such as expenditure incurred or targets set and achieved. According to Table III, most of the companies have disclosed "environmental policies or company concern for the environment" on their websites (82.35%). Not a single company disclosed the amount of expenditure incurred on direct energy use on the corporate website. Out of 17 sample companies, 3 (17.65%) made disclosure on their websites of how they controlled pollution of industrial process. Around 35.29 percent companies have disclosed on their websites whether they conserve natural resources or have plant for recycling waste product or installed effluent treatment plant. An interesting finding of the study is that only 1 of the 17 companies obtained ISO 14001 certification.

Table III: Disclosure and Non-disclosure of Items of Environmental Information by Sample Companies

		Corporate Websites		
SI. No.	Items of Environmental Information	No Disclosures	Disclosures (No. of Companies out of 17)	Percenta ge of Disclosur es
1	Past and current expenditure for pollution control equipment and facilities.	<b>V</b>	-	-
2	Past and current operating costs of pollution control equipment and facilities.	V	-	-
3	Future estimates of expenditures for pollution control equipment and facilities.	V	-	-
4	Future estimates of operating costs for pollution control equipment and facilities.	$\sqrt{}$	-	-
5	Financing for pollution control equipment or facilities.	-	1	5.88%
6	Air emission information.	-	1	5.88%
7	Water discharge information.	$\sqrt{}$	-	-
8	Solid waste disposal information.	<b>√</b>	-	-
9	Environmental policies or company concern for the environment.	-	14	82.35%
10	Conservation of natural resources.	-	6	35.29%
11	Recycling plant of waste products.	-	6	35.29%
12	Installation of effluent treatment plant.	-	6	35.29%
13	Anti-litter and conservation campaign.	-	2	11.76%
14	Land reclamation and forestation programmes.	-	3	17.65%
15	Pollution control of industrial process.	-	3	17.65%
16	Research on new methods of production to reduce environmental pollution.	-	2	11.76%
17	Raw materials conservation.	V	-	-
18	Support for public or private action designed to protect the environment.	-	3	17.65%
19	Conservation of energy in the conduct of business operations.	-	2	11.76%
20	Utilization of waste materials for energy conservation.	<b>√</b>	-	-
21	Discussion of the company's efforts to reduce energy consumption.	-	1	5.88%
22	Voicing the company's concern about the energy shortage.	V	-	-
23	Direct energy use.	√	-	-
24	Indirect Energy use.	√	-	-
25	Significant environmental impact of principal product.	<b>√</b>	-	-
26	Incidents of and fines for non-compliance.	<b>√</b>	-	-
27	Obtaining certification for Environmental Management Systems/ISO 14001.	-	1	5.88%
28	Conducting Environmental Impact Assessment (EIA) / air quality assessment.	√	-	-

The content of environmental disclosures has so far been discussed. As regards the form of environmental disclosures on corporate websites, some examples of the same are provided below:

#### Monno Ceramic Industries Limited

Monno Ceramic is an industry that is very environment friendly. Its sensitivity to the environment is reflected in its avoidance to use any toxic chemicals in the manufacturing process. Recycled paper is also used for packaging purposes.

### **Summit Power Limited**

Summit adheres to the highest standard to protect the environment. As a corporate philosophy strict attention is given to ensure environmental harmony in all its business units. For example in all Summit power plants extensive numbers of saplings were planted. It also planted saplings along side the Amber Shah Mosque, the lone historical landmark in the Karwan Bazar area. Summit regarded it a worthy opportunity to fulfill its corporate responsibility in adding greenery where possible be it in a busy commercial area or in its plants.

### Square Textiles Limited

Square believes in sustainable development and gives highest priority to preservation of nature and ecological balance. The entire industry site is harmoniously integrated with the surrounding landscape and the native ecosystem of the area has been delicately preserved. We have Biological Treatment and Energy Conservation Program. State-of-the-art technology has been used in the effluent treatment plant in our dye house for biological treatment of waste. We also use comprehensive energy conservation program. This feeds back all recyclable energy into our various systems, specially for our air-conditioning purpose. Our investment in this program has made us energy efficient and environmentally conscious entity.

## 5. Summary, Conclusion and Recommendations

The present study investigated the current status of environmental reporting practices by the listed companies in Bangladesh through corporate websites. The study used a sample of 17 companies for corporate websites. A general conclusion of the study is that online environmental reporting in Bangladesh is still in its infancy. There is room for improvements in web-based environmental reporting practices.

In order to improve the situation of web-based environmental reporting in Bangladesh, following recommendations have been offered and they are as follows:

- It has been found that companies had disclosed environmental information sporadically on their websites. Therefore, companies should have, on their home page, a hyperlink to a separate page containing environmental information. Information consumers should be able to reach this page through a single click.
- Companies have been found to disclose only qualitative information about their environmental activities. They should also provide quantitative environmental information such as the amount of fines for noncompliance, the amount spent on tree plantation, the quantity of energy saved, the quantity of CO<sub>2</sub> emitted etc.
- Companies have provided only positive information about their environmental activities. They should also provide negative information so that the information has decision-usefulness for information consumers.

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