

Corporate Environmental Disclosure Practices in Kenya

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Abstract: - Environmental issues have been on the corporate radar screen for years. However, previous empirical evidence provided mixed results on the extent of environment disclosure and relationship between corporate environmental performance and environmental disclosures. The purpose of this study was to examine the existing status of environmental disclosure practices in selected listed companies in Kenya. A qualitative content analysis of the annual reports of selected core sector companies across three industries, viz. energy and petroleum, manufacturing and allied and construction and allied was undertaken to study the extent and nature of their environmental disclosures in their annual reports for 2016/2017 financial year. Based on the Legitimacy Theory, the study revealed that the level of disclosure of environmental information varies across sectors as well as companies and the information disclosed in the annual reports was more qualitative than quantitative. Further, the disclosure made by companies does not adequately cover the informational needs of stakeholders. The study hence supports the need for a suitable framework for environmental disclosure, useful to all the stakeholders. This study contributes to the literature by evaluating voluntary environmental disclosures made by Indian core sector companies in their annual report. Further research may be conducted to assess the status of environmental disclosure for a larger sample of Kenya companies. The results of the study have significant managerial and theoretical implications.

Key words: Environmental Disclosure, Greenwashing, Annual reports, Qualitative Content analysis, Listed companies, Nairobi Securities Exchange and Kenya

I. INTRODUCTION

The nexus between corporations, society, stakeholders and the environment has become one of the most contemporary issues in recent times. The impact of corporations activities on the environmental and social problems has been brought under scrutiny (Aras & Crowther, 2009; Bebbington & Gray, 2001; Drucker, 1984). Hence, the need for firms to provide environmental, social and governance disclosures within annual reports has become imperative. Organisations are required, in public interest, to report on what they are doing to protect and grow the environment. This forms the genesis of environmental reporting and disclosure, which entails the production and dissemination of a report that provides a status on various environmental issues and activities in a given period.

Environmental disclosure is defined as the provision of public and private information, financial and non-financial

information, and quantitative and non-quantitative information regarding to the organization's management of environmental issues. This information is provided in the annual report or in any other form, mostly a separate environmental report is issued (Gray et al., 1995). It is widely believed entities disclosing their environmental impact of their activities accrue benefits such as enhanced brand image, increased market value, reduced risks and costs of doing business and purposive managerial decision making are some of the advantages associated with companies that issue sustainability reports regularly (Amran & Keat Ooi, 2014; Burritt & Schaltegger, 2010; Dyllick & Muff, 2016; Wangombe, 2013). However, another cluster of researchers argue that the firm's environmental disclosure effort is a self-serving exercise of obtaining social legitimization. Social researchers argue that the firm achieves this through isomorphism viz. coercion, mimicking and normative pressures (DiMaggio and Powell, 1983; Patten, 2002; Cho, Freedman and Patten, 2009). In other words, firms engage in impression management (greenwashing¹), and want to create an image of environmental friendliness when in fact the nature of their activity is environmentally sensitive. If this is correct, the voluntary disclosure mechanism breaks down. Hence, decoupling the protection of public good from corporate public relation exercise is necessary.

Critics of environmental disclosure regulations argue that companies that are "forced" to increase disclosure will bear significant costs either because of the disclosure *per se* or because of the changes in managerial practices that they will be forced to make, thus destroying shareholder value. Infact as observed by Ioannis and Serafeim, (2017), mandatory environmental could also generate negative externalities in that firms with superior sustainability disclosure will have to exert greater efforts and possibly incur higher costs to distinguish themselves from the rest of the firms in the period following the regulation. In other words, such laws and regulations could result in a costly pooling rather than a separating equilibrium with respect to the value of sustainability disclosures, and can thus eventually destroy shareholder value. Evidently these studies have produced mixed results consequently questions of 'why' and 'how' companies prepare sustainable reports and disclose

¹Greenwashing can be defined as the selective disclosure of positive information about a company's environmental or social performance, without full disclosure of negative information on these dimensions

environmental information need to be explored in order to settle the debate at hand (Wachira, Berndt and Martinez, 2016 and Bebbington & Gray, 2010). An unresolved research issue in environmental accounting is the extent to which corporate environmental disclosures are consistent with corporate environmental performance (Chen and Metcalf, 1980; Hughes et al., 2001, Al Tuwaijri et. al., 2004). Policy research requires bringing together a number of disjoint concepts and disciplines into one coherent framework.

Corporations in the developed countries such Australia, USA and Japan, countries have adopted mandatory environmental reporting practices following various disclosure practices and guidelines (Kokubu and Nashioka, 2005; Frost and English, 2002; and Gamble et al., 1995). However there are several emerging economies that have firms issuing environmental reports such as China, Brazil and South Africa to name a few. In Africa as opined by Wachira, et al. (2016) environmental disclosure or reporting in Africa is a voluntary activity and is not standardized or regulated at the national level. This can be attributed to sluggish uptake of environmental reporting, weak accounting and legal systems, difficulties in implementing international accounting standards, incompetence of accounting professionals and inadequate audit infrastructures are difficulties experienced by firms operating in Africa (MiBae et al. 2018). In South Africa, the Johannesburg Stock Exchange (JSE), requires listed companies to provide sustainability information on a “report or explain” basis (Tankiso, 2014). The Nairobi Securities Exchange and the Nigerian Stock Exchange are active members of the sustainable stock exchanges an initiative launched by UNCTAD to encourage stock exchanges to support sustainability and integrated reporting (Wachira, et al. 2016)

In response to the United Nations General Assembly Resolution No. 2393 (XXIII) of 1971, Kenya joined the world community of nations in search for global approach to the protection of environment. Kenya participated in the Stockholm Conference on Human Environment of 1972 in Sweden that highlighted the importance of linking environment to development. United Nations Environment Programme (UNEP) was established with its headquarters in Nairobi to oversee global environmental issues. In 1974, the Kenya Government established the National Environment Secretariat (NES) as the lead environmental agency to coordinate, promote and oversee environmental activities in the country. However, in the 1980s, with the environmental institutions in place in many countries, social and economic development was largely viewed as separate processes from environmental conservation and preservation. In 1999 Kenya established the Environmental Protection Act. The Act covers virtually all-diverse environmental issues, which require a holistic and coordinated approach towards its protection and preservation for the present generation without compromising the interests of the future generations to enjoy the same. Consequently, the Act provides for the legal regime to regulate, manage, protect and conserve biological diversity resources and access to genetic resources, wetlands, forests,

marine and freshwater resources and the ozone layer to name a few. To safeguard against any future environmental pollution caused by industries, programmes and projects, the law requires the proponent of any such activity to undertake systematic examination, through a participatory process, of all stakeholders, to determine whether or not the activity will have any adverse impacts on the environment. It further provides for systematic, documented, continuous, periodic and objective evaluation on how well the environment is managed, conserved or preserved. Actual or potential effects of any activity on the environment must be determined through the process of environmental audit and monitoring (Kiambati, 2017 and GRI, 2016). However, in Kenya there is no mandatory requirement for quantitative disclosure of environmental information in annual reports. Hence, Kenyan listed companies are only practicing voluntary environmental disclosure as there are no comprehensive guidelines relating to environmental accounting and reporting apart from a few amendments and acts despite the mounting pressure. For instance, the multi-billion floriculture industry has been under a scathing attack by environmentalists over the hazards that its operations pose to the immediate ecosystem. A previous study done by the Kenya fisheries department, for instance, indicated that chemicals used by the firms posed danger to aquatic life in the nearby lake. Environmental groups have also been at war with some flower farms over use of unlimited volumes of underground water. On the other hand, environmental groups have been mounting pressure against tea estates that use wood for fuel to stop cutting down trees (Omondi, 2009)

The purpose of this paper therefore is to make a critical review of the status and extant of voluntary environmental disclosure in core sector companies, and find (if any) theoretical link(s) exist between research environmental disclosure and listed companies sectors/industries. The paper identifies key standards that are relevant to environmental monitoring, and suggests ways of integrating environmental information into the existing financial reporting system. The paper follows a qualitative-archival research methodology to identify the type of information that can be recognized and disclosed within annual reports of listed companies in Kenya that are operating in environmentally sensitive sectors. The 2017 annual reports of three major sectors viz. energy and petroleum, construction and allied manufacturing and allied companies drawn from the Nairobi Securities Exchange (NSE) were studied. These three industries are considered to have a high pollution propensity and have collectively been the subject of a whole range of environmental regulations in Kenya. The magnitude of the environmental spending by these industries to comply with the environmental regulations and the impact of their operations on the natural environment should be a major concern to investors and other environmental stakeholder groups. Thus, firms in these industries collectively form an ideal sample to test the predictions of legitimacy theory.

The entire paper is divided into six sections. The first section introduces the paper followed by a brief overview of related research both in international and Kenyan context in Section 2. Section 3 deals with various theories related to environmental reporting practices and recognize legitimacy theory as the theoretical basis for environmental disclosure. The research methodology adopted for the study is discussed in Section 4. Section 5 presents the results and analysis of the study and finally the conclusion is provided in Section 6.

II. LITERATURE REVIEW

2.1 Studies in International Context

There are several prior studies focusing on the presence, quantity, quality and usefulness of environmental disclosure (Gatti & Seele, 2014; Ioannou & Serafeim, 2014; Silva Monteiro & Aibar-Guzmán, 2010; Cho & Patten, 2007; Brammer & Pavelin, 2006; Campbell, Craven, & Shrivies, 2003; Cormier & Magnan, 2003; Kolk, 2003; Cowen et al., 1987; Deegan & Gordon, 1996; Gray et al., 1995; Hackston & Milne, 1996; Ingram, 1978;; Neu et al., 1998; Patten, 1992, 2002; Roberts, 1992; Shane & Spicer, 1983;; Trotman & Bradley, 1981; and Belkaoui, 1976;). The results have been mixed, however, researches investigating environmental disclosures practices and its quality performed in the 1980s and in the early 1990s concluded that the quality of environmental disclosure is poor and that there is a lack of consistent disclosure techniques (Gamble et al., 1996). Nevertheless, the quality of the environmental reporting seems to have increased during the 1990s. Cormier and Magnan (2003) state that firms in most of the European countries are expanding the quantity and the quality of their environmental disclosure

Brammer and Pavelin (2006) examined the patterns in voluntary environmental disclosures made by a sample of large UK companies. The analysis distinguishes between the decision to make a voluntary environmental disclosure and decisions concerning the quality of such disclosures and examined how each type of decision is determined by firm and industry characteristics. They found that larger, less indebted companies with dispersed ownership characteristics are significantly more likely to make voluntary environmental disclosures, and that the quality of disclosures is positively associated with firm size and corporate environmental impact. The results also showed significant cross-sector variation in the determinants of both the participation and quality decisions. Furthermore, the manner of this variation differs between the two. Hence they concluded that firms in the chemicals, resource extraction and utilities sectors provide significantly higher quality of environmental disclosure and firms in the high technology and finance sectors disclose a significantly lower quality of environmental information.

Silva Monteiro and Aibar-Guzmán (2010) stated that industry membership is positively and significant correlated with environmental disclosure, in the Portuguese context. Further,

companies make more environmental disclosures in such regulated countries, especially in the USA, Canada and the UK either because environmental reporting is mandatory or because society or stakeholders demand reporting (Gray et al., 1995; Hackston & Milne, 1996).

A study by Iatridis (2013) assessed the association between environmental disclosure and environmental performance and examines the financial attributes of companies with different environmental disclosure scores in Malaysia. It investigated the relation between environmental disclosure quality and corporate governance, and also examines the extent to which effective environmental disclosures are value relevant and how they influence investor perceptions. The findings showed that environmental disclosure is positively linked to environmental performance. Company attributes, such as large size, the need for capital, profitability and capital spending, are positively associated with environmental disclosure quality. High quality environmental disclosers display effective corporate governance and would tend to face less difficulties in accessing capital markets. They generally are audited by a big 4 auditor or cross-listed on foreign stock exchanges and display significant levels of managerial and institutional ownership. High quality environmental disclosures are value relevant and improve investor perceptions. High quality disclosers overall belong to beverages, chemicals, food producers, forestry and paper, and industrial metals and mining.

Fontana et al. (2015) aimed to verify the presence, evolution and determinants of voluntary environmental disclosure from companies listed on the Milan Stock Exchange. The authors examined documentation of listed firms from 2006 and 2009. These years immediately precede and follow Italian legislative decree n. 32/2007, which introduced (albeit on a voluntary basis) disclosure of environment-related company information. The results showed positive effects on environmental disclosure related to legislative decree n. 32, the presence of government shareholdings in firms' ownership structure, business industry and firm size. The interrelation between firm size and environmental performance shows that large firms tend to disclose more environment information. These finding is consistent with several studies which have found a relationship between industry and environmental disclosure, although the industries classification differs among them. Hackston and Milne (1996), Patten (1991) and Roberts (1992) reached a consensus that high-profile industry companies disclose significantly more environmental information than companies from low-profile industries. High-profile industries are for example the oil, chemical, metal, utility, airline, paper and water sectors (Cho & Patten, 2007; Clarkson et al., 2008; Hackston & Milne, 1996; Patten, 1991; Roberts, 1992). Kolk (2003) observed that environmental reporting is much more common in industrial sectors, compared to the financial sector on sample of 250 largest Fortune 500 companies drawn from France, Germany, Italy, Japan, the Netherlands, South Korea, Switzerland, the UK and the US during the years 1998 to 2001.

2.2 Studies in the Kenyan context

The country level variables explain the level of environmental disclosure. In contrast to the understanding of environmental disclosure in Anglo-Saxon countries, the environmental disclosure determinants in continental Europe and Africa are rather unknown (Cormier & Magnan, 2003).

Mathuva & Kiweu (2016) examined the association between cooperative social and environmental disclosure (CSED) and financial performance of deposit-taking savings and credit cooperatives (SACCOs) in Kenya. Using data comprising of 1272 observations for 212 deposit-taking SACCOs in Kenya over the period 2008–2013, panel OLS analyses were performed to establish the association between SACCOs' CSED levels and financial performance. The results reveal a relatively low level of CSED by deposit-taking SACCOs in Kenya at 29.3%. The study revealed a negative association between CSED and financial performance.

A study by Mathuva (2016) analyzed managerial perspectives on the rationale and drivers of disclosures by deposit-taking savings and credit cooperatives (SACCOs) in Kenya. The findings showed that SACCO disclosures are mainly addressed to members and the regulator. SACCOs provide disclosures to comply with regulations as well as build their image. The results reveal that disclosures by SACCOs in Kenya mainly center on mandatory financial aspects, which is followed by voluntary disclosure on strategic aspects, social aspects, governance aspects and environmental conservation in that order. According to the findings, the influence of the disclosure guidelines issued by the professional accounting body in Kenya and financial performance on disclosure seem to be weak.

Tanui et al. (2015) examined the environmental accounting practices and environmental costs of business based on a sample of 70 large petrol filling stations in Eldoret Municipality in Uasin Gishu County, Kenya. Employing survey design, the findings revealed that 87.5% of the petrol filling stations carried out environmental accounting practices with only 20% facing challenges at implementing it. Moreover, 97.5% of the petrol filling stations were found to be evaluating these practices on a yearly basis. The findings further indicated that the contingent, image and relationship environmental costs were not largely incurred by the petrol filling stations. The most common costs incurred were the inspection, pollution control, spill response and waste management. The study recommended the need to carry out more research on ways to overcome challenges facing petrol filling stations while carrying out environmental accounting practices.

Gatimbu and Wabwire (2016) assessed the effect of corporate environmental disclosure on financial performance of 61 listed firms at the Nairobi Securities Exchange, Kenya. This study made use of longitudinal secondary data from the annual reports and financial statements of listed companies at the Nairobi Securities Exchange. Content analysis of sampled

listed companies' annual reports was undertaken to examine environmental disclosure practices. A checklist of environmental disclosure items and categories was developed and environmental disclosure indices computed. Casual research design was employed to determine the cause-effect relationship between corporate environmental. The findings revealed that environmental disclosure with P-value <0.05 has a positive significant effect in the mean financial performance. The study recommends that firms should engage in environmental disclosure because it leads to increased financial performance.

A review of the literature indicates that there have been only limited attempts to study the environmental disclosure practices of companies in Kenya. The present study contributes to the literature by examining the existing status of environmental reporting in selected listed companies in Kenya.

2.3 Theoretical Framework

The theoretical underpinnings environment reporting and disclosure differ (Silva Monteiro & Aibar-Guzmán, 2010). The theories included in the majority of the studies in environment disclosure are the legitimacy theory (Aerts & Cormier, 2009; Brown & Deegan, 1998; Campbell et al., 2003; Cho & Patten, 2007; Deegan, 2002; Deegan, Rankin, & Tobin, 2002; Deegan & Gordon, 1996; Neu et al., 1998; O'Donovan, 2002; Patten, 1992, 2002), the stakeholder theory (Deegan & Blomquist, 2006; Roberts, 1992), the voluntary disclosure theory (Brammer & Pavelin, 2006; Clarkson et al., 2008; Verrecchia, 1983) and the innovator view (Burritt, 1997).

The legitimacy theory emphasizes the importance of disclosure and posits that organizations continually seek to ensure that they operate within the bounds and norms of their respective societies. These bounds and norms are not fixed, but change across time, thereby requiring the organization to be responsive. There is a 'social contract' between the organisation and those affected by the organisation's operations. The organisation is expected to comply with the terms of this 'contract', and these expressed or implied terms are not static. Hence, organizations will be penalized if they do not operate in a manner consistent with community expectations, is a view that is publicly being embraced by corporate management. According to Hurst (1970) and Burritt, (1997) one of the functions of accounting, and subsequently accounting reports, is to legitimate the existence of the corporation. 'The legitimacy' of the organisation is threatened whenever the "relevant publics" expectations of the performance of the organization are in conflict with the actual performance of the organisation. This is referred to as a 'legitimacy gap'. Cho and Patten (2007) opine that the legitimacy theory implies that environmental disclosure is a function of the intensity of societal and political pressure faced by a company regarding the environmental performance. As a reaction on this pressure, firms try to

provide more environmental information to legitimize themselves to the public.

Voluntary disclosure theory is based on the works of Verrecchia (1983) and Dye (1985). As asserted by Brammer and Pavelin (2006, p.1171) voluntary disclosures are attempts to remove informational asymmetries between the firm and external agents, primarily agents in the investment community. The theory predicts that organizations, which have a good environmental performance, do not hide the environmental impact of their operations and are willingly to inform stakeholders about their environmental activities as the information risk for current and potential investors will be lowered. An extension to this theory is the innovator view, which recognizes that companies may seek to have excellent environmental records, and will make environmental disclosures appropriate to their perception of such excellence (Burritt, 1997).

Stakeholder theory emphasizes the importance various stakeholder groups in the society. These groups have unequal power to influence the activities of an organization, however all groups are concerned with the environmental performance of the company (Roberts, 1992). The going concern of an organization requires the stakeholders' support and therefore the corporate activities should be adjusted to the stakeholders' demands. The more power stakeholders have, the more a company must adjust its activities to stakeholders' demands (Gray et al., 1995), because stakeholders have the ability to control resources that are critical for the activities of an organization (Ullmann, 1985). Deegan, (2002); O'Donovan, (2002) and Roberts (1992) observe that disclosure is part of the dialogue between the company and its stakeholders for negotiating the social contracts. Therefore, Companies tend to manipulate their information disclosure in order to appear acceptable in society (Suchman, 1995). Thus environmental disclosures would be produced by companies in order to create a picture of legitimacy to stakeholders and to garner their approval (Wachira, et al. 2016).

III. RESEARCH METHODOLOGY

3.1 Research Design

The aim of this study was to explore the status of environmental disclosure by Kenyan companies in their annual reports. Thus, in order to accomplish this objective a

qualitative research method was adopted. The exploratory character of qualitative research permits the gathering of new information on specific areas of research, very often through an intensive dialogue between the interviewer, the respondent and/or content analysis of documentary evidence (Broda, 2006; Naderer & Balzer, 2007).

3.2 Target Population

The target population comprised of listed firms in three sectors namely; energy and petroleum, construction and allied manufacturing and allied companies drawn from the Nairobi Securities Exchange (NSE). These firms were selected as there are considered to be environmental sensitivity influencing their level of environmental reporting (Yin & Wang, 2018). According to Hackston and Milne, (1996) and Adams et al., (1999), firms whose economic activities directly modify the environment are more likely to disclose information about their environmental impacts than are companies in other industries. A generally accepted assumption is that a relationship between the industry in which a firm is operating and its environmental disclosures exists. The general expectation is that companies in, so-called, high profile (or environmental sensitive) industries will disclose more environmental information than companies in low-profile industries (Brammer & Pavelin, 2006, 2008; Campbell et al., 2003; Cho & Patten, 2007; Deegan & Gordon, 1996; Hackston & Milne, 1996; Roberts, 1992; Zeng et al., 2012).

3.3 Sample Size and Sampling Procedure

The sample comprised of 19 core sector companies representing three major sectors, namely, energy and petroleum, construction and allied and manufacturing and allied sectors. Purposive sampling was used to select sample as these sectors are widely recognized as being among those with greatest environmental impacts and are expected to disclose more information relating to pollution problems and other environmental issues in their annual reports. The companies represent the respective industry leaders within their sectors. Environmental disclosures within an annual report are also perceived by management to be a useful medium for correcting apparent misperceptions held within the community at large, some of which may have been created by the media (O'Donovan, 1997). A listing of the companies and their respective industries is provided in Table 1.

Table 1: Sample Companies and their sectors

Sectors	Energy and Petroleum	Construction and Allied	Manufacturing and Allied
Name of Companies	Kenol Kobil Ltd	Athi River Mining	B.O.C Kenya Ltd
	Total Kenya Ltd	Bamburi Cement Ltd	British American Tobacco Kenya Ltd
	KenGen Ltd	Crown Paints Kenya PLC	Carbacid Investments Ltd
	Kenya Power & Lighting Co Ltd	E.A.Cables Ltd	East African Breweries Ltd
	Umeme Ltd	E.A.Portland Cement Ltd	Mumias Sugar Co. Ltd
			Unga Group Ltd
			Eveready East Africa Ltd
			Kenya Orchards Ltd
			Flame Tree Group Holdings Ltd

3.4 Data Sources

Secondary data was collected from the audited annual reports for each of the companies in the sample for 2016/2017 financial year. There are a number of other ways in which Kenyan companies have started disclosing their environmental information to its stakeholders, such as standalone sustainability reports, annual reports, company websites and newsletters. In this study the annual reports were used as it's arguably one of the main vehicles a large organization has for promoting various aspects of its performance to a large and diverse cross-section of the community (Deegan and Rankin, 1997). Moreover, corporate annual report is seen as an important channel for financial communication between management and stakeholders as these are the most readily available data source. (Barlett and Chandler, 1997; Savage, 1998)

3.5 Data Analysis

Qualitative content analysis technique was used in this study to collect and analyse data. Content analysis refers to a set of procedures for collecting and organizing information in standardized format (GAO, 1982). According to Boettger and Palmer, (2010) content analysis is applied to analyze documentary evidence systematically. As stated by Zhang and Wildemuth, (2009, p. 308),

[...]Qualitative content analysis emphasizes an integrated view of speech/texts and their specific contexts [...] goes beyond merely counting words or extracting objective content from texts to examine meanings, themes and patterns that may be manifest or latent in a particular text. It allows researchers to understand social reality in a subjective but scientific manner

Among the central characteristics of qualitative content analysis are purposefully selected samples, an inductive

approach to analysis and the production of “descriptions or typologies”(Zhang and Wildemuth, 2009). A key step in qualitative content analysis is the selection of the recording unit for analysis. A recording unit refers to a specific segment of the context unit in the written material that is placed in a category. According to GAO (1982) there are several choices in regard to determining the recording unit, such as a word, a group of words, a sentence, a paragraph or an entire document. The use of “words” is not necessary accurate as comprehending the meaning of individual words in isolation is difficult (Hackston and Milne, 1996; Unerman, 2000). A “paragraph” is not appropriate unless the whole document is about environmental information (Milne and Adler, 1999). Graphical depictions, pictures and captions for pictures of activities in relation to the environment are excluded from the analysis, as their inclusion would involve a high level of subjectivity (Ahmed and Sulaiman, 2004).

This study used “number of sentences” criteria as a recording unit for the purpose of content analysis in measuring the extent of environmental disclosure within the annual report which addresses environmental issues. Number of sentences criteria has been used in the previous empirical studies like such as accounting history to provide narratives on such phenomena as the development of accounting professions (Guthrie and Parker (1990); Chatterjee and Mir, 2008; Hackston and Milne, 1996; Milne and Adler, 1999; and Holland and Foo, 2003). These authors considered number of sentences both as the most appropriate measure of disclosure, and also as the most appropriate basis for coding and analysis.

Qualitative content analysis of the company’s annual reports were undertaken to analyze the environmental disclosure of these companies. Content analysis has been done on the basis of certain criteria or themes related to environmental information. A total of 18 themes were identified for the study and the list of the identified themes is provided in Table 2

Table 2: List of Environmental Disclosure Themes

S/N	Themes
1.	Compliance with environmental standards
2.	Information relating to environmental costs and liabilities
3.	Future estimates related to environmental costs
4.	Environmental audit/assessment information
5.	Legal proceedings for violating environmental laws
6.	Environmental policies or company concern for the environment
7.	Conservation of natural resources
8.	Air emission information
9.	Information on processes including technology employed
10.	Information on product stewardship including life cycle analysis and eco-labeling;
11.	Water discharge information
12.	Land rehabilitation and remediation;
13.	Solid waste disposal information
14.	Noise emission information
15.	Information on spills
16.	Adoption of environmental friendly technology
17.	Awards for environmental protection
18.	Training/education for environmental protection

These themes were chosen based on previous empirical literature (Kitonyi, 2015; Makori & Jagongo, 2011; Wiseman, 1982; Blacconiere and Patten, 1994; Burritt, 1997; Holland and Foo, 2003; Clarkson et al., 2008; Chatterjee and Mir, 2008) and also on the basis of the environment impact assessment guidelines and administrative procedure issued National Environmental Management Authority of Kenya.

Annual reports issued by sample firms in 2016/2017 financial period were read and all environmental disclosure items were duly noted and rated according to the level of detail provided by the firm. A datasheet was prepared interpreting all the themes and the number of sentences was noted down as per theme of each sample companies. To ensure consistency over time and across firms, two persons independently reviewed all individual scores. All disagreements were subsequently reviewed by one of the co-researchers. Both researchers reviewed the resulting report for completeness and accuracy.

The use of number of sentences to qualify a firm's environmental disclosure is appropriate for the following reasons. First, it allows for an integration of different types of information into a single figure that is comparable across firms in terms of relevance. Second, the process of reading and of coding a firm's annual and environmental reports, including financial statements' footnotes, leads to the computation of a comprehensive environmental disclosure quality score. Third, while other disclosure studies rely on word counts to measure environmental disclosure this method allows for the researcher's judgement to be impounded in rating the 'value' of the disclosure made by a firm. While this process is more subjective, it ensures that irrelevant or redundant information is not considered to be a strategic environmental disclosure (Chatterjee and Mir, 2008 and Hackston and Milne, 1996).

The form of disclosure was also examined based on the nature of information available viz. qualitative, physical or financial information. The disclosure is said to be qualitative in nature if it is disclosed in phrases, if the information is disclosed in quantitative terms then it is said to be physical in nature and if the disclosure is in monetary terms, it represents financial information. The information was also examined on the basis

of three types of news, viz. positive, neutral and negative news related to environmental impacts. The definitions applicable to the categories of 'positive' and 'negative' environmental disclosure are similar to the 'good news' and 'bad news' definitions chosen by Hogner (1982), and Deegan and Gordon (1996) and are as follows:

- Positive: refers to information about corporate environmental activities which have a positive or beneficial impact upon society.
- Negative: refers to information about corporate environmental activities which have a negative or deleterious impact upon society

Lastly the volume of disclosure (in the form of number of sentences) was analyzed industry wise separately for all themes. An industry average of the amount of annual report environmental disclosure is derived by summing the number of words for each sample company in the industry for a given year, and dividing the total by the number of sample companies in the industry.

IV. RESULTS AND DISCUSSIONS

The results showed that all the sample companies disclosed most of their environmental information in their annual reports and a few in the director's and chairman's report. The total environmental disclosures across all the 18 themes are analyzed as per the individual firms and their listed sectors.

Table 3 shows a cross-matrix of environmental disclosure by component and by industrial sector. It appears clearly that, irrespective of the sampled sector, training/education for environmental protection is one of the largest components of environmental disclosure scores. Information on spills, noise emission information as well as future estimates related to environmental costs do not receive much attention in firms' disclosures with overall mean scores of 0.052632, 0.421053 and 0.315789 respectively. The largest components of environmental disclosure in the energy and petroleum sector are solid waste disposal information, water discharge information, and adoption of environmental friendly technology suggesting a systematic concern for environmental management accountability.

Table 3: Sample Firms' Environmental Disclosure Mean Score by Sector

Themes	Energy and Petroleum	Construction and Allied	Manufacturing and Allied	Overall Sample
Compliance with environmental standards	1.4	1.6	1.777778	1.631579
Information relating to environmental costs and liabilities	0.8	2.2	0.111111	0.842105
Future estimates related to environmental costs	0.2	1	0	0.315789
Environmental audit/assessment information	0.6	0.8	0.555556	0.631579
Legal proceedings for violating environmental laws	1.8	1	0.666667	1.052632
Environmental policies or company concern for the environment	1.6	1	1	1.157895
Conservation of natural resources	5.8	2.8	1.111111	2.789474
Air emission information	0.6	1.2	0.444444	0.684211

Information on processes including technology employed	4.6	4.4	2.222222	3.421053
Information on product stewardship including life cycle analysis	0.8	1.4	0.444444	0.789474
Water discharge information	7.4	2.8	5.555556	5.315789
Land rehabilitation and remediation	3	1.8	0.444444	1.473684
Solid waste disposal information	8.4	2	2.222222	3.789474
Noise emission information	0.2	1.2	0.111111	0.421053
Information on spills	0.2	0	0	0.052632
Adoption of environmental friendly technology	6.4	1	1.111111	2.473684
Awards for environmental protection	1.6	0.8	1.333333	1.263158
Training/education for environmental protection	5	7.6	8.111111	7.157895
Total Score	50.4	34.6	27.22222	35.26315789

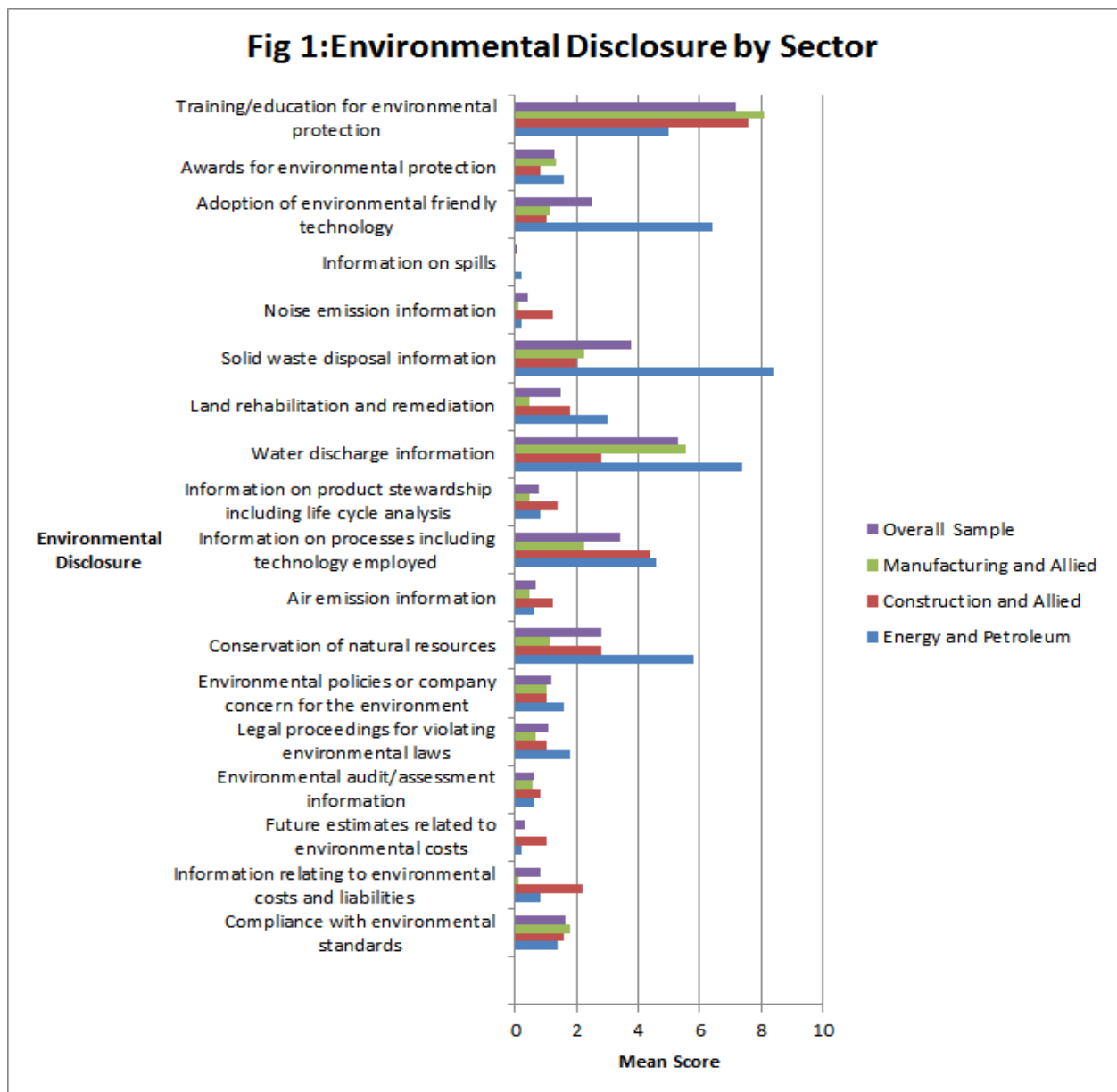


Fig 1 provides a graphical representation of environmental disclosures as per the sampled sectors. Table 4 provides the company wise pattern of environmental disclosure. The results showed that out of the five sample companies in the energy and petroleum industry, maximum disclosure is made by companies like KenGen and Kenya Power and Lighting Company (KPLC). For the construction and allied sector the two main manufacturers of cement Bamburi Cement Ltd and East African Portland revealed the most information related to environmental issues. However, the nature and extent of

information available for this sector is quite poor and low, amongst which the company that revealed the minimum information is Crown Paints Ltd. The highest volume of environmental disclosure can be observed from the manufacturing and allied industry. East Africa Breweries Ltd (EABL) outperformed the others in terms of disclosing environmental information with the highest volume of disclosure Kenya Orchard Ltd had the least volume of environmental disclosure.

Table 4: Sample Firms Environmental Disclosure Volume and Type

Name of companies	Volume of disclosure	Form of disclosure (number of sentences)			Type of news (number of sentences)		
		Qualitative	Physical	Financial	Positive	Neutral	Negative
Kenol Kobil	6	6	0	0	6	0	0
Total Kenya	35	32	1	2	29	4	2
KenGen	107	102	2	3	102	4	1
KPLC	76	63	0	13	71	1	4
Umeme Ltd	28	27	0	1	24	1	3
ARM	15	12	0	3	13	0	2
Bamburi	61	53	4	4	56	2	3
Crown Paints	19	16	0	3	18	0	1
E.A. Cables	20	18	2	0	16	0	4
E.A. Portland	58	55	0	3	46	6	6
B.O.C Kenya	26	26	0	0	25	0	1
BAT Ltd	42	41	0	1	40	1	1
Carbacid	16	16	0	0	16	0	0
EABL	56	55	0	1	49	7	0
MSC	45	41	4	0	45	0	0
Unga Group	30	29	0	1	29	0	1
Eveready	10	10	0	0	10	0	0
Kenya Orchards	9	9	0	0	9	0	0
Flame Tree	11	11	0	0	11	0	0
Total	670	622	13	35	615	26	29

Table 5 presents the environmental disclosure pattern across the three sectors in a consolidated form. As shown all the companies in the sample disclose some kind of environment-related information. However, the level of disclosure of environmental information varies across sectors and firms. The highest environmental disclosure is attributed to the manufacturing and allied sector, energy and petroleum while the construction and allied sectors has the least disclosure in their annual reports. All the sectors disclose mostly qualitative information. About 92.8 percent of the total disclosure made by all companies across various industries is qualitative in

nature, 5.2 percent is financial in nature while only 1.8 percent is physical information.

About 92 percent of the total disclosure by energy and petroleum companies is qualitative, while qualitative information revealed construction and allied and manufacturing and allied companies is about 89 percent and 97 percent of their total disclosures, respectively. The results also reveal that most companies reveal mostly positive news with more than 91 percent while the remaining 4.3 percent showing negative information in the total disclosure by all sample sectors.

Table 5: Sectorial Environmental Disclosure

Name of Sector	Vol.of Disc	No. of Firms	Form of disclosure (number of sentences)			Type of news (number of sentences)		
			Qualitative	Physical	Financial	Positive	Neutral	Negative
Energy & Petroleum	252	5	230 (92%)	3 (0.8%)	19 (7.54%)	232 (92.06%)	10 (3.97%)	10 (3.97%)
Construction & Allied	173	5	154 (89.02%)	6 (3.47%)	13 (7.51%)	149 (86.13%)	8 (4.62%)	16 (9.25%)
Manufacturing & Allied	245	9	238 (97.14%)	4 (1.63%)	3 (1.22%)	234 (95.51%)	8 (3.27%)	3 (1.22%)
Total	670	19	622	13	35	615	26	29

The environmental disclosure for sampled companies in the energy and petroleum industry, construction and allied and manufacturing and allied is shown Table 6 below. The results reveal that in the energy and petroleum sector had the largest components of environmental disclosure in solid waste disposal, water discharge information, adoption of environmentally friendly technology, air emission information and training/education for environmental protection. There are two underlying assumptions that support this expectation. First, companies operating in environmental sensitive industries have to comply with strict environmental regulations due to the polluting characteristics of their activities (Silva Monteiro & Aibar-Guzmán, 2010). Therefore, firms operating in these sensitive industries should disclose their environmental concerns, otherwise stakeholders and especially investors will assume the worst (Cormier & Magnan, 2003; Clarkson et al., 2008; Cho & Patten, 2007; Hackston & Milne, 1996). Second, environmental sensitive industries face greater societal pressure because they are more likely to be associated with visible environmental concerns, like the greenhouse gas emission and the risk of environmental disasters (Brammer & Pavelin, 2006; Silva Monteiro & Aibar-Guzmán, 2010). As a result, if environmental sensitive firms do not disclose sufficient environmental information, it can unleash disturbing reactions among environmental pressure groups and governments. Ultimately, society will turn against those companies. Therefore, companies that operate in environmentally sensitive industries tend to disclose more environmental information (Cho & Patten, 2007; Clarkson et al., 2008; Deegan & Gordon, 1996; Hackston & Milne, 1996).

The maximum reporting information was on solid waste disposal to the extent of as many as 42 sentences. It discloses only one sentence related to information on spills, noise emission, noise emission and future estimates which is interesting, as companies in energy and petroleum industry are expected to cause more pollution and other forms of environmental degradation. The results also show that out of a total of 252 sentences revealed by the energy and petroleum companies, more than 230 (92 percent) of the disclosure is qualitative in nature and the remaining 8 percent comprises of physical and financial information. Further, positive information (232 sentences), negative information (10 sentences) and neutral (10 sentences) information is reported in the environmental disclosure. The information was mainly

derived from the annual reports while a few from director's report and the chairman's report. Most of the environment related information in chairman's report is same as contained in the director's report and hence has not been separately recorded.

Table 6 also provides the environmental disclosure for the sampled construction and allied companies. The results show that that sector is performing fairly well in respect of environmental reporting, with a total volume of disclosure of 173 sentences. However compared to three sampled sectors it had the least amount of disclosure on environmental issues. The maximum disclosure was on the theme of "training/education for environmental protection" having 38 sentences. In contrast to other industries, there is sufficient environmental information on the themes "information relating to environmental costs and liabilities", noise emission and "future estimates related to environmental costs" (11 sentences each). It also discloses information under the themes "conservation of natural resources" (14 sentences), "water discharge information" (14 sentences) and "awards for environmental protection" (four sentences). More than 89 percent of environmental disclosure is qualitative and the remaining includes financial (8 percent) and physical information (3 percent).

The results in Table 6 also provided the environmental disclosure for the manufacturing and allied companies. The sector has less volume of disclosure compared to the energy and petroleum sector, with a total of 245 sentences. The maximum information is disclosed under the theme "training/education for environmental protection" with 73 sentences. There is a substantial amount of disclosure on the theme "water discharge information" (50 sentences), "information on processes including technology employed" (20 sentences) and "Compliance with environmental standards" (16 sentences). Conversely, the sector does not have any disclosure on "future estimates related to environmental costs" and "information on spills". In comparison to the sampled sectors, the manufacturing and allied sector had the highest disclosure level on the "compliance with environmental standards" and "water discharge information" theme with 16 and 50 sentences respectively. The results also indicate that out of a total of 245 sentences revealed by the sector, more than 238 (97 percent) of the disclosure is qualitative in nature and the remaining 3

percent comprises of physical and financial information. Further, positive information (234 sentences), negative information (3 sentences) and neutral (8 sentences) information were reported in the environmental disclosure

Table 6: Environmental Disclosure Themes for Sampled Sectors

Sectors	Energy and Petroleum			Construction and Allied			Manufacturing and Allied		
Themes	Vol. of disclosure	Form of disclosure	Types of news	Vol. of disclosure	Form of disclosure	Types of news	Vol. of disclosure	Form of disclosure	Types of news
Compliance with environmental standards	7	7 QUAL	7 POS	8	8 QUAL	8 POS	16	16 QUAL	16 POS
Information relating to environmental costs and liabilities	4	4 FIN	1 POS, 3 NEG	11	7 FIN, 4 QUAL	11 POS	1	1 FIN	1 POS
Future estimates related to environmental costs	1	1 FIN	1 POS	5	5 FINAN	5 POS	0	-	-
Environmental audit/assessment information	3	1 FIN, 2 QUAL	3 POS	4	4 QUAL	4 POS	5	4 QUAL, 1 FIN	5POS
Legal proceedings for violating environmental laws	9	9 QUAL	8 NEG, 1 POS	5	5 QUAL	5 NEG	6	6 QUAL	6 POS
Environmental policies or company concern for the environment	8	8 QUAL	8 POS	5	5 QUAL	5 POS	9	9 QUAL	9 POS
Conservation of natural resources	29	27QUAL, 2 PHY	28 POS, 1 NEU	14	12 QUAL, 2 PHY	14 POS	10	10 QUAL	10 POS
Air emission information	3	3 QUAL	1 POS, 1 NEG, 1 NEU	6	6 QUAL	3 POS, 2 NEU, 1 NEG	4	4 QUAL	3 POS, 1 NEG
Information on processes including technology employed	23	23 QUAL	23 POS	22	22 QUAL	16 POS, 6 NEU	20	20 QUAL	POS
Information on product stewardship including life cycle analysis	4	4 QUAL	1 POS, 3 NEU	7	7 QUAL	7 POS	4	4 QUAL	POS
Water discharge information	37	34QUAL, 3 FIN	36POS, 1 NEU	14	12 QUAL, 2 PHY	11POS, 3 NEG	50	46 QUAL, 4 PHY	41POS, 8 NEU, 1 NEG
Land rehabilitation and remediation	15	15 QUAL	15 POS	9	9 QUAL	9 POS	4	4 QUAL	4 POS
Solid waste disposal information	42	33QUAL, 9 FIN	41POS, 1 NEU	10	10 QUAL	8 POS, 2 NEG	20	20 QUAL	20 POS
Noise emission information	1	1 QUAL	1 NEU	6	4 QUAL, 2PHY	1 POS, 5 NEG	1	1 QUAL	1 POS
Information on spills	1	1 QUAL	1 POS	0	-	-	0	-	-
Adoption of environmental friendly technology	32	32 QUAL	30POS, 2 NEU	5	5 QUAL	5 POS	10	10 QUAL	10 POS
Awards for environmental protection	8	8 QUAL	8 POS	4	4 QUAL	4 POS	12	12 QUAL	12 POS
Training/education for environmental protection	25	23QUAL, 2 FIN	25 POS	38	37 QUAL, 1 FINA	38 POS	73	72 QUAL, 1 FINAN	73 POS
Total	252			173			245		

*POS=Positive, NEG=Negative, NEU=Neutral; QUAL=Qualitative, FIN=Financial, PHY=Physical

V. CONCLUSION

This study sought to examine the extent of corporate annual report environmental disclosures made by selected listed firms in Kenya within the legitimacy theory framework. Annual report environmental disclosures were collected for individual firms for the financial period 2016/2017. The extent of corporate annual report environmental disclosures was measured by “number of sentences” and classified into their forms of disclosure (qualitative, financial and physical) and type of news (positive, neutral and negative) to give an average measure by industry. A datasheet was prepared interpreting all the themes and the number of sentences is noted down theme wise after studying the annual reports of each sample companies. Content analysis was used to measure the extent and nature of disclosure in 19 core sector companies across three industries in the form of environmental themes.

The findings reveal that maximum disclosure across all the industries can be seen for the themes “training/education for environmental protection”, “conservation of natural resources” and “solid waste disposal”. This is consistent with the legitimacy theory, used within the context of this study where corporate management will react by increasing the level of corporate environmental disclosures if they perceive that the ‘legitimacy’ of their organization industry is threatened because of public concern over the environmental implications of the organization industry (Yin & Wang, 2018; Hogner,1982; Patten,1992; Deegan and Gordon,1996; and Deegan and Rankin,1996).

The findings showed that the most of the environmental disclosure were incomplete, more qualitative and provided inadequate disclosure for some of the environmental themes included in the study. The qualitative nature of disclosure

needs to be enhanced as qualitative (narrative) comments do not reflect the contribution of the companies towards the betterment of the environment. For instance firms in Kenya need to be clear on their environmental disclosures and not give general statements e.g. the firm has been committed to environmental activities, education and training, energy saving processes etc. Environmental disclosure should also not be lumped together with the other corporate and social disclosures under one heading to ease the readability of the annual report. Further, majority of the sampled companies revealed positive or neutral news, but very few disclosed any negative news. This form of corporate behaviour is consistent with the findings of previous studies conducted by (Sen et al. 2011 and Ahmed and Sulaiman, 2004) who argue that bad news, may damage companies' public reputation. The results are however contradicting with the study of Konar and Cohen 1997; Veugelers 1997 and Porter and Van Der Linde (1995) which reveal environmental disclosure is helpful for corporates seeking to increase the intensity of sewage discharge thus enhancing their own environmental management capacity, which is the catalyst of enterprise environment innovation. Therefore, pollution often represents the use of resources that is incomplete or ineffective. The more information about pollution enterprises disclose, to a certain extent, the more emphasis on the waste of resources brought by pollution, the more likely companies will reduce this kind of waste through environmental innovation.

In conclusion, it is evident that disclosures made by the companies in the selected sectors in Kenya do sufficiently fulfill the informational needs of stakeholders. The companies need to disclose more meaningful information relating to environmental costs and liabilities in their annual reports. Proponents of environmental accountability argue that corporates should actively disclose environmental information in order to enhance corporate reputation, to attract more investors to inject enterprise capital after understanding the company's environmental actions and environmental protection policies. Environmentally conscious and competent enterprises can also set up dedicated environmental management departments responsible for environmental information disclosure. This will enhance the monitoring role by institutional investors who can better supervise enterprise environmental disclosures in the discharge of their fiduciary responsibility and vested business interests. The study therefore supports the need for a suitable framework for environmental disclosure such that all the stakeholders can use it as credible information.

The conclusion also provides government policymakers with important theoretical guidance to promote the development of clean production. There is need to continue to improve the environmental regulatory system, making enterprises increase their environmental disclosure of pollutant emissions, environmental equipment investment and the cost of pollution through legal and institutional arrangements to improve the transparency of environmental information. In the same vein, policymakers should strengthen environmental disclosure

responsibilities of protection departments to prevent new pollutants from regeneration. It's noteworthy that although the level of environmental disclosure of listed companies has improved in recent years, most companies only disclose good information. Hence, the government and regulatory authorities need to play a supervisory role with regard to environmental disclosure, especially for the supervision of high pollution-emitting enterprises, which lead enterprises to gradually embark on cleaner production. For instance, the government should strengthen advocacy and education about environmental information disclosure, popularizing the promotion of environmental information disclosure to environmental protection and green innovation in enterprises, and let companies recognize the importance of environmental disclosure.

Lastly, most of the enterprises disclose environmental information through the social responsibility report; most of its content is descriptive and lacks data support, which is not sufficient to demonstrate the real environmental performance of the enterprise. Government policymakers should develop standard information disclosure formats, encouraging enterprises to disclose corporate environmental monetary information, as well as the environmental plan. This would improve the significance given to this subject by managers and the members of the public who are investors of these companies and could provide a basis to benchmark with outstanding stock markets in more developed countries leading a positive contribution to the economic growth of Kenya.

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