

Tannery Industry and Its Sustainability in Bangladesh

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Abstract: *Understanding corporate sustainability is an important area of research for social and environmental researchers. Many businesses now face the challenge of sustainability with the increase of rapid awareness by the relevant stakeholders and growing concerns over the social and environmental issues. The notion of sustainability within the context of tannery industry is perceived to be more serious in terms of social and environmental perspectives. Tannery industry of Bangladesh is such a significant sector that deserves more attention from the researchers to explore the sustainability issues, however there is no such research in the context of Bangladesh to explore this issue. In this paper, we have attempted to measure the sustainability of the tannery industry by utilizing a Sustainability Information Disclosure Index (SIDI) and then we have tried to understand the disclosure quality of the tannery industry of Bangladesh. Our result shows that overall sustainability disclosure scenario of the companies in tannery industry is very disappointing (average SIDI only 25.04% during the year 2009 to 2018). Reporting on economic, environmental and social impacts are three important aspects of sustainability reporting. In this study, economic, environmental and social issues related disclosures have been found only 34.68%, 8.83% and 31.6% respectively. No disclosure has been found about ETP (Effluent Treatment Plants), water and solid waste disposal, greenhouse gas emission, pollution control equipment and policy ensuring efficiency in the use of energy and environment-friendly technologies which are very crucial for tannery industry.*

Keywords: *Sustainability, Disclosures, Tannery Industry, Bangladesh.*

1. Introduction

The rapid growth of the world population, resource limitations and the threat of climate change pose numerous economic, environmental and social problems to the world. Therefore, there is an increased attention by the researchers and practitioners about the concept of sustainability. Constant global pressure is making the companies to adopt and develop business plan and their operations considering sustainability issues. Although, social performance information, social audit, social accounting, socio-economic accounting, social responsibility accounting and social and environmental reporting have become a focal point of interest for researchers over the last thirty years, sustainability is relatively a contemporary

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issues starting from the beginning of this century. Thus, understanding corporate sustainability is a growing area of research attention both at home and abroad. Sustainability refers to the fulfillment of current demand but not doing any harm or causing potential threat to the future capacity of the resources required for coming generations (Brundtland Commission of the United Nations, 1987). Global Reporting Initiative (GRI) defines sustainability reporting as “the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development” (GRI, 2013).

Sustainability reporting provides the organizations to consider the impacts of wide ranges of sustainability issues so that they could be more transparent about the risks and opportunities they face. The GRI Standards (2016) have been recognized as the first global standards for sustainability reporting. These standards possess some features having a modular, interrelated structure, and they exhibit the best practice for reporting on various types of impacts on the economy, environment, and society. Sustainability has been broadly used in the corporate social responsibility (CSR) literature. Corporate social responsibility is a business model that acknowledges a company’s responsibilities to the stakeholders as well as to the community and natural environment where it operates its business functions. Companies perform these responsibilities in many ways; such as protecting consumers, providing quality products, adopting fair hiring policies, ensuring safe working environment, implementing pollution reduction processes, supporting educational and social awareness programs, or using employed resources efficiently. External stakeholders now a day expect that business firms will address social and environmental issues in a transparent and accountable manner. One way could be the systematic reporting of their environmental and social impact (Hopwood, 2009). An increasing number of companies are now making environmental disclosures and corporate sustainability reporting has got momentum during the last decade. To be socially and environmentally responsible, companies generally disclose information related to society, environment, sustainability, health and philanthropy in their reports (Tschopp, Wells & Barney, 2011). Behind these activities there is a huge cost involvement. Mishra and Suar (2010) concluded that companies incurred huge investment in CSR because this aggregate CSR boosts companies’ performance in three ways- increases revenue, decreases cost by duties & tax concessions, gains efficiency from eco-friendly technologies, and lower cost of capital.

Over the years CSR researchers and academics provide their attentions to some sensitive industries of the developing country such as garments industry of Bangladesh (see for example, Islam and Deegan, 2008; Kamal and Deegan, 2013). Most of the CSR research in the context of Bangladesh was conducted in the garments sector because of its importance to

the foreign buyers and their concerns about CSR issues such as health and safety, working condition, labor rights etc. While there are some other sensitive sectors within Bangladesh that also warrant research attention because of their huge social and environmental impact. One such sector is the tannery industry of Bangladesh. Unfortunately, there is a lack of research in this field particularly investigating the sustainability issues of this industry. Another significant development of this industry is that government has recently decided to shift this industry from Hazaribag to Savar. Although government provided some incentives and even announced some punitive measures for those who would not shift, some factories are still operating in Hazaribag, it seems that this industry does not address the sustainability issues properly. Given the socio-economic significance of this industry, this study aims to explore the nature and extent of sustainability information disclosures by listed companies in tannery industry of Bangladesh. Based on our analysis we have provided some recommendations for more sustainable tannery industry.

2. Context of the Research

Tannery industry of Bangladesh consists of tanning & finishing; footwear & footwear components, leather accessories and leather goods (bags, wallets, belts, etc). Bangladesh provides around 3% of global leather and leather products market. It is agro-based export oriented industry and almost 95% of total production is being exported. After RMG sector, tannery industry is the second largest foreign currency earning sector in Bangladesh. In the FY 2018-19, leather and leather goods contributed \$1.01 billion to the export earnings of Bangladesh (Export Promotion Bureau).

Tannery industry started its journey in Bangladesh in 1940s by renowned industrialist R.P. Shaha in Narayanganj. Later, this industry was moved to Hazaribagh area in Dhaka. Alam (2019) noted that on 3rd October 1951, the East Pakistan Government shifted the leather industry from Narayanganj to Hazaribag. Only 30 tanneries were in Dhaka in the year 1965. To improve the standards of manufacturing by providing better production facilities and to save the environment specially to save the Buriganga river that has been polluted due to industrial waste dumping by tannery firms, the government took a project to shift tannery from Hazaribagh to Savar in the year 1994. Due to several limitations in Savar, up to 2015, almost 186 out of 206 tanneries used to operate their functions in Hazaribagh area in Dhaka. About 84% of the total supply of hides and skins were processed in a highly congested area of only 70 acres of land in Hazaribagh. In April 2017, according to an order by high court, the government disconnected power and gas supply to all the tanneries in Hazaribagh to relocate them to Savar Tannery Industrial Park. After that around 155 tanneries were moved to the 200-acre Tannery Industrial Park in Savar. At present there are 206 tanneries in Bangladesh having capacity to produce about 400 million square feet of wet-blue hides, 300 million square feet crust leather and 140.39 million square feet of finished leather per year (Leather

Sector Business Promotion Council – LSBPC, 2020). Raw materials for this sector are also locally available in Bangladesh. For example, hides and skins are core raw materials for this sector. Of the 300 million square feet crust leather, 64% are produced from cow hides, 31.82% goat skins, 2.25% buffalo hides and 1.10% sheep skins.

Tannery industry is playing an important role in the creation of employment opportunities. At present, total direct employment opportunities in the tannery industry is more than 76,600 and total indirect employment opportunities in this industry is more than 2,30,000 (Business Promotion Council, 2020). At present, total direct employment opportunities in the tannery sub-sector of Bangladesh is about 15,000. In footwear sub-sector where 25 mechanized footwear factories are operating in Bangladesh, whose production capacity is 32.17 million pairs annually, provides total employment of 15,000 persons and about 4,500 small and cottage (Artisan) units, whose production capacity is 146.57 million pairs annually, provides 36,400 employment opportunities. In leather goods sub-sector, employment opportunities are 10,200, in which 5 large and about 15 medium and small mechanized units having production capacity of 1.37 million pieces, provides 1,200 employment opportunities and more than 1500 small non-mechanized units having production capacity of 6.13 million pieces provides 9,000 employment opportunities (Business Promotion Council, 2020).

In Bangladesh economy, the second largest foreign exchange earning sector is leather and leather goods sector (FY 2018-19). In the FY 2018-19, Bangladesh earned \$1019.7 million by exporting leather and leather goods. It was the only second sector earning more than 1 billion USD after RMG. In the year 2018-19, out of 1019.7 million US dollar, finished leather contributed 164.62 million USD, leather products contributed 247.28 million USD and footwear contributed 607.88 million USD. From the Table 1 we can see that its contribution to the total export earnings was consistently increasing up to FY 2014-15 (average growth rate 23.72% up to FY 2014-15) then it continues to decline making \$1019.7 million in FY 2018-19. The main reasons for declining foreign earnings from this sector during last few years were interruption in production due to shipment from Hazaribagh to Savar Tannery Industrial Park and environmental non-compliance due to absence of Central Effluent Treatment Plant (CETP). For these two reasons, western buyers placed less orders which resulted in less foreign currency earnings from this sector. For example, Alam (2019) noted that branded companies from Japan, the US and Europe are not importing leather or leather products from Bangladesh. However, due to continuous pressure from the government, CETP is now almost at the final stage of completion and working at 90% efficiency level (Alam, 2019). So we are hopeful that foreign earnings from this sector will increase in the future.

Table 1: Leather and Footwear Export Short Scenario

Year	Leather and Footwear Export (In million US dollar)	Growth Rate (%)	Total Export (In million US dollar)	Leather and Footwear as % of Total Export
2008-09	379.9		15565.19	2.44
2009-10	459.25	20.89	16204.65	2.83
2010-11	651.05	41.76	22928.22	2.84
2011-12	765.03	17.51	24301.9	3.15
2012-13	980.67	28.19	27027.36	3.63
2013-14	1295.74	32.13	30176.8	4.29
2014-15	1319.98	1.87	31208.94	4.23
2015-16	1160	-12.12	34257.18	3.39
2016-17	1230	6.03	34655.9	3.55
2017-18	1080	-12.2	36668.17	2.9
2018-19	1019.7	-5.58	27562.8	3.7
Average	940.12	11.85	27323.37	3.36
<i>Source: Export Promotion Bureau, Bangladesh</i>				

Like other vulnerable industries operating within the developing countries, this industry attracted a lot of social and environmental criticisms from researchers and environmentalists for decades. Due to increasing criticism, the mere sustainability of this industry is a threat from different perspectives, as sustainability is considered as one of the most significant challenges society facing today. Its sustainability is threatened by various social and environmental aspects. For example, though tannery industry plays a vital role in the economy of Bangladesh by earning foreign currency and creating employment opportunities, it has also huge negative environmental effects. River pollution is considered as one of the top environmental problems in the developing countries like Bangladesh due to the dumping of tannery waste. Tannery waste including mercury, cadmium, and chromium contamination are mainly responsible for river pollution in the adjacent areas. The Buriganga River in Bangladesh is considered as one of the worst polluted rivers in the world. The main reason for this pollution is tannery industry surrounding the Buriganga River. These tanneries are releasing various industrial wastes along with toxic chemicals including cancerous chromium (22,000 liters /day) indiscriminately to the Buringanga River without any treatment (Ministry of Environment). The total waste disposal area is about 25 hectares where there is slum area with 20,000 residents residing in unhealthy conditions (Mohanta, Saha and Hasan, 2012).

For the betterment of society and environment, Bangladesh enacted several regulations that mainly focus on the conservation of natural resources, environment pollution control, solid waste management, and employee welfare etc. Existing regulatory standards relating to social, environmental and economic issues are given below –

1. The Environment Pollution Control Ordinance, 1977
2. The Environment Policy, 1992
3. The Environment Action Plan, 1992
4. The Companies Act, 1994
5. The Bangladesh Environment Conservation Act, 1995
6. The Environment Conservation Rules, 1997
7. The National Policy for Water Supply and Sanitation, 1998
8. The Urban Management Policy Statement, 1998
9. The Private Sector Infrastructure Guideline, 2004
10. The National Industrial Policy, 2005
11. The Lead Acid Battery Recycling and Management Rules, 2006
12. The Bangladesh Labor Act, 2006
13. The Bangladesh Workers Welfare Foundation Act, 2006.

Although tannery industry provides an important contribution to the export earnings of the country, it is exposed to various social and ethical issues in addition to the environmental hazards as noted above. There are some allegations of using child labor and forced labor in this industry. There is a serious lack of environment-friendly procedures in the production process. As the world is now moving towards a more sustainable dimension, corporate social responsibility and sustainability have become more prominent for businesses. It is particularly important for industry that is known to be hazardous for their production process. The next section provides some previous literatures on sustainability pertaining to this industry.

3. Prior Research

Sustainability reporting has been researched by various scholars and organizations. Some have explored sustainability reporting in a worldwide concept while others have adopted a country or sector specific approach. There has been significant research about sustainability reporting in the popular sectors such as oil and gas, energy, airlines, automotive, chemicals etc. However, research of sustainability reporting practices with regard to the tannery industry is profoundly lacking. For that reason, the tannery industry has been chosen as a

suitable sector for research regarding sustainability reporting. Global tannery industry is currently experiencing strict environmental law, restrictions on some specific chemicals used to leather processing, and increasing testing & certification cost (Sing and Gupta, 2013). Even sustainability is also a big question for this industry. At present, firms giving equal importance to both profitability and sustainability are increasing day by day (Sing and Gupta, 2013). These firms believe that sustainability helps to increase their profit by creating long-term shareholder value (Buyukozkan and Berkol, 2011). To create long-term shareholder value, a firm must incorporate the economic, social, and environmental goals (Schaltegger et al., 2011). However, many researchers advocate that sustainable growth for the tannery industry will not be possible unless it welcomes modern technologies to stop and alleviate the challenges of pollution (Walker et al., 2014; Mejías et al., 2016; Abdul-Rashid et al., 2017).

Globally, public have a negative view on tannery industry for being responsible to pollute the environment (Gupta et al 2017). Blacksmith Institute and Green Cross Switzerland released a report titled “2012 World’s Worst Pollution Problems” by highlights the environmental problems of the leather industry globally (Gupta et al. 2017). Because of rigid environmental regulations, a remarkable number of developed countries like USA, Germany, and UK have transferred their tannery industries to other developing countries around the world (Savino et al., 2015). To understand the sustainability of this industry, Gupta et al. (2017) used case study approach for investigative analysis, and triangulation method – interviews and field visits, for data verification. They examined various sustainability strategies by applying economic value creation (evaluation of growth in total turnover, evaluation of the growth in profitability, evaluation of leverage), social value creation (evaluation of the growth in wages, evaluation of the growth in employee welfare expenses), and environmental value creation (conservation in raw material consumption, conservation in energy consumption, evaluation of waste management practices). Their results indicate that three Indian states, namely, Tamil Nadu (TN), West Bengal (WB) and Uttar Pradesh (UP) differ significantly from each other both in terms of efforts made and progress achieved in terms of sustainability of the leather industry during the period of study (1998-2013).

Since raw materials and resources are becoming scarce gradually, the growing consciousness and new regulations are persistently forcing the companies to innovate new environment friendly technologies. A company now needs to consider sustainability issues in their business operations. To achieve that goal, companies are required to develop, adopt and implement various sustainable policies & procedures that benefit them to create competitive business position in the industry. Sing and Gupta (2013, p.34) noted three dimensions of sustainably:

---For social sustainability, products should be designed in a way such that they should satisfy customer’s needs and wants. For economic sustainability, the firms should look towards gaining maximum profits but resources and raw materials must be utilized in the best possible way. For environmental sustainability, firm should not rely more on non-renewable whereas available resources and renewable must be utilized optimum.

In this paper, we have also used three dimensions of sustainability as prescribed by many researchers including Sing and Gupta (2013), Minguel (2017) and GRI Standards (2016). These three dimensions of sustainability have been used by many researchers to understand the overall sustainability of the various sectors. However, this notion of sustainability have not yet been used by any researchers for the textile and leather industry of Bangladesh. In the context of Bangladesh, we find a very interesting and highly cited paper by Belal et al., (2015). Using the notions of vulnerability and ecological rifts the authors conducted an empirical study by providing evidence from published sources and a series of 32 semi-structured interviews with Bangladeshi stakeholder groups and find that there is a significant corporate reluctance on the part of corporations to take responsibility for the environmental impact of their business activities. In this paper they specially noted the adverse environmental costs of economic growth of Bangladesh via export oriented industries such as textile and leather processing. The authors provide the following quotes (Belal et al., 2015, p. 11):

---the environmental havoc created, by the export oriented tannery and leather companies, in the poor neighborhood of Hazaribagh in Dhaka is a case in point. A recent Guardian report (Renton, 2012) captured the condition of Hazaribagh in the following words: "Bangladesh's toxic tanneries turning a profit at an intolerable human price". The reporter notes this was a pleasant neighborhood (Hazaribagh means "thousand gardens") but there is no flower now instead there is an unbearable smell and toxic wastes have made the neighborhood uninhabitable. This is an industry which earns half a billion pounds a year and supplies cheap shoes and bags for the affluent customers of developed countries.

From the above quote, it is clearly understandable how much social and environmental hazards this industry has created to the neighboring areas.

From the review of the above relevant literature, it is perceived that there was a lack of research attention regarding the exploration of sustainability issues of the tannery industry of Bangladesh though it is an environmentally sensitive industry of Bangladesh. Thus, the authors of this paper find a research gap in the literature and attempted to bridge the gap by exploring the sustainability issues of the tannery industry. The next section provides the research methods followed in this study.

4. Research Methods

For the purpose of this study, we have collected data from secondary sources mainly from annual reports of the selected companies. At present, there are about 206 small, medium and large tanneries in Bangladesh. But only six companies are listed in the Dhaka Stock Exchange (DSE). These are Apex Footwear Ltd (Co. no. 23619), Apex Tannery Ltd (Co. no. 23601), Bata Shoe Company (Bangladesh) Limited (Co. no. 23603), Fortune Shoes Ltd (Co.

no. 23637), Legacy Footwear Ltd (Co. no. 23636) and Samata Leather Complex Ltd (Co. no. 23634). In our study, all these listed companies have been considered since their annual reports are available. As Fortune Shoes Ltd listed in the DSE in 2016, we have analyzed only 2017 and 2018 annual report of it. Moreover, complete annual reports of Apex Footwear Ltd (2009 and 2016), Samata Leather Complex Ltd (2018), Legacy Footwear Ltd (2017 and 2018) have not been found. So we excluded these annual reports from our analysis. Total 47 annual reports of six listed companies covering period 2009 to 2018 have been collected and analyzed. These six listed leather and footwear companies undertook around 15% of total leather and footwear exports in 2018.

To identify the extent of sustainability information disclosures practices in tannery industry, an index named Sustainability Information Disclosures Index (SIDI) has been developed considering total 60 issues - 20 for social, 20 for environmental and 20 for economic related issues (see appendix). Since there is no such index available, we have developed SIDI index with the consultation of some prior research e.g. Gray, Kouhy and Lavers (1995), Belal (2000), Hossain, Islam and Andrew (2006), Belal, Kabir, Cooper, Dey, Khan, Rahman and Ali (2010) and Kamal and Deegan (2013), Sing and Gupta (2013), Minguel (2017), and GRI Standards as well as existing legal framework of Bangladesh like the Bangladesh Labor Act 2006, the Bangladesh Workers Welfare Foundation Act 2006, the Companies Act 1994 and the Securities and Exchange Rules 1987.

While developing our index (SIDI) we did not differentiate between mandatory and voluntary disclosures and hence the ‘lower disclosures’ do not necessarily represent ‘poorly sustainable’ as straight forward. To get better understanding of sustainability, one has to go through the details of the SIDI items available in the appendix. So this is the limitation of the study that we need to acknowledge here.

In this study, content analysis has been used to identify the sustainability information disclosures. All the sections of the annual reports have been carefully examined manually. We have developed a scoring scheme. There are various approaches available to develop a scoring scheme. Generally, two approaches are – weighted disclosure index approach and un-weighted disclosure index approach. In our index, un-weighted disclosure index has been used. For scoring purpose each company disclosing an item gets a score of 1 otherwise 0. And finally an individual company’ SIDI is calculated as follows-

$$SIDI = \frac{\text{Total number of items disclosed by each company}}{\text{Total number of items included in the index}} * 100$$

5. Content Analysis Results

Most of the social, environmental and economic disclosures have been made in the companies’ mission/vision statements, chairman’s statements and report on corporate social

responsibilities. To determine the level of social, environmental and economic disclosure we have calculated SIDI score. Table 2 shows the overall sustainability disclosure scenario of the six companies in tannery industry sector has resulted very disappointing - average SIDI of 25.04% only. The highest SIDI was only 40% for Apex Footwear Ltd. Three companies' SIDI out of six was below 15%. Based on this index, Apex Footwear Ltd and Apex Tannery Ltd ranked 1st and 2nd respectively followed by Bata Shoe Company (Bangladesh) Ltd, Fortune Shoes Ltd, Samata Leather Complex Ltd and Legacy Footwear Ltd.

Table 2: SIDI of companies

Companies	SIDI (%)	Rank
Apex Footwear Ltd	40.00	1
Apex Tannery Ltd	36.67	2
Bata Shoe Company (Bangladesh) Ltd	28.83	3
Fortune Shoes Ltd	14.17	4
Samata Leather Complex Ltd	12.04	5
Legacy Footwear Ltd	8.13	6

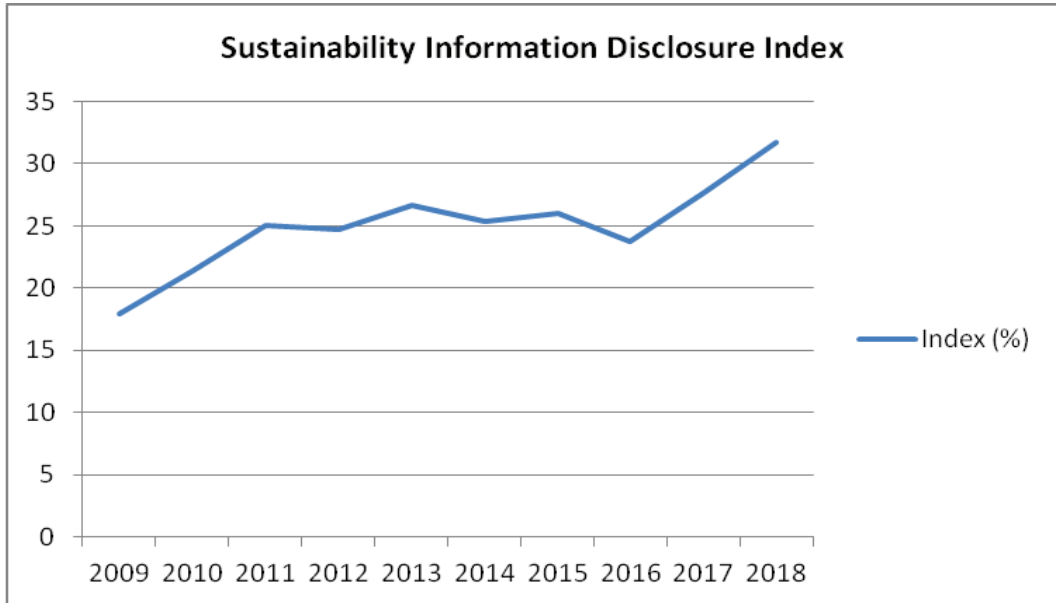
While reviewing the disclosures of individual companies, we have found that Apex Footwear Ltd and Apex Tannery Ltd have disclosed relatively more sustainability related information in all the years except 2009. During the year 2009-2018, Apex Tannery Ltd ranked 1st in the years 2010, 2016 and 2017 and Apex Footwear Ltd ranked 1st in the years 2011 to 2015 and 2018 based on sustainability information disclosure index (SIDI). Bata Shoe Company Ltd ranked top only in the year 2009 in terms of SIDI.

Table 3: Company-wise SIDI by Year

Year	Apex Footwear Ltd	Apex Tannery Ltd	Bata Shoe Company (Bangladesh) Ltd	Fortune Shoes Ltd	Samata Leather Complex Ltd	Legacy Footwear Ltd
2009	N/A	23.33	30.00	Listed in DSE in 2016	6.67	11.67
2010	30.00	36.67	26.67		6.67	6.67
2011	41.67	40.00	28.33		8.33	6.67
2012	41.67	35.00	30.00		8.33	8.33
2013	46.67	36.67	28.33		15.00	6.67
2014	38.33	36.67	28.33		15.00	8.33
2015	40.00	36.67	28.33		16.67	8.33
2016	N/A	38.33	31.67		16.67	8.33
2017	38.33	41.67	28.33	15.00	15.00	N/A
2018	43.33	41.67	28.33	13.33	N/A	N/A

Though tannery industry started its journey in 1940s in Narayanganj by RP Shaha, then it was moved to Hazaribagh in 1951 (Alam, 2019). Keeping the adverse effects of environment in mind, policy makers considered the issue of relocation of the Hazaribagh tanneries in the year 1991. Initially there was a plan to relocate tanneries to Kanchpur area near Sonargaon but finally in 1994 it was decided to shift tanneries to Savar. Environmentalist argues about location selected and developed for the tannery industry due to the adjacent River Dhaleshwari and crops lands. There is a possibility that Dhaleshwari River will be in the same condition as Buriganga River. Besides, there were lots of limitations at Savar that's why tannery owners were not interested to shift to Savar. A committee consists of fourteen members whose head was the joint secretary of the ministry of industry, arranged a meeting occurred on September 25, 2008 and decided that all the tanneries shall transfer from Hazaribagh by February 2010. The honorable High Court Division on June 23, 2009 asked the government to ensure relocation of the tanneries from Hazaribagh by February 28, 2010. The deadline had been extended to December, 2016 by the Court upon request by the government and the tanners. Initially government denied to bear the cost of relocation and construction of Central Effluent Treatment Plant (CETP), however since 2013 there had been an initiative to restart the shifting process again and the government agreed to fund the central treatment plant, and compensate the tanners for the shifting. Up to 2016, there was no progress of shifting process to Savar. On April 8, 2017 the government authorities disconnected all utilities connections in Hazaribagh in compliance with an order of High Court in a public interest litigation filed by the Bangladesh Environment Lawyers Association (BELA) for action against industries creating pollution including tanneries in Hazaribagh. After that tanneries were bound to shift their factories to Savar. Around 155 tanneries have already moved to Savar (Shehab, 2019).

During the period 2009 to 2018, several decisions have been made to move tanneries to Savar. We are intended to know how much those decisions have been effective and whether those changes have played any significant role on sustainability disclosures. From the following graph, we can see the lowest sustainability disclosure in the year 2009 (17.92%) and highest disclosure in the year 2018 (31.67%) with second highest in the year 2017 (27.67%). That means during previous 10 years social, environmental and economic disclosure has been increased by 13.75%. So it is positive that companies are at least realizing the importance of sustainability disclosures.



In looking at the disclosure categories, we have found that social issue related disclosures have been made almost 31.6%, environmental issue related disclosures made only 8.83% which is really disappointing during the study period and economic related disclosures have been made almost 34.68%. In case of partnership with charitable organization and donation to the charity, arts and sports under social disclosure, it is seen that only 59.57% of our samples have disclosed this information in their annual report and only 42.55% annual reports have disclosed employment data. Human resource development, training program related information have found in 57.44% of our sample annual reports. But specific monetary amount has not been found for these human resource development programs.

On October 3, 2019 in the Savar Tannery Industrial Estate, a barrel of sulphuric acid tipped over at a factory that burnt four workers and it took four hours to get them hospitalized that was too late for one of them (The Daily Star, January, 2019). This event shows the ignorance of the safety of workers at their work place. Companies promising to provide desirable and rewarding place to work have been found in only 21.28% of samples. Information related to safety department has not been found in any surveyed reports. Only 4 out of 47 reports (8.51%) show that they have been awarded for socially responsible practices whereas 8 of 47 annual reports (17.02%) have disclosed information about getting award for their brand. No information has been found related to day-care support, maternal and paternal leave, the safety of the company's product, per employee statistics, e.g. assets per employee and sales per employee.

According to Bangladesh Labor Act, 2006 every worker has the right to participate in company's profit/benefits. To ensure the workers share in the profits of a company, the company shall establish participatory fund and welfare fund in accordance with section 234 of Bangladesh Labor Act, 2006 and workers' welfare foundation fund in accordance with Bangladesh Workers Welfare Foundation Act, 2006. According to section 234 of Bangladesh Labor Act, 2006 (Amendment in 2013) companies shall pay 5% of net income of the earlier year to the 3 funds namely participatory fund (80%); welfare fund (10%) and workers welfare foundation fund (10%). This should be done within 9 months after ending of accounting year. In our study, we have got workers' profit participation fund (WPPF) in 76.60% of our sample annual reports. Table 4 shows tannery companies' contribution to workers' profit participation fund (WPPF).

Table 4: Workers' Profit Participation Fund (WPPF)

Company	Workers' Profit Participation Fund (WPPF)	Percentage of Net Income
Apex Footwear Ltd (2018)	BDT 12,188,308	5%
Apex Tannery Ltd (2018)	BDT 3,104,000	5%
Bata Shoe Company (Bangladesh) Ltd (2018)	BDT 73,992,658	5%
Fortune Shoes Ltd (2018)	-	-
Samata Leather Complex Ltd (2017)	-	-
Legacy Footwear Ltd (2016)	BDT 80,457	5%

According to Schedule-XI, Part-II, Companies Act 1994, separate disclosure is required for the expenditures on power & fuel, and workmen & staff welfare expenses. The Securities and Exchange Rules, 1987, also require that the amount spent on the use of energy has to be shown in the notes of the financial statements under a separate head of expenditure. It is found that all 47 annual reports have disclosed the expenditure on energy usages in the notes of the financial statements under separate head of expenditure. Welfare expense also found in all annual reports except Fortune Shoes Ltd (2017 and 2018) and Samata Leather Complex Ltd. (2017). Table 5 shows amounts of energy expenditure and staff welfare expenses of our studied companies.

Table 5: Use of Energy and Welfare Expenses

Companies	Use of Energy		Staff Welfare Expense	
	Amounts in BDT	Percentage of Revenue	Amounts in BDT	Percentage of Revenue
Apex Footwear Ltd (2018)	205,283,802	1.29	3,245,423	0.02
Apex Tannery Ltd (2018)	3,777,138	0.16	3,323,311	0.14
Bata Shoe Company (Bangladesh) Ltd (2018)	148,690,736	1.56	15,882,748	0.17
Fortune Shoes Ltd (2018)	780,416	0.06	-	-
Samata Leather Complex Ltd (2017)	1,956,223	3.88	-	-
Legacy Footwear Ltd (2016)	986,163	2.44	9,520	0.02

The environmental effects of tannery industry are known to all. A report, by the Bangladesh Society for Environment and Human Development, shows that tannery chemicals are posing threat to about half a million people of Hazaribagh and making them to face serious diseases related to gastro intestine (58%), dermatology (31%), hypertension (10%), and jaundice (10%). 90% of these workers die before 50 years of age and about 25% of these workers are under 11 years of age (Mohanta et al., 2012). Given these situations only 3 companies out of 6 have acknowledged about environmental pollution issues in any one of their last ten years annual reports. These companies are Samata Leather Complex Ltd., Apex Tannery Limited and Apex Footwear Limited. Bata Shoe Company (Bangladesh) Limited, Fortune Shoes Limited and Legacy Footwear Limited did not acknowledge the environmental pollution issues in their annual reports. It is surprising that no companies disclose any information about ETP (Effluent Treatment Plants), water and solid waste disposal, green-house gas emission, pollution control equipment and policy ensuring efficiency in the use of energy and environment-friendly technologies. Only one company (Apex Footwear Ltd) of our sample (2.13%) has made campaign for environmental awareness and awarded for environmentally and socially responsible practices in the years 2011, 2012, 2015 and 2018. To recover these bad effects of tannery industry, just two companies (Apex Footwear Ltd in 2017 and 2018 and Apex Tannery Ltd in 2010 and 2011) have taken some initiatives to make tree plantation which is carrying only 8.51% weight age. However, they did not mention specific monetary amount for tree plantation campaign.

Along with social and environmental issues, economic aspect is another important element of sustainability reporting. Under this aspect companies disclose information relating to

financial results, market presence and procurement practice. Disclosing various policies and strategies formulated or planning to formulate for efficient use of available resources is another part of economic aspect of sustainability index. Here, it is found that 38.30% of samples have disclosed information related to how it directly generates economic value and how it distributes it. Around 50% companies have disclosed data related to resource efficiency, employees' retirement benefit plan obligation, investment in infrastructure, internal & external risk factors, indirect economic impacts and related financial & economic uncertainty. No company has been found mentioning its turnover, profitability and providing information compared to the industry average data, the standard entry level wage by gender compared to local minimum wage, information related to the proportion of senior management hired from the local community, the choice of technology for future growth and the threat to sustainability.

Table 6 represents year by year disclosure pattern of social, environmental and economic related issues and Table 7 shows disclosure category by companies.

Table 6: Year by Year Disclosure Pattern

Year	Social Issues (%)	Environmental Issues (%)	Economic Issues (%)
2009	22.5	5	26.25
2010	26	9	29
2011	34	9	32
2012	32	8	34
2013	31	12	37
2014	33	8	35
2015	33	9	36
2016	30	8.75	32.5
2017	33	9	41
2018	41.25	10	43.75
Average	31.6	8.83	34.68

Table 7: Disclosure Categories by Companies

Companies	Social Issues (%)	Environmental Issues (%)	Economic Issues (%)
Apex Footwear Ltd	51.25	15	53.75
Apex Tannery Ltd	43	13	54
Bata Shoe Company (Bangladesh) Ltd	50	5.5	31
Fortune Shoes Ltd	10	2.5	30
Samata Leather Complex Ltd	7.78	7.22	21.11
Legacy Footwear Ltd	6.88	5	12.5

The reasons behind these significant differences among the companies will be addressed in the forthcoming research.

6. Policy Recommendations and Concluding Remarks

In this paper, we have attempted to understand the sustainability issues of the tannery industry of Bangladesh. As noted by highly cited research paper such as (Belal et al., 2015), this industry is an important area that deserves more research attention from the scholars of social and environmental discipline. However, there was a lack of research in this particular area. Especially, we find no research so far in our knowledge that focuses on the sustainability of this industry. As we discussed in the literature review part, there are three main sustainability dimensions which are economic, social and environmental. In this paper, we have attempted to prepare an index called SIDI to understand the disclosure pattern of the sustainability information across these three dimensions. We have found that the listed tannery companies of Bangladesh provide with an average 25% of sustainability information.

However, we noted that the environment related information lacks with other two categories of information. We have found approximately 9% in environmental category. Imam (2000) also found that 31 out of 40 companies did not show any concern for environmental issues. These finding has huge implications given that Bangladesh government has taken a series of measures to relocate this industry from Hazaribugh to Savar and even provided various incentives to make them socially and environmentally compliant. Still there is a lack of compliance issues pertaining to environmental sustainability.

In case of environmentally sensitive industry, effluent treatment plant is very demanding requirement. But unfortunately in our country most of the companies do not provide information about effluent treatment plant to the stakeholders through annual reports. A study

by Belal et al., (2010) found that only 5% of companies disclosed that they had an effluent treatment plant and no disclosure in the significant categories such as GHG emissions. We also found very little information about the implantation of ETP.

In Bangladesh, the disclosure of energy usages is mandatory disclosure requirement by the Companies Act, 1994, and the Securities and Exchange Rules, 1987. A study carried out by Belal (2000) showed that 3 companies out of 30 companies did not disclose energy usage and no companies in the public sector disclosed any information related to the environment other than expenditure on energy usage. Similar result was also found by Belal et al., (2010) in their study. In our study we found that all companies disclose energy usages information in their annual reports.

There was no separate section for social and environmental information. Few companies have corporate social responsibility reporting section. All the information disclosed in the chair's statement, directors' report, corporate social responsibility and in the notes to the accounts section. Almost same situation was found by Imam (2000), Kamal and Deegan (2013).

Based on our research findings, we can suggest some policy recommendations. First of all, there is an inherent apathy from the tannery owner's side regarding the price of raw-hide. For example, in the recent festival of Eid-ul-Adha (2019), there was huge chaos about the price of the raw hide as we saw many sellers just buried their raw-hide as the price was too low to sell and cover their costs. So the concerned authority should take this into consideration and try to find out the real reason of this price fall and if possible try to provide incentive to these small and medium hide merchants in addition to the tannery owners. This will revitalize the hide business from the ground level.

From our analysis, we have found that there is a serious lack of interest of the tannery owners to the usage and implementation of ETP. Most of them are not using ETP showing the excuse of high price of establishment of such logistics. Our suggestion is that the companies can make a consortium or syndicate and they can afford ETP collectively. This is of course, a voluntary measure. So it is less likely to work out with the socio-economic context of Bangladesh. In that case government and the relevant ministry can impose high penalty which may compel the tannery company to use and implement the ETP, either individually or collectively.

Last but not the least; strict policy needs to be formulated for the tannery industry so that they could make compliance with it. We suggest our SIDI that could be adopted by the companies and if they comply with all of these economic, social and environmental sustainability indicators, they will eventually be a compliant factory. Such a compliance regime will not

only provide benefit to them in the short run but also this would help the industry in the long run to become more sustainable in future.

We understand that due to current Covid-19 pandemic, every business and every economy falls into huge crisis both domestically and internationally. Tannery industry is not spared as well and its sustainability gets a huge threat from this pandemic perspective. Future research can be conducted to understand more deeply how this industry is being affected due to Covid-19 pandemic and what measures can be taken to overcome such natural calamity in future. We did not use any theoretical lens in this paper, however, we think, future research can be conducted by considering legitimacy or stakeholder theory to further explain the sustainability of this industry.

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Appendix: Sustainability Information Disclosures Index (SIDI)

Social Issues

1. Partnership with and Donations to the charity, arts, sports, etc
2. Children's Program- Shoe donation and others
3. Human Resource Development (e.g. Training Programme/Scheme)
4. Employment data
5. Employee health and other welfare expense
6. Employee benefits program/ Pension commitment
7. Workers' profit participation fund (WPPF)
8. Sponsoring educational conferences, seminars. Or art exhibitions
9. Promise to quality improvement
10. Product development
11. Promise to provide desirable and rewarding place to work
12. Information about support for day-care, maternity and paternity leave
13. Program to create social awareness about various issues
14. Award for quality product/brand award
15. Providing information on the safety of the company's product
16. Establishing a safety department/committee/policy
17. Awards for socially responsible practices
18. Information about reducing or eliminating pollutants, irritants, or hazards in the work environment
19. Information about complying with health and safety standards and regulations
20. Providing per employee statistics, e.g. assets per employee and sales per employee

Environmental Issues:

1. Acknowledgement about environmental pollution issues
2. Environmental awareness campaign
3. Environmental awards such as awards for environmentally responsible practices
4. Production facilities designed as harmonious with the environment
5. Installation of effluent treatment plants
6. Product impacts on environment
7. Environmental policies or company concern for the environment
8. Forestation programs
9. Energy usage.
10. Targets and performance data
11. Water discharge information

12. Solid waste disposal information.
13. Recycling plant of waste products
14. Disclosing energy savings resulting from product recycling
15. Information about greenhouse gas emission
16. Past and current expenditure for pollution control equipment and facilities
17. Future estimates of expenditures for pollution control equipment and facilities
18. Research on new methods of production to reduce environmental pollution
19. Statement indicating that pollution from operations has been or will be reduced
20. Company has policy promoting efficient use of energy and environment-friendly technology

Economic Issues

1. Company specifically mentions about its turnover, profitability and provides information in compare to the industry average data.
2. Company discloses information relating to how it directly generates economic value and how it distributes it
3. It provides information on risks and opportunities due to climate change
4. It provides information on benefit plan obligations and other retirement plans
5. If it receives information pertaining to any financial assistance from the government
6. It discloses the standard entry level wage by gender compare to local minimum wage
7. It provides information relating to the proportion of senior management hired from the local community
8. It provides information on investment in infrastructure and services
9. It provides information on indirect economic impacts
10. It provides information on future competitiveness
11. It provides information on the economic impact on stakeholders
12. It provides information about resource efficiency
13. It provides information on the choice of technology for future growth
14. It has a policy regarding to damage posed by emissions and waste
15. It has a policy regarding the equity within the company
16. It has a policy regarding how to reduce direct or indirect cost or maintenance cost
17. It provides information about the quantity of products sold and their comparison with previous years data
18. It provides a commentary or explanation about internal and external risk factors
19. It provides information regarding to the threat to sustainability
20. It provides information about any financial and economic uncertainty.