

# Environmental disclosures: A study on some selected pharmaceutical and chemical companies in Bangladesh

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## Abstract

This study attempts to address the environmental disclosure practices in listed pharmaceutical and chemical industries in Bangladesh. The authors developed a disclosure index to measure the extent of environmental disclosure prepared by companies in their annual reports. It is observed that the considerable amount of environmental information is disclosed by a few pharmaceutical and chemical companies while a large number of companies ignore the information concerning the issue. The study also found a significant variation of environment disclosures among the companies. However, this study put recommendations to the government and regulatory bodies of the concerned companies to take necessary actions in such a way that the all pharmaceutical and chemical industries of Bangladesh are motivated and compelled to address the environmental issue in their annual reports. Moreover, this will contribute to the existing literature by creating awareness among the users as well as to the preparation of the annual reports in disclosing more relevant information.

**Keywords** Environmental disclosure, Pharmaceutical and chemical industry, Bangladesh

**Paper type** Research paper

## 1. Introduction

The human beings, business organizations and other organizations of the world are closely involved with environment. The activities of people, organization and other things have direct and indirect effect on environment. Hence, the human beings cannot overlook the environment. Nowadays, due to the rapid



technological development and industrialization, the environment of the universe is highly polluted. For example, the air of most of the mega cities of Bangladesh, India and China's air is highly contaminated, and thus, people are suffered by many diseases. Now, it needs urgent steps to protect the environment from such devastating pollution and keep the atmosphere congenial to the world.

In 1972, a United Nations (UN) special agency for the first time had been formed namely UN Environmental Program (UNEP) to address the environmental issues in the global level. From then, environmental issues becoming worldwide issues. In 1987, World Commission on Environment and Development (WCED) had been formed by the UN. The WCED has published a report called "Our Common Future". This report described a new concepts 'sustainable development' and drawn attentions by the world leaders, researchers and led to the arranging of the UN Conference on Environment and Development (UNCED) in Brazil in 1992, known as "EARTH SUMMIT". Leaders from different countries attended in the conference and signed four agreement including Agenda 21. In Agenda 21, a checklist of do's and don'ts has been explained to keep the environment safe for the next century. Specially, the activities of corporate organization are properly acknowledged in this conference. After convening of the Earth Summit in Rio de Janeiro in 1992, various organizations began to intensification their interest in the environmental influences of their operating activities and people began to be acquainted with the need for complete environmental information to improve their decision-making. For this reason, there are a large number of companies that now reveal environmental issues (Belal, 2000). Furthermore, the advance knowledge of ecological system helps to develop awareness among people and business organizations and other organizations about the effects of environment in the manufacturing process (Sahay, 2004). Corporate environmental reporting is a process by which the companies reveal the environmental issues to the interested users to provide the evidence of the environmental impact on their operations (Lodhia, 2006).

Recently, the adverse effect of the economic development on the environment has become a great concern worldwide which is creating the economic, social, and political pressure gradually. Since, the accountants are the main custodian of the economic development; they should pay more attention to disclose the environmental impact of business and accounting. Therefore, nowadays, the accountants are supposed to play a significant positive role in protecting the environment.

Bangladesh is considered as the most vulnerable country from the climate-risk perspective as its environmental situation is completely

unbalanced. Air, water and sound pollution have been threatening to ecosystems, human health and sustainability in Bangladesh. The main reasons behind the air pollution are the population growth, burning of fuels by vehicles and more industrialization. Besides, the high level of sound pollution is the result of the rapid urbanization in the country. Moreover, poverty, excess population and unconsciousness are also the major causes of environmental degradation in Bangladesh, which in turn, leads towards deforestation, destructions of lands, and natural disasters ultimately (Alam, 2009).

In recent years, the increasing level of consciousness among both the public and private sectors regarding the issue of the effect of climate change has been grown up and make the organizations accountable for their socioeconomic performance. However, the study has been conducted in Bangladesh for basically three purposes. First, in developing countries like Bangladesh, there are a few researches in exploring the practice of environmental disclosures issue. Second, as the dominant sector compared to other sectors, pharmaceutical and chemicals industries are playing crucial role in disclosure issue. Finally, pharmaceutical and chemicals industry is highly contributing to sustainable development of the country. Hence, the objectives of the study are as follows:

- a) To evaluate the environmental disclosure of pharmaceutical and chemicals industry in Bangladesh.
- b) To compare the environmental disclosure among the selected pharmaceutical and chemicals companies listed in DSE in Bangladesh.

To attain the objectives of the study, the listed pharmaceutical and chemicals companies of Bangladesh have been examined empirically to find out how much the companies are concerned of the environmental issues. This study has collected and analyzed the secondary data of environmental disclosures from the annual reports of the listed pharmaceutical and chemicals companies of the country. Since, the stakeholders of the companies would like to know the impact of their business operations on the environment, it is essential to determine at what extent the companies are producing the environment-related information in their annual report for spreading consciousness. Therefore, it is expected that as much the information related to environmental disclosure is published, as much the companies will be able to create awareness regarding the environmental aspects among the stakeholders.

## **2. Literature review**

A study done by KPMG (2011) found that the level of social and environmental disclosures have been gradually increased from 2008 to 2010 in UK, Canada, Japan and US. The study took 3400 companies including the largest 250 global companies as sample from 34 countries and found that the level of disclosures among the countries were varied; the developed countries disclose more information than developing countries. Kuasirikun and Sherer (2004) conducted a study in Thailand where they found that the extent of environmental information from 1993 to 1999 has been increased.

However, in the case of Bangladesh the scenario of environmental disclosure is not very good (Ahmad, 2012). In 1990s, the Government of Bangladesh took some initiatives to improve the environmental conditions and passed an Act in the parliament namely, 'The Bangladesh Environmental Protection Act, 1995'. According to this Act companies are encouraged to disclose information about environmental pollution and its management (Belal, 2000). However, as per Company Act, 1994 under Schedule-XI, Part-II and SEC rules under Schedule Part-II, companies have to reveal the information on energy consumption in their annual report in a separate para; notes to the financial statement (Dutta & Bose, 2008).

Since, the first introduction of environmental accounting as a separate and significant branch of contemporary accounting, the field has drawn attention to the academicians and researchers. Though in Bangladesh, the concept of environmental accounting is fairly new, the level of disclosure practice in the field is quite insignificant (Ahmad, 2012; Belal, 2000; Rahman & Muttakin, 2005; Ullah, Hossain, & Yakub, 2014). Imam (2000) reported that company size and industry is a vital factor behind the voluntary reporting practices in this country. The authors also mentioned that the rules and practices of the companies are another important factor of environmental disclosure. However, the authors recommended further efforts to identify the factors influencing the social and environmental disclosure of the listed companies in Bangladesh. Belal (2000) conducted his study by analyzing the annual reports of Bangladeshi companies to see the environmental disclosure practice in the country. The base year is set in 1996. The sample size is 30% of the Bangladeshi companies that were in operation in 1996. The findings showed that the selected companies made very limited environmental disclosures in their Annual Reports. Rahman and Muttakin (2005), in their study found out that although a number of listed companies have made voluntary disclosure in terms of environmental reporting, the level of disclosure was limited to descriptive information only and that too was very limited in scope. Hossain, Islam

and Andrew (2006) found out that the very few Bangladeshi companies that actually make any effort for environmental disclosure in their reporting focus only on qualitative information.

A study conducted by Islam and Deegan (2008) on readymade garments industry in Bangladesh to assess the pressure from stakeholders, especially, from global buyers. For this purpose, they have taken interview from senior executives of garment manufacturing industries. The study found that pressure from stakeholders' especially global community on readymade garments industries, the level of disclosures have increased, significantly. On the other hand, Sobhani, Amran and Zainuddin (2009) found that banking industry disclosed more information of environmental and social issues than any other listed companies in Bangladesh. Ahmad (2012) in his study tried to shed light on the environmental disclosure practice in Bangladesh using both the primary and the secondary data source. Only 4% of the 125 companies that were sampled were found to have reported the environmental disclosure but that too is very descriptive and scattered in manner. Ullah and Rahman (2015) finds that 47.39 percent of the expected CSR items reported by listed banking companies in Bangladesh in their annual report. The study of Ullah, Hossain, and Yakub, (2014) showed that the environmental disclosure information of the textile industries is very poor. The finding of the study, hence, suggested that an Environmental Accounting & Reporting practice in the selected companies is not at all satisfactory.

Since, chemicals and pharmaceutical sectors are highly sensitive for the environment, the present study is an effort to evaluate the environmental disclosure of pharmaceutical and chemicals sector in Bangladesh. So far, any study has not been conducted in this connection.

### **3. Methodology**

#### *3.1 Sample*

The study aims to know the extent of the environmental disclosure of the listed pharmaceutical and chemicals companies operating in Bangladesh. There are 28 listed pharmaceutical and chemicals companies in DSE, of which 10 listed companies have randomly been selected.

#### *3.2 Selection of period*

The data of the present study has been collected from the 30 annual reports of the 10 pharmaceutical and chemicals companies covering the period of 2013-2015 in 2016.

### 3.3 Data sources

The research has been conducted based on the secondary data collected from the annual reports of the sample companies. Most of the annual reports have been gathered from the each company's websites while others are collected from the stock market which was unavailable in their sites.

### 3.4 Check list analysis

A check list was prepared on the basis of G4 guideline of Global Reporting Initiative (GRI) to examine the annual reports for evaluating the environmental information disclosure. However, the data set prepared for environmental disclosure consists of 18 items (Table 1 and 4) which have been categorized into two board groups. These are environmental policy items (10), environmental pollution and waste management items (8).

### 3.5 Calculation of reporting index

For computation of total disclosures both weighted and un-weighted disclosure index have been used. Coomba and Tayib (1998) mentioned that use of weighted and un-weighted disclosure index to determine the total disclosures have the tiny or no variation to the findings. As a result, in this study the un-weighted disclosure index has been used to assess the total disclosures. Researchers such as Ahmed and Nicholls (1994), Cooke (1991, 1992), Hossain (2001), Karim (1995), Ullah (2013), and Wallace, Naser and Mora (1994), followed a dichotomous procedure where '1' is given if the items is found, and '0' is given if not found. The total disclosures have been determined by using the following formula which suggested by Cooke (1992):

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

Where,

d = 1 if item di is disclosed

0 = if the item is not disclosed

n = number of items

However, the main theme of the un-weighted disclosure index is that all items of the disclosed information in the index are considered equally crucial to the average users.

## 4. Findings and analysis

To evaluate the environmental disclosure in the annual report of pharmaceutical and chemical industry a check list items has been prepared by following of G4 guideline by GRI. The check list items is divided into 2 dimensions and the following tables presented the findings of the study with explanation.

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Table-1: Environmental (e)

S/ N	Items Disclose On Annual Report	ACI		BEXIMCO		SPL		GSK		Orion		Renata		Central		IBN Sina		FAR		WATA		
		2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
1	Environmental policies	1	1	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	0	0
2	Environmental Regulations	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Involvement of Environmental Expert in business	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Environmental Audit	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Envt. Protection	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0
6	Environmental Awards	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Incorporation Of Environmental Concern into Business Decision	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Identification of contact person providing add. Info.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Energy usage info.	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0
10	Encouragement for renewable Energy consumption	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Average Disclosure		3	3	0	3	2	3	0	4	2	3	2	1	1	1	0	3	3	1	0	0	0
		2015= 2.10					2014= 2.00										2013= 0.60					

Notes: Envnt. = Environmental  
Illustration: From the above Table it is seen that, in the year 2015, the selected companies disclose 2.10 environmental items out of the 10 items. Moreover, the highest environmental items were disclosed by GlaxoSmithKline plc. (GSK) and the number of items were 4. However, the lowest items were disclosed by FAR Chemicals industry Ltd. & WATA Chemicals Ltd. and the number of item was 1.

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### 4.1 Disclosure as regards to environmental issues

To measure the level of environmental disclosure, 10 items relate with environmental issues have been identified from prior literature and GRI guideline. The results of the content analysis have been tabulated in the above Table 1:

Table 2: Items disclosed in environmental disclosure in 2015 in pharmaceutical and chemical sector in Bangladesh

Range of items	Frequency	Percentage	Cumulative Percentage
0	2	20.00%	20.00%
1-3	7	70.00%	90.00%
4-6	1	10.00%	100.00%
7-10	0	0.00%	100.00%

Table 3: Ranking of companies as per environmental disclosure score in pharmaceutical and chemical sector in Bangladesh

Rank	Company Name	Items disclosed	Percentage
1	GlaxoSmithKline plc. (GSK)	4	19.04%
2	Advanced Chemical Industries Ltd.(ACI)	3	14.28%
3	BEXIMCO Pharma Ltd.	3	14.28%
4	Square Pharmaceuticals Ltd.	3	14.28%
5	Orion Pharma Ltd.	3	14.28%
6	IBN Sina Pharmaceuticals Industry Ltd.	3	14.28%
7	Renata Limited	1	4.76%
8	Central Pharmaceutical Ltd.	1	4.76%
9	FAR Chemicals Industries Ltd	0	0.00%
10	WATA Chemicals Ltd.	0	0.00%

Table 2 & 3 show that two of the selected pharmaceutical and chemicals companies did not disclose any information regarding environmental and environmental policy in their annual report though 70% of the sample companies disclosed 2 to 3 environmental related information. Whereas, only one (10%) of the sample companies disclosed more than 3 items in the annual report in 2015. GlaxoSmithKline plc. (GSK) was in the top of rank by disclosing most items (4) regarding environment. Moreover, FAR Chemicals Industries Limited & WATA Chemicals Ltd. was in bottom of the rank as they did not disclose any information regarding environment.

### 4.2 Level of disclosure as regards to pollution & waste management (P&WM) issues

To measure the level of pollution & waste management (P&WM) disclosure, 8 items relate with pollution & waste management (P&WM) issues have been identified from prior literature and GRI guideline. The results of the content analysis have been tabulated in the Table 4:



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In addition, it is clearly seen that in the year 2015, most of selected companies disclosed most of the impotent items compare to 2014 & 2013. It means that, gradually the selected companies disclosed more information in their annual report. It is a good sign for the stakeholders.

Table 5: Items disclosed in P&WM disclosure in 2015 in pharmaceutical and chemical sector in Bangladesh

Range of items	Frequency	Percentage	Cumulative Percentage
0	3	30.00%	30.00%
1-4	7	70.00%	100.00%
5-8	0	0.00%	100.00%
Total	10	100%	

Note: Pollution & waste management (P&WM)

Table 6: Company ranking as per P&WM disclosure score in pharmaceutical and chemical sector in Bangladesh

Rank	Company Name	Items disclosed	Percentage
1	GlaxoSmithKline plc. (GSK)	3	37.5%
2	BEXIMCO Pharma Ltd.	2	25.00%
3	Orion Pharma Ltd.	2	25.00%
4	Square Pharmaceutical Ltd.	1	12.5%
5	Advanced Chemical Industries Ltd. (ACI)	1	12.5%
6	IBN Sina Pharmaceutical Industry Ltd.	1	12.5%
7	WATA Chemicals Ltd.	1	12.5%
8	Renata Limited	0	0.00%
9	FAR Chemicals Industries Ltd	0	0.00%
10	Central Pharmaceutical Ltd.	0	0.00%

Table 5 & 6 show that almost one-third (30%) of the selected pharmaceutical and chemicals companies did not disclose any information regarding pollution & waste management in their annual report though 70% of the sample companies disclosed pollution & waste management related information. However, 85.71% sample companies were disclosed only 1-2 items out of 8 pollution & waste management items in the annual report in 2015. Where GlaxoSmithKline plc. (GSK) was in the top of rank by disclosing most items (3) regarding pollution & waste management, and Renata Limited, Central Pharmaceutical Limited and FAR Chemicals Industries Limited was in bottom of the rank as they did not disclose any information regarding pollution & waste management.

### *4.3 Level of total environmental disclosure*

Considering the 10 sample pharmaceutical and chemicals companies, the study reveals the environmental disclosure from the annual report. The descriptive statistics followed in Table 7 show that the pharmaceutical and

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chemicals companies disclose 2.1 items on an average where maximum 4 items are disclosed under environmental and 1.38 items are disclosed under pollution & waste management. The highest standard deviation 1.45 is observed in the case of environmental items and lowest standard deviation 0.9944 items in the case of pollution & waste management. Moreover, minimum total disclosure items were 0 while maximum total disclosure items were 7.

Table 7: Descriptive statistics for the year 2015

	Environmental	Pollution & waste mgt.	Total Disclosure
N	10	8	18
Mean	2.1	1.38	1.78
Std. deviation	1.45	0.9944	1.31
Minimum	0	0	0
Maximum	4	3	7

Table 8: Total number of items disclosed in environmental disclosure in pharmaceutical and chemicals sector in Bangladesh

Range of items	Frequency	Percentage	Cumulative Percentage
0	1	10%	10%
1-5	8	80%	90%
6-10	1	10%	100%
11-15	0	00%	
16-20	0	00%	
Total	10	100%	

The environmental disclosure levels of the pharmaceutical and chemicals companies are very poor because of disclosing only 7 items out of 18 items. This similar situation was observed in the 80% of the sample companies while out of 10 sample companies, only one company found in disclosing 40% items related to environmental issue. Table 8 represents that 80% of the sample companies has disclosed the environment related information which is less than 40% of total items.

Table 9 shows that among the sample companies only GlaxoSmithKline plc disclosed maximum 19.04% & 37.50% of the environmental policy and pollution & waste management related information, respectively, while FAR Chemicals Industry Ltd. disclosed no information in this area. Square Pharmaceutical Ltd. and Beximco Pharma Ltd. disclosed maximum 27.77% of the environment related issues. Whereas, The IBN Sina Pharmaceutical Ltd, Advance Chemical Industry Ltd. and Orion Pharma Ltd. disclosed only 22.22% of the environmental information.

Table 9: Class-wise environmental disclosure of pharmaceutical and chemicals sector in Bangladesh in percentage

Company Name	Envirmntl	Pollution & waste mgt.	Total Disclosure
1 Adv. Chemical Industry Ltd.	14.28%	12.5%	22.22%
2 BEXIMCO Pharma Ltd.	14.28%	25.00%	27.77%
3 Square Pharmaceutical Ltd	14.28%	12.50%	22.22%
4 GlaxoSmithKline plc	19.04%	37.50%	38.88%
5 Orion Pharma Ltd	14.28%	25.00%	27.77%
6 Renata Ltd.	4.76%	0.00%	5.55%
7 Central Pharmaceutical Ltd	4.76%	0.00%	5.55%
8 IBN Sina	14.28%	12.50%	22.22%
9 FAR Chemicals industry Ltd	0.00%	0.00%	0.00%
10 WATA Chemicals Ltd	0.00%	12.50%	5.55%

Table 10: Ranking of the pharmaceutical and chemicals companies as per total disclosure score in 2015

Company Name	Envirmntl	Pollution & waste mgt.	Total Disclosure
1 GlaxoSmithKline plc	4	3	7
2 Orion Pharma Ltd	3	2	5
3 BEXIMCO Pharma Ltd.	3	2	5
4 IBN Sina	3	1	4
5 Square Pharmaceutical	3	1	4
6 Advance Chemical Industry Ltd.	3	1	4
7 Renata Ltd.	1	0	1
8 Central Pharmaceutical	1	0	1
9 WATA Chemicals Ltd	0	1	1
10 FAR Chemicals industry	0	0	0

From the above Table 10, it is seen that among the sample pharmaceutical and chemicals companies, GlaxoSmithKline plc. secured rank 1<sup>st</sup> since it revealed maximum 7 items (38.88%) in their annual report in 2015. Orion Pharma Ltd., Square Pharmaceutical Ltd., and IBN Sina Pharmaceutical Industry Ltd. secured 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> rank, respectively. Among the 10 pharmaceutical and chemicals companies, FAR Chemicals industry secured the last position since the company disclosed the lowest items of the environmental information in its annual report.

## 5. Recommendations and conclusion

The findings of the study represents that the overall disclosure of the pharmaceutical and chemicals industries is poor in general, though some of them disclose substantial information related to environmental issue in their annual report. Most of the companies of Bangladesh try to disclose the environmental information as minimum as possible because of hiding the negative impact of their activities on the environment. In addition, the

standard deviation in the disclosure is also high which indicates more variations among the companies in addressing the environmental issues. In spite of having the high tendency of environmental pollutions by the pharmaceutical and chemicals companies, only 40% of the companies disclosed less than 30% environmental information and 10% of the companies disclosed more than 50% information. To deal with the issue, the study put the following recommendations to suggest the competent authority of Bangladesh.

- a. Both the government and the regulatory authority of the companies including DGDA (The Directorate of Drug Administration) should formulate the sound rules and regulations, so that all pharmaceutical and chemicals companies are compelled to address the environment related issue in their annual report.
- b. The competent authority dealing with the environmental issues may provide the reward to encourage and motivate the companies which disclose more information regarding the environmental issue in their report.
- c. The Pharmaceutical and chemicals companies should also have specific policy. Pharmaceutical and chemicals companies in Bangladesh should implement the specific policy to deal with the environmental issues eco-friendly. In addition, the companies should finance in green projects so that they can generate energy from solar system for sustainability in the competitive world.
- d. The government, regulatory bodies and different research organizations should formulate laws and guidelines regarding pollution, protection and disclosure of environmental and social responsibility related issues in the context of Bangladesh.

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