

# Corporate Governance Practices and Environmental Reporting: A Study of Selected Listed Companies in Sri Lanka

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**Abstract:** The objective of this study is to investigate the relationship between environmental reporting practices and corporate governance attributes of listed companies in Sri Lanka. It examines the 2011 annual reports of the largest 75 Sri Lankan companies listed on the Colombo Stock Exchange (CSE) to determine the amount of environmental reporting and these data are compared with various corporate governance measures.

Maintaining good corporate governance and sound environmental performance are among the key challenges facing the organization to ensure its sustainability. Overall, it was found that the existence of environmental reporting practices is high. The most significant corporate governance measures in influencing the extent of environmental reporting is board size. The finding provide limited evidence to support that, companies which comply with corporate governance practice have the tendencies to be more environmentally responsible.

**Keywords:** Corporate Governance, Environmental Reporting, Sri Lankan Listed Companies, Performance

## Introduction

Traditionally, corporate reporting practices have focused exclusively on providing financial information to stakeholders (Mauders & Burritt, 1991). Later on, with the changes in social value and technical knowhow, stakeholders are more concerned about the social and environmental protection and sustainable development. Thus, stakeholders demand information on the social and environmental impact of business

activities in addition to the traditional financial reports. Consequently, with an understanding of “stakeholder’s rights” and “organizational legitimacy” environmental reporting practices at firm’s level have been increasing over the last few years all over the world.

Companies in Sri Lanka and worldwide are under more public scrutiny than ever before and are pressured to provide information on their environmental performances. Many researchers and commentators have noted how important it is for organizations to consider their effects on the natural environment and for them to reveal the outcome to a wider group of stakeholders who may have been affected (Deegan, 1994), including employees, consumers, the community, regulators, the media, the public, and shareholders (Adams and Zutshi, 2004). This “environmental reporting” has been defined broadly as providing information in relation to the environmental implications of their operations (Deegan, 2006).

A variety of research on corporate social reporting and environmental reporting have been conducted in industrialized countries (see for example Gray et al. 1995; Deegan and Gordon, 1996; Hackston and Milne, 1996; Adams, 2002; Cormier and Magnan, 2003, 2007; Cho and Patten, 2007; ).

This study also attempts to achieve the following broad objectives.

1. To assess the existence of environmental reporting practices among Sri Lankan companies.

2. To identify any relationship between selected corporate governance characteristics and the existence of environmental reporting.

This study is significant for two important reasons.

1. It contributes to the literature by providing the recent state of environmental reporting practices in Sri Lanka.
2. The findings will report the essentials of integrating environmental considerations to the investors' community in their decision making process.

Reporting on environmental performance not only helps firms to gain stakeholder support, but also helps firms to evaluate possible risks involved in conducting such operations, and to reduce the impact of their operations on the environment. Hence, it is important to consider the level of environmental reporting undertaken by a company, within the context of how the organization is governed.

Corporate governance has been well researched, but only freshly has this research expanded to consider the relationship between non-financial reporting and governance mechanisms. Studies have found that strong corporate governance mechanisms increase the level of corporate disclosure generally (Lakhal, 2005), but research has not been undertaken to investigate whether this also applies to environmental disclosure. Effective governance should enhance accountability, transparency and ultimately result in more disclosure, both voluntary as well as mandatory. This study therefore aims to examine the effectiveness of governance mechanisms on voluntary disclosure, in particular, environmental disclosure. It includes an examination of the environmental disclosure in the annual reports of the top 75 listed Sri Lankan listed companies, to determine whether there is a relationship between corporate governance and environmental reporting.

## Review of prior studies

### Environmental Reporting

Corporate Environmental Reporting can be defined as an umbrella term that describes various means by which companies disclose information on their environmental activities to the users. This should not be confused with corporate environmental reports, which represents only one form of corporate environmental reporting. A Corporate Environmental Report is a tool to communicate a company's environmental performance. Corporate environmental reporting is the process by which a corporation communicates information regarding the range of its environmental activities to a variety of Stakeholders including employees, local communities, shareholders, customers, government and environmental groups. (Alok Kumar Pramanik, Nikhil Chandra Shil, Bhagaban Das, 2008).

The development of social and environmental accounting and accountability practices is still in its infancy (for example compared to the long historical practice of financial reporting). There is still much debate on various issues. (Bandara Rajapakse, A. W. J. C. Abeygunasekera).

Corporate Environmental Reporting (CER), as a recognized sub-set of corporate reporting, is now a decade old. The emergence of corporate environmental reporting in the 1990's has been an important development, not only in terms of environmental management, but also more generally for overall corporate governance. At present, the subject of environmental reporting is gaining prominence as a "hot issue" in the financial reporting community. It also becomes an international phenomenon and as result many companies especially those with a high public profile or perceived environmental impact have felt increasingly obliged to report externally to stakeholders on their environmental performance. And ultimately, the companies in different countries have started the practice of making environmental disclosure in their annual reports.

## **Environmental Reporting practices in Asian Countries**

In Asian countries, there is no legislative requirement for companies to disclose environmental information in their annual reports. The Korean Securities Exchange Commission followed suit by enacting in 1996 a provision in the Corporate Accounting Standards (CAS), which requires the inclusion of environmental information in the form of accompanying footnotes to the corporate financial report. In Bangladesh, there is no professional or legal requirement for environmental disclosure in their annual reports of companies. (Alok Kumar Pramanik, Nikhil Chandra Shil, Bhagaban Das, 2008).

However, despite this lack of regulation, it is found that a very few progressive companies are making environmental disclosures in their annual reports purely on a voluntary basis. In Hong Kong, there is no statutory requirement for listed companies to quantify report and disclose environmental information to the public. Environmental Reporting in Sri Lanka is predominantly voluntary. In Sri Lanka, there is neither a prescribed professional standard nor legal framework addressing the issues of environmental reporting. Currently, there is no statutory requirement in Malaysia that requires publicly listed companies to disclose environmental information to the public. In Malaysia, the most commonly included disclosure item found in the annual reports of the companies with Corporate Environmental Policy (CEP) is "environmental policies or company concern for the environment". (Alok Kumar Pramanik, Nikhil Chandra Shil, Bhagaban Das, 2008).

## **Environmental Reporting Practices in Sri Lanka**

In Sri Lanka, the industrial sector started to develop rapidly through local and foreign investments when it introduced liberalize open economic policies in the late 1970s. During the last two decades, four free trade zones, namely, Katunayake, Koggala, Biyagama and Mehirigama, many foreign business entities including multi-national companies and local manufacturing companies emerged resulting in large

numbers of factories in various types of industries. Although expansion of industrial activities have actually contributed to the economic growth of the country, operations of these factories largely caused harm to the physical environment and ecological balance of the country in numerous ways (by discharging waste material, polluted water and chemicals etc, into the environment).

However, stakeholders' awareness of environmental impact on industrialization of Sri Lanka has increased during last few years. Not only has the recent Governments, even by the colonial governments, there been introductions of various environmentally friendly Acts enabling to protect the environment. For example, Forest Ordinance, the Forest and Wildlife Conservation Ordinance, the Land Ordinance, the Irrigation Ordinance, the Coastal Zone Conservation Act, the Mahaweli Authority Act, the Fisheries Ordinance, the Geological and Mining Act, the Natural Aquatic and Resources Agency Act, the Town Development Act, the Town Council Act, the Municipal Council Act and the National Environmental Act etc. (Rajapakse 2005).

Although these Acts / Ordinances have emphasized the significance of the environmental protection within their scope, at the first time the environmental management regulations came into existence with the National Environmental Act of No. 47 of 1980. It has provided many provisions covering whole aspect of environmental protection of the country and from the section 15th of this Act Central Environmental Authority has empowered to monitor environment management activities of the country. Therefore, organizations are bound to perform the prescribed environmental management requirements in the above mentioned National Environmental Act of 1980 (Rajapakse 2005).

The significant increase in stakeholders' (societies') awareness of ecological, social and environmental matters, have been reflected in the proliferation of nongovernmental organizations (NGOs) and other social movements. Consequently, there is an increasing trend of stakeholders' demand for environmental management and sustainable

development information of business organizations. Public dissatisfaction about the inadequate disclosure of environmental information is also evident. But there is neither prescribed professional standard nor legal framework addressing the issues of environmental reporting. Thus, most business organizations in Sri Lanka, disclose only financial information although there is an increasing trend of stakeholders' concern and demand for environmental management and sustainable development information of their business organizations (Rajapakse 2003). Though there is an increase in the stakeholders' awareness of environmental impact on industrialization of Sri Lanka and an increase in the stakeholders' moral of environmental protection, there are no significant improvements in environmental disclosures in annual reports of listed public companies in Sri Lanka (Rajapakse, 2001).

The stakeholders have a "right" to demand information on the environmental impact of the organizations' activities and the organization has a "responsibility" to provide such information as there is a "social contract" between an organization and the society in which it operates. Business organizations in Sri Lanka do not perform their financial reporting functions to communicate comprehensive information to users of financial reports. Thus, there is a gap between stakeholders' interest on information (demand) and extent of information disclosure (supply) by business organizations in Sri Lanka (Rajapakse, 2001).

### **Corporate governance practices in Sri Lanka**

Corporate governance indicates the policies and procedures applied by firms to attain certain sets of objectives, corporate missions and visions with regard to stockholders, employees, customers, suppliers and different regulatory agencies and the community at large. The role of governance is to maximize shareholder's wealth. Corporate governance depends on managerial performance as well as a consideration of social responsibility, the socio-cultural-environmental dimension of business procedure, legal and ethical practices with a focus on customers and other stakeholders of an organization. Corporate

governance is gaining importance among policy makers, entrepreneurs, business personnel, stakeholders and related organizations (Victoria Wise and Muhammad Mahboob Ali (2009).

Corporate governance is considered to have significant implications for the growth prospects of an economy. Good corporate governance practices are regarded as important in reducing risk for investors, attracting investment capital and improving the performance of companies. However, the way in which corporate governance is organized differs between countries, depending on their economic, political and social contexts (Kumudini Heenetigala, 2011)

Importance of corporate governance has been highlighted over the world nowadays and it has accused as one of the main causes of crisis. Agency theory and many corporate guidelines suggest having a good corporate governance system for more transparent disclosing information about the corporation. (Sheila Nu Nu Htay, 2012)

At present the corporate governance practices of Sri Lankan listed companies are governed by the mandatory corporate governance rules included in the CSE Listing Rules. However, as Listing Rules provide only minimum standards to be complied by the listed companies, ICASL Code of Best Practice (2008) will provide the basis for the development of corporate governance practices that are not covered in these rules. Further, these companies are also required to comply with the provisions of the Companies Act No.07 of 2007 on the appointment and removal of directors and auditors and the listed licensed commercial banks have to comply with Central Bank Direction on Corporate Governance.

### **Corporate governance and environmental reporting**

The scandals of high profile companies such as Enron, WorldCom, Tyco and some other firms in the U.S, have raised the question of the effectiveness of monitoring mechanisms in organizations (Raphaelson and Wahlen, 2004). Therefore, it is claimed that the focus should now be more on improving the internal mechanism, which includes boards, particularly to

increase shareholder's insight and influence on corporate behaviour in organizations (Kolk, 2006). Apart from the traditional approach to accountability in the context of corporate governance, sustainability reporting has also emerged, even though it is mostly on a voluntary basis concerning the societal and environmental implications (Kolk, 2006). Disclosure on environmental issues has the potential to increase shareholder's wealth and can be regarded as one of the elements of good corporate governance (SIO, 2002). However, the effectiveness of regulation on environmental risk, which emphasizes awareness and empowerment of shareholders, essentially depends on the quality of the environmental disclosure (Sinclair-Desgané and Gozlan, 2002).

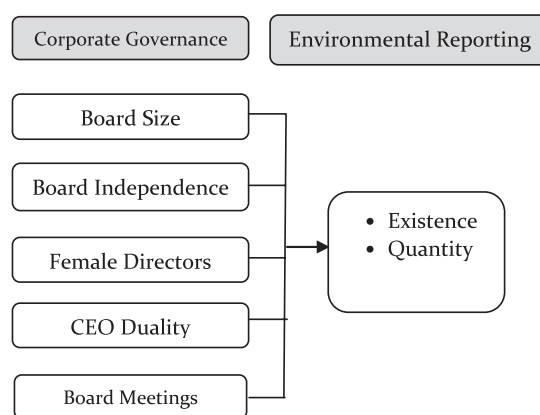
Corporate governance and corporate social responsibility are interrelated. Corporate governance indicates the policies and procedures applied by firms to attain certain sets of objectives, corporate missions and visions with regard to stockholders, employees, customers, suppliers and different regulatory agencies and the community at large. The role of governance is to maximize shareholder's wealth. Corporate governance depends on managerial performance as well as a consideration of social responsibility, the socio-cultural-environmental dimension of business procedure, legal and ethical practices with a focus on customers and other stakeholders of an organization. Corporate governance is gaining importance among policy makers, entrepreneurs, business personnel, stakeholders and related organizations. (Victoria Wise and Muhammad Mahboob Ali, 2009).

Previous research has suggested that corporate governance is linked with corporate disclosure. These studies examine various governance variables and their relationship with various types of disclosure, such as: voluntary disclosure (Cheng and Courtenay, 2006; Donnelly and Mulcahy, 2008; Eng and Mak, 2003; Gul and Leung, 2004; Ho and Wong, 2001); financial disclosure (Chen and Jaggi, 2000); voluntary earnings disclosure (Lakhal, 2005); annual report public disclosure (Laidroo, 2009); and related party disclosure (Shan, 2009). Even though these studies provided mixed results, most indicated that corporate governance variables do affect companies' disclosure

behavior. Hence it is assumed that under effective corporate governance managers are most likely to provide all the relevant information to users, whether mandatory or voluntary, and thus enhance the overall disclosure behavior of the firm.

## Theoretical Framework and Hypothesis Development

As described in the previous section, there is a possible link between the corporate governance structure and the tendency for companies to engage in environmental reporting. The several characteristics are proposed by the corporate governance researchers and some of them are summarized in the fig.1.



**Fig.1: Essential attributes of corporate governance that lead to environmental reporting.**

### Board size and environmental reporting

Board size, that is, the number of directors on the board, plays an important role in monitoring the board's performance. Studies that examine board size and performance are briefly reviewed before considering studies that directly relate board size with disclosure. Board size has been found to be both positively and negatively associated with the firm performance. Most of the literature argues in favour of smaller sized boards and importance is attributed to limiting board size (Adams et al., 2005; Cheng, 2008; Jensen, 1993; Lau et al., 2009; Lipton and Lorsch, 1992; van Ees et al., 2003; Yermack, 1996). They conclude that larger boards are in a position to improve the



governance of the company. Thus, we hypothesize that:

H<sub>1</sub>: There is a positive relationship between board size and environmental reporting.

### **Board independence and environmental reporting**

According to De Villiers et al. (2009) boards with more independent directors force managers to take decisions in favour of environmental activity, and they found that firms with strong environmental performance have more independent directors. Further it is considered that inside directors primarily focus on increasing shareholder value and are less likely to disclose, or be concerned with, environmental issues (Kassins and Vafeas, 2002). Therefore it is hypothesized that voluntary environmental reporting is more likely to increase with an increase in the proportion or number of independent, non-executive directors on the board:

H<sub>2</sub>: There is a positive relationship between independent non executive directors and the amount of environmental reporting.

### **Proportion of female directors and environmental reporting**

It is increasingly being viewed that women can make a significant contribution to the board. Huse and Solberg (2006) found that women are more committed and involved, more prepared, more diligent, ask questions and ultimately create a good atmosphere in the boardroom. Similarly, Adams and Ferreira (2004) found that more women on the board improves the decision making process, enhances board effectiveness and that women have better attendance/participation. According to Ibrahim and Angelidis (1994) female directors exhibit greater responsibilities, in their analysis they found that women are more philanthropically driven and less concerned with economic performance.

In summary, female directors' active involvement, better preparation, independence and other unique qualities, enable them to make a significant contribution to complex discussions and decisions such as environmental disclosure. Hence it is expected that more female directors on a board will increase the

amount of environmental disclosure made by the firm: Thus, it is reasonable to come with the following hypothesize.

H<sub>3</sub>: There is a positive relationship between the proportion of female directors on board and environmental reporting.

### **CEO Duality and environmental reporting**

Nelson (1998) and Zairi (2000) stressed the importance of leadership in ensuring the success of social responsibility endeavors. In corporate governance literature, a separation of CEO roles from the roles of the chairman is needed to ensure the independence of the board of directors (Chaganti et al., 1985). It is believed that if the CEO holds the chairman position, a state called "CEO duality", his/her influence may reduce the effectiveness of the board of directors in monitoring the management (Agrawal and Chadha, 2003). Following the claim of prior research, the following hypothesis is proposed:

H<sub>4</sub>: There is a negative relationship between the role duality and environmental reporting.

### **Board Meetings and environmental reporting**

This characteristic represents the number of meetings held in a year. Meeting frequency reflects the diligence and vigilance of the board in carrying their monitoring duties (Persons, 2006). Consistent with agency theory, board meeting frequency is an element of strong corporate governance (Khanchel, 2007). Frequency of meetings is also argued to be associated with the quality of reporting (Laksmana, 2008). In addition, an active board that meets more often is able to devote more time to issues such as social and environmental responsibility. Therefore, it is reasonable to establish the following hypothesis.

H<sub>5</sub>: There is a positive relationship between board meetings frequency and the environmental reporting.

### **Control variables**

As noted in the literature, firm specific characteristics may also affect the extent of environmental disclosure in the annual report and so this study focuses firm size, profitability and Industry as control variables.

Many studies have found that firm size is significantly associated with corporate disclosure (Donnelly and Mulcahy, 2008; Eng and Mak, 2003; Gul and Leung, 2004; Ho and Wong, 2001; Laidroo, 2009; Lakhali, 2005). Association between firm size and environmental disclosure has also been suggested, in that larger firms are more likely to identify environmental issues (Al-Tuwaijri et al., 2004; Clarkson et al., 2008; Patten, 1992; Patten and Trompeter, 2003). Further de Villiers et al. (2009) found that firm size is positively associated with the presence of strong environmental performance, and evidence also exists that indicates a positive association between environmental disclosure and firm size (Deegan and Gordon, 1996; Halme and Huse, 1997). Three measures of firm size are used in this study: total assets, market capitalization and operating revenue.

Profitability has also been shown to affect disclosure levels, and it could be measured by Return on Assets (ROA) and Reported profit. The use of ROA is consistent with other disclosure based studies (Cheng and Courtenay, 2006; de Villiers et al., 2009; Gul and Leung, 2004). Profitability has given contradictory results in previous literature. Some studies found positive associations (Al-Tuwaijri et al., 2004; de Villiers et al., 2009), other studies found negative association (Chen and Jaggi, 2000; Laidroo, 2009) whereas some found no relationship (Eng and Mak, 2003; Patten, 1991).

**Table 1: Measurement of variables**

Variables	Measures	Abbreviated
<b>Dependent Variables</b>		
The existence of environmental reporting	Measured as a dummy variable with the value of 1 if annual report disclosed environmental reporting and 0 otherwise.	env.exis
Environmental Disclosure	Total number of words dedicated to environmental issues in the annual report	env.disc
Proportion of environmental	Total number of words dedicated to	env.prdi

disclosure	environmental issues in the annual report divided by total words in the annual report	
<b>Independent Variables</b>		
Board Size	Number of directors on board	brd.size
Independent directors	No. of non executive directors on board	ind.dire
Female Directors	Number of female directors on board divided by total number of directors	fem.dirc
CEO Duality	Measured as a dummy variable with the value of 1 if CEO is also the chairman of the board and 0 otherwise.	ceo.dual
Board Meetings	Board meeting frequency is measured by the total number of meetings held in a year	brd.meet
<b>Control variable</b>		
Firm Size	Total assets (Rs.Mn)	tot.aset
	Market capitalization (Rs.Mn)	mkt.capt
	Operating revenue (Rs.Mn)	opt.revsn

The industry within which the firm operates may also affect the level of disclosure (Ho and Wong, 2001; Lakhali, 2005; Patten, 1991). Environmentally sensitive industries (forestry, metals, coal, oil, gas, paper, chemicals and electricity) usually disclose more environmental information (Cho and Patten, 2007; Deegan and Gordon, 1996; Halme and Huse, 1997). Further, de Villiers et al. (2009) suggest that firms with strong environmental performance are more likely to operate in environmentally sensitive industries.

However, in this study researcher includes only firm size as control variable in this study. The firm size is measured by total assets, market capitalization and operating revenue.

Table.1 provides a summary of studies of corporate governance characteristics and disclosure, the variables used and the measurement of variables.

## Data

The sample used in this study is the largest 75 Sri Lankan firms listed on the Colombo Stock Exchange (CSE) in 2011, selected on the basis of market capitalization. The top 75 companies in the list were selected because these were more likely to have the resources and motivation to take advantage of the opportunity to adopt good corporate governance practices. The top 75 companies presented annual reports, which included a governance report. Furthermore these companies were better performing, exhibited higher stock returns and were assumed to engage in good governance practices.

The 2011 annual reports of the 75 listed companies were examined to determine the amount of environmental reporting; these data have been compared with various corporate governance measures. While companies communicate their disclosure with stakeholders by other means these means are outside the scope of this study. Data on corporate governance and environmental reporting were collected from secondary sources. These relevant data were extracted from the CSE, which reports data on all the financial information relevant to this study. Fact and figures relating to corporate governance and performance were extracted from annual reports and the Handbook of Listed Companies from CSE.

## Methodology

The bivariate relationships between the variables are examined using Pearson's correlation coefficients; this allows examination of whether there is a statistically significant association between the variables. As well as providing information in its own right, these measures allow assessment of the likelihood of econometric problems when conducting the regression analysis; high correlation between independent variables is a sufficient (but not necessary) indicator of multicollinearity, which renders estimators unreliable.

Multivariate analysis is conducted using linear regression, i.e. Ordinary Least Squares (OLS). The relationship being examined is assumed to be linear; to fulfill data requirements for linearity several variables are transformed (see discussion above). The underlying model is based on the linear (in parameters) specification:

$$Y_i = \beta_1 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} \dots \beta_k X_{ki} + \epsilon_i$$

Where  $Y_i$  is the dependent variable for firm  $i$ ;  $X_s$  are independent and control variables (from 1 to  $k$ );  $\beta_s$  are the estimated parameters of the model, and  $\epsilon$  is the zero mean, homoscedastic and serially independent regression error.

With these models data were analyzed by using the appropriate statistical tools such as descriptive statistics, correlation and regression.

## Data analysis and findings

### Descriptive statistics

Descriptive statistics were calculated for each of corporate governance characteristics and environmental reporting.

**Table 2: Descriptive Statistics**

Variables	N	Minimum	Maximum	Mean	Std. Deviation
env.exis	75	0	1	0.84	0.37
Environmental disclosure (n)	75	0	7,031	830	1,251
Proportion of environmental disclosure (%)	75	0	0.07	0.01	0.02
Board Size (n)	75	5	16.00	8.16	2.11
Independent directors (%)	75	0.14	0.78	0.38	0.13
Female directors (%)	75	0	0.40	0.06	0.09
CEO duality (dummy 1,0)	75	0	1	0.32	0.47
Board meetings (n)	75	1	20	7.63	4.57
Total assets (Rs.Mn)	75	567	441,000	32,967	74,918.46
Market capitalisation (Rs.Mn)	75	4,781	179,000	22,818	29,577.23
Operating revenue (Rs.Mn)	75	-83.00	17,362	1,895	2,902.54
Valid N (listwise)	75				



Table 2 shows the descriptive statistics of whole variables in this study. The existence of environmental reporting in Sri Lanka is high; the 84% of the listed companies in Sri Lanka disclose the environmental reporting in their annual reports. The overall environmental disclosure level in words represents the mean of 830 words of the examined annual reports which ranged from minimum mean of 0 words and to a maximum mean of 7031 words in year 2011. Moreover, the environmental disclosure level in proportion represents 1.4% of the examined annual reports which ranged between minimum mean of 0% and maximum mean of 7.3% in 2011. The environmental information reported by listed companies still suffers from irrelevancy and incompleteness.

The mean proportion of independent directors in the board is 38.20% with 13.1% standard deviation, indicating that approximately 1/3 of the directors are independent non-executive, which is in line with reformed Corporate Governance Code (2008) of Sri Lanka. The mean role duality is 0.32, reflecting compliance by the majority of the sample companies with the corporate governance principle of separating the CEO and chairman roles. The average board size is 8.16; a larger board size can bring directors with experience that may represent a multitude of values in the board. Sri Lankan Corporate Governance Code recommends that the Board must have sufficient number of members that guarantee the efficiency of monitoring, analyzing, and evaluating the work of directors and the fair treatment of shareholders. However major drawbacks are identified with larger boards, including a lack of communication, slow decision making, and a lack of unanimity that ultimately affects board effectiveness and efficiency.

The mean proportion of female directors in the board is 6.1%, which varies between 0% to 40%, indicating that most of the companies selected as sample have 0% female directors on the board. Most of the studies found lowest level of environmental reporting with lowest proportion of female directors.

The average board meeting hold in a is 7.6 which varies between number of meeting 1 and 20. However high frequency of board meetings will help to disclose more environmental reporting.

The firm size can be determined using the measures of total assets, market capitalization and operating revenue. The average total assets, Operating revenue and Market Capitalization of these companies are Rs. 32,966 Mn, Rs.1, 895 Mn and Rs.22, 818 Mn respectively.

### Pearson's correlation

The bivariate relationships between the variables are examined using Pearson's correlation coefficients; this allows examination of whether there is a statistically significant association between the variables.

Environmental disclosure is, as expected, positively, statistically significantly, correlated with board size ( $r = 0.290$ ,  $p$ -value 0.012), total assets ( $r = 0.332$ ,  $p$ -value 0.004), market capitalization ( $r = 0.544$ ,  $p$ -value 0.000) and operating revenue ( $r = 0.271$ ,  $p$ -value 0.019).

It can be seen that from Pearson correlation, the proportion of environmental reporting is significantly positively associated with market capitalization ( $r = 0.373$ ,  $p$  value 0.001) and significantly negatively associated with CEO duality ( $r = -0.258$ ,  $p$  value 0.025). It denotes that separation of role of chairman and CEO is encourages to provide more information on environmental issues. Further the positive significant association between proportion of environmental reporting and market capitalization ensures that large size of firms disclose more environmental reporting.

And also it is observed that environmental disclosure has no any significant relationship with proportion of independent director, Proportion of female directors, board size and board meetings, total assets and operating revenue.

**Table 3: Pearson’s correlation coefficient (r) matrix**

	env.exis	env.disc	env.prdi	brd.size	ind.dire	fem.dirc	ceo.dual	brd.meet	tot.aset	mkt.capt	opt.rev
env.exis											
env.disc	.292*										
env.prdi	.369**	.759**									
brd.size	.241*	.290*	0.219								
ind.dire	-0.041	0.137	-0.003	-.258*							
fem.dirc	-0.083	0.225	0.003	0.134	0.055						
ceo.dual	-.402**	-0.14	-.258*	-.338**	0.083	-0.091					
brd.meet	0.196	0.18	-0.062	.370**	0.05	.324**	-.397**				
tot.aset	0.14	.332**	0.051	.335**	0.074	.402**	-0.213	.573**			
mkt.capt	0.105	.544**	.373**	0.055	0.207	0.005	0.033	-0.016	.268*		
opt.rev	0.139	.271*	0.148	.449**	-0.067	0.11	-0.112	0.218	.567**	.453**	

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Regression Analysis**

Multiple regression analysis is employed to test the developed research hypotheses, such multivariate analysis is undertaken to examine the relationship between environmental disclosure in words and corporate governance variables and Firm Size variables.

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.657 <sup>a</sup>	0.432	0.363	998.844

a. Predictors: (Constant), opt.rev, ind.dire, fem.dirc, ceo.dual, brd.meet, mkt.capt, brd.size, tot.aset

Accordingly, R<sup>2</sup> values of 0.432 indicates that the environmental disclosure of the selected listed companies is contributing to the corporate governance variables as well as firms size variable by 43.2% and the remaining 56.8%, can be attributed by other factors which are not studied, because they are outside the scope of the study.

Table.5 presents the results of regression with environmental disclosure as dependant variable. Result shows a significant positive association between environmental disclosure and board size (p-value 0.014

≤ 0.05), and market capitalization (p-value 0.000 ≤ 0.05). However, no significant association is found between environmental disclosure and independent directors, female directors, CEO duality and board meetings.

The regression results reveals that consistent with our prior expectation a significant positive relationship exists between the size of firms and the level environmental disclosure.

**Table 5: Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1333.26	742.805		-1.8	0.077
	brd.size	175.882	69.599	0.297	2.527	0.014
	ind.dire	658.15	966.024	0.069	0.681	0.498
	fem.dirc	2116.23	1458.176	0.15	1.451	0.151
	ceo.dual	-149.841	277.686	-0.056	-0.54	0.591
	brd.meet	-7.841	34.908	-0.029	-0.23	0.823
	tot.aset	0.002	0.002	0.138	0.955	0.343
	mkt.capt	0.024	0.005	0.573	5.202	0.000
	opt.rev	-0.091	0.058	-0.212	-1.56	0.123

a. Dependent Variable: env.disc

This result simply implies that the larger the size of a firm, the more they will be willing to invest on resources and corporate environmental technologies that are environmentally friendly. More so, larger firms

tend to be more concerned with their corporate environmental reputation and image; since they are more visible to external stakeholders who constantly demands for a higher corporate social environmental performance. Furthermore, larger companies are more susceptible to inquiry from stakeholder groups since they are highly visible to external groups and more vulnerable to adverse reactions from them. Regression results suggest that market capitalization plays significant role in explaining environmental disclosure. This also reflecting that larger the firm size provides more environmental information.

However, this study fails to provide evidence on relationship between remaining four variables, namely independent directors, CEO duality, female directors and board meetings. From this result the CEO duality implies that CEO duality is less influential in inducing firm to report more information on environmental concern.

## Results of hypothesis testing

### Board size and environmental reporting

The 1<sup>st</sup> hypothesis (H<sub>1</sub>) predicted that board size would be positively associated with environmental disclosure. The result is statistically significant positive (p-value = 0.014 ≤ 0.05) relationship between board size and environmental disclosure. Therefore H<sub>1</sub> is supported. The result is consistent with de Villiers et al. (2009) who found a positive association between board size and environmental performance, suggesting that larger boards possess the necessary expertise to ensure strong environmental performance.

### Proportion of independent directors and environmental reporting

The first hypothesis (H<sub>2</sub>) suggests that the percentage of independent directors is positively associated with environmental disclosure. But the result is not statistically significant (p-value = 0.498). Therefore H<sub>2</sub> is not supported.

The result is not consistent with the findings of many previous studies (Chen and Jaggi, 2000; Cheng and Courtenay, 2006; de Villiers et al., 2009; Donnelly and Mulcahy, 2008; Ho and Wong, 2001; Shan, 2009)

which all found a positive association between independent directors and various types of disclosure. Further, de Villiers et al. (2009) in particular, found that a firm with more independent directors resulted in better environmental performance.

### The Proportion of female directors and environmental reporting

The third hypothesis (H<sub>3</sub>) suggested that the percentage of female directors on a board is positively associated with the level of environmental disclosure. But the result is not statistically significant (p-value 0.151). Therefore, H<sub>3</sub> is not supported.

But the previous research found female directors have the potential to increase overall performance of the firm (Adams and Ferreira, 2004; Bonn, 2004; Carter et al., 2003; Huse and Solberg, 2006) and that the number of females on a board is positively associated with corporate disclosure (Julie, 1996; Ibrahim and Angelidis, 1994). However there was very few number of female directors serves on the board of few companies in Sri Lanka.

### CEO Duality and Environmental Reporting

The 4<sup>th</sup> hypothesis (H<sub>4</sub>) suggested that the CEO Duality is negatively associated with environmental disclosure. But the result is not statistically significant (p-value 0.591). From this result the CEO duality implies that CEO duality is less influential in inducing firm to report more information on environmental concern. One of the reason is perhaps the separation may not be crucial element since many companies are well run even with roles combined and have strong & capable board for monitoring. Furthermore it is also possible that the duality CEO is also substantial shareholders.

### Board Meeting and Environmental Reporting

The 5<sup>th</sup> hypothesis (H<sub>5</sub>) suggested that the Board Meetings are positively associated with environmental disclosure. But the result is not statistically significant (p-value 0.823). From the results we can rationally explain the reason for not significant association with board meeting is that, although board is meets regularly, the effective monitor of management is

influence by other factors such as external ownership can take the place of board monitoring actions and the efficient coordination among the directors can be attained when boards are greater in numbers.

## Conclusion and Recommendations

The objective of this study is to examine the level of environmental reporting among Sri Lankan listed companies and its association with corporate governance characteristics. On the whole, this study concludes that environmental reporting in Sri Lanka is high. The 84% of the companies reported environmental information in their 2011 annual reports.

Additionally, findings on the corporate governance variables suggest that only the board size is positively associated to environmental reporting. The results imply that the decision to engage in environmental reporting is likely to be affected by a larger number of directors in the board.

However, similar associations are not found for board independence, CEO duality, female directors to the board and Board Meeting. Additionally, we find positive and significant relationships between the existence of environmental reporting and firm size and environmental sensitivity. These findings suggest that environmental reporting in Sri Lanka is predisposed towards 'image building' endeavors, rather than to achieve accountability to the environment. This certainly has policy implications as until environmental reporting becomes mandatory, companies will refuse to report or rather report the 'positive' information only.

This research has potential policy implications. Results of the study generally showed that corporate governance factors investigated appear to have influence on environmental reporting. Such finding has important implications for different policy makers. It helps to inform standard-setters, and regulators about the importance of sound corporate governance in providing the foundations of comprehensive and quality environmental disclosure by establishing value-creating relationships with various stakeholders. Additionally, the result will possibly have important

implications on our understanding of the motive and consequences of environmental disclosure.

The main limitation of this study is only one year of data was considered in the current study. Hence, it would be interesting to conduct a longitudinal study on a yearly basis as it may help to trace the trend of environmental disclosure and the impact of corporate governance on environmental reporting practices.

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