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Extent and Quality of Environmental Reporting in Tanzania

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Abstract
The purpose of this paper is to investigate the level and quality of environmental reporting among the Dar es Salaam Stock Exchange (DSE) listed manufacturing companies. A content analysis on the number of sentences reported was used to determine the extent of Environmental Reporting (ER) in annual reports. The quality of ER was determined based on the disclosure quality index reviewed from previous studies. ANOVA was used to ascertain any variations in reporting in terms of both extent and quality among the investigated companies. The study covered annual reports from 2006 to 2013. Findings revealed that the level of ER in Tanzania has been increasing but also there is a significant difference in terms of both extent and quality of ER among the companies. Since ER in Tanzania is under voluntary regime and there is no reporting framework, the study recommends development of Environmental Reporting Framework (ERF) for Tanzania.
Keywords: Environmental reporting, disclosure, Tanzania

1. Introduction

Tanzania is among the developing countries whose industrial sector has experienced raise and falls. In order to keep the growth of the economy, the country went into a number of reforms (URT, 2011, URT, 1996). The resultant of the reforms is an increase in the number of Foreign Direct Investment (FDI) in both new and old investments due to the attractive environment such as stable and simple regulatory and macroeconomic stability (URT & UNIDO, 2012). While the government concentrated on attracting investors, little efforts were put to ensure investors' accountability and transparency to their stakeholders (Lauwo & Otusanya, 2014).

Issues related to environmental management in Tanzania are under the mandate of the National Environmental Management Council (NEMC). NEMC's responsibilities include making sure that the right of the society to access environmental information is fulfilled. Furthermore the mining sector policy of 2009 and Mining Sector Act of 2010 require mining companies among other things to account for the social and environmental impact of their activities (URT, 2010). The Company Act of 1932 as amended in 2002, requires audited financial reports to disclose details such as pollution and environmental degradation caused by corporate activities (Curtis & Lissu, 2008). Despite the well-defined regulations on environmental management, little attention has been paid on the corporate environmental reporting in Tanzania.

Furthermore, despite the set regulations, and policies there are still a remarkable number of environmental pollution issues from industrial activities (Maliganya, Simon & Paul, 2013, Makene, Emel & Murphy, 2012, Lauwo & Otusanya, 2014), and this challenges the corporate governance, corporate responsibility and transparency of the corporations in Tanzania (Lauwo & Otusanya, 2014, Bitala, Kweyunga & Manoko, 2009). The literature suggests the need for government intervention to enforce public reporting for all environmental activity by corporations (Curtis & Lissu, 2008), establishment of corporate environmental policy (Tumbo & Chacha, 2008) and any interventions that will improve accountability and transparency by the companies to the shareholders (Maliganya, et al;, 2013).

In Tanzania so far only the mining sector is reported to prepare environmental reports as part of their corporate governance (Lauwo & Otusanya, 2014) and some of the Dar es Salaam Stock Exchange (DSE) listed companies, however the information reported are at companies' discretion and various stakeholders have shown dissatisfaction with the information reported (Lauwo & Otusanya, 2014, Green, 2008). This paper intends to investigate the level and quality of environmental reporting in Tanzania – a case of DSE listed manufacturing companies. The objective is to establish, under the voluntary disclosure regime, whether there is any difference in terms of extent and quality of information reported by the DSE listed manufacturing companies.

Manufacturing companies are selected in this study because are considered as among users and polluters of environmental resources, employ labour working under environmentally sensitive conditions hence, is under public and government pressure to disclose environment related information (Chatterjee & Mir, 2008, Sutantoputra, Lindorff & Johnson, 2012). For instance in February 2015 Twiga Cement Company was closed by National Environment management Council (NEMC) after the company's failure to control the dust emissions from the factory. Community surrounding the factory expressed their feelings regarding the matter and congratulated NEMC for the measure taken against Twiga Cement Company.

Therefore, the aim of this study is to investigate the environmental reporting practice for manufacturing companies listed at DSE.

Research objectives

1. To determine the extent of environmental reporting for manufacturing companies listed at DSE

2. To determine the quality of environmental reporting for manufacturing companies listed at DSE

Research hypothesis

The research aims at investigating the extent and quality of ER in Tanzania. Thus the following research hypothesis were tested

Hoa: there is no significant difference on the extent of environmental reporting among the selected DSE listed companies

Hob: there is no significant difference in the quality of environmental reporting among the DSE listed companies

The remainder of the paper is organized as follows: first, the previous literature on environmental disclosures is examined; second, the research design and samples are described. Finally, data are collected, analysed, results interpreted and conclusions drawn.

2. Literature review

2.1. *Disclosure theories*

Various theories have been explored to explain the environmental disclosure practice. No comprehensive social and environmental theory has been developed to explain the corporate environmental disclosure. However three social theories, i.e. legitimacy theory (O'Donovan, 2002, Branco, Eugenio & Ribeiro, 2008, Magness, 2006), stakeholder theory (Lu & Abeysekera, 2014, Elijido-Ten, Kloot & Clarkson, 2010) and political theory (Amran & Devi, 2007) has dominated the field of social and environmental studies. Legitimacy theory has been widely used and cited in a social and environmental disclosure studies. Legitimacy is defined by (Suchman, 1995) "a*s a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs and definition"*. Under legitimacy theory, companies perform environmental disclosure with the mission to achieve societal authenticity to operate (Guthrie & Parker, 1989, Uwuigbe & Jimoh, 2012). Companies disclose information such as what activities that affect the natural environment are carried out by the company, what measures (qualitative and quantitative) are taken by the company in order to reduce or eliminate those effects to the society and what metrics are used by the company to determine the effectiveness of the set strategies. The stakeholder theory explains that in order for the company to continue with their economic activity hence survival, it needs approval and support from the stakeholders. When the company disclose their environmental activity they show that they act in line with stakeholders values, change or reinforce companies behaviour and improve company reputation for socially responsible behaviour, influence government decisions and introducing major changes in corporate strategies (Susan, James & Joanna, 2000). The stakeholder theory provides explanations on the way in which the company manages its stakeholders for the survival of the former (Hughes, Anderson & Golden, 2001, Liu & Anbumozhi, 2009). Thus when there is poor relationship between the company and stakeholders the company's existence is at risk due to disapproval by the stakeholders.

The political economy theory perceive accounting as tool for constructing, sustaining and justifying economic and political arrangements, institutions and ideological themes which contribute to the company's private interest (Susan, et al;, 2000). This wider definition of the political economy theory implies that there is a danger for companies disclosing under the theory to provide only minimum information as the aim is to protect company's interest and not mutual benefit between the society and the company. However, as long as the company intends to protect their interests that could be endangered by societal expectations, the political economy theory may successfully explain voluntary disclosures. The main distinction between these theories is in the perspective from which they are viewed and examined. However, (Joshi & Gao, 2009) pointed out that, disclosure is a complex phenomenon which cannot be explained by single theory, perhaps due to overlapping of disclosure theories.

2.2. *Environmental reporting in developing countries and its advantages*

Several studies have been carried out on the extent/level of environmental disclosure. Perry and Sheng (1999) in their study on overview of trend related to environmental reporting in Singapore aimed to compare western experience with environmental disclosure to that in Singapore. Annual report for two years 1995/96 to 1996/97 for Singapore public companies as listed on stock exchange were examined. The results revealed that, there is low commitment to environmental disclosure among Singapore organizations and argued that increase in interest in environmental reporting will depend on the greater environmental consciousness amongst shareholders and consumers, which in turn will depend on the greater development of an active citizenry motivated to voice expectations and expose organisations to critical scrutiny. Uwuigbe and Jimoh (2012) examined the corporate environmental disclosure practices among firms in manufacturing industries listed in the Nigerian stock exchange. The results showed that corporate environmental disclosures in company's annual report are very low and dominated by monetary disclosure; they argue that companies are interested in reporting corporate social responsibility rather than environmental disclosure statement. The results further show that the sampled firm concentrated more in reporting disclosure related to good news rather than bad or neutral news, arguing that corporate environmental disclosure attempts at improving corporate image of the company rather than fulfilling

stakeholders' information needs. The study on the extent of environmental disclosure and the characteristics of mining, energy and chemical industries in china using legitimacy theory revealed that firms characteristics such as company size, profitability leverage and management role are the most significant factors affecting the level of environmental disclosure (Zhang, 2013). The application of stake holders theory on environmental disclosure in Malaysia revealed that the main determinants for environmental disclosure are government power to sanction companies (stakeholders power) and level of environmental concern by the management (strategic posture) (Elijido-Ten, 2004). However the authors reported that there is insignificant relationship between disclosure and economic performance.

Branco, et al; (2008), conducted a study to examine changes in levels of voluntary environmental disclosure by two Portuguese companies following increase public awareness of its activities resulting from the co-incineration controversy in Portugal. A legitimacy theory was adopted to provide an understanding of this reaction. The annual reports for Cimpor and Secil for the period of 1994 to 2003 were analysed. The level of environmental information disclosed was measured using content analysis. The results indicated that Cimpor changed its environmental disclosure practices when faced with co-incineration controversial. However authors argued that the strategy adopted by Cimpor was that of not directly addressing the issue. On contrary to Cimpor, results shows that Secil did not appear to have changed significantly its environmental disclosure practices when faced with the Co-incineration controversial. bin Abd. Rahman, binti Yusoff and binti Wan Mohamed (2009), examined the relationship between environmental disclosure and financial performance among the companies in Malaysia, Singapore and Thailand that voluntarily disclose environmental information in their financial reports. Two hundred and fifty (250) companies listed in Bursa Malaysia, Singapore Stock Exchange and Thailand Stock Exchange was studied. The study hypothesizes that high performance companies are more likely to have detailed (that is, one paragraph or more) environmental disclosure. The results suggested that the performance of the company has no relationship to the production of detailed or superficial (that is, a few sentences) environmental disclosure.

Numerous benefits have been suggested for reporting social and environmental information, for instance increase in the number of customers, assessing preferred suppliers, to build, maintain or enhance corporate reputation and gain competitive advantages (Ali & Rizwan, 2013, Iatridis, 2013, Siddique, Sciulli & Faux, 2011, ACCA, 2001). It is further acknowledged that environmental information has several roles such as ; to assess social and environmental impact of corporate activities, to measure the effectiveness of corporate social and environmental programme and to report corporate and environmental responsibilities (Zeng, Xu, Dong & Tam, 2010). Likewise it is argued that the major motivation for developing countries to adopt environmental reporting is to gain corporate reputation, to enjoy tax benefits and reduce cost and company risks (Ali & Rizwan, 2013).

3. Methodology

The study comprises six manufacturing companies listed at DSE, Table 1. Manufacturing companies are recognised as being among those with environmental impacts and are expected to disclose more information relating to pollution problems and other environmental issues. It is argued that companies whose economic activities modify the environment are more likely to disclose information about their environmental impact than companies in other industries (Chatterjee & Mir, 2008). In addition companies listed in DSE were selected because of easy access of the companies' annual reports from the DSE website.

Table 1: List of companies investigated and their activities

S/N	Names of selected companies	Activities
1	Tanzania Breweries Ltd (TBL)	Production and distribution of alcoholic and non alcoholic beverages
2	Tanzania Cigarette Company(TCC)	Production and distribution of cigarettes
3	TOL Gages Ltd(TOL)	Production and distribution of industrial and medical gases
4	Tatepa Company Ltd (TATEPA)	Growing, processing, blending, marketing and distribution of tea
5	Tanzania Portland Cement Company Ltd (Twiga)	Production and distribution of cement
6	Tanga Cement Public Ltd (Simba)	Production and distribution of cement

The annual reports from 2006 to 2013 were used as a source of data in this study. The year 2006 was selected as starting year due to the fact that all the selected companies were listed in DSE by 2006. There are number of other ways in which environmental information can be communicated to stakeholder such as newsletter, annual reports, company websites and separate sustainability reports. However in this study annual reports were considered as the source of information for ER. Basically, annual report are selected as the source of corporate environmental disclosure as it is recognised as the principal means for corporate communication to shareholders and is the primary source of environmental reporting by corporations (Wiseman, 1982, Smith, Yahya & Ahmad

Marzuki, 2007). It is further been reported that annual report is statutory report incorporating both statutory and voluntary disclosures which is produced regularly, a mandatory document which all companies are required to prepare and they can be accessed more easily than other media (Smith, et al;, 2007, Suttipun & Stanton, 2012, Tilt, 2001).

In order to determine the extent and quality of environment information disclosed this study uses content analysis technique. The content analysis technique is a set of procedures that transfer non structured information into a form that allow analysis to be conducted (United States General Accounting Office, 1989). According to Hooks and van Staden (2011), content analysis can be extent based or quality based. Extent based analysis aims to quantify the extent of reporting on specific issue using various measures such as words, sentence or pages. They further argued that extent based is not concerned with quality or meaning of what is written rather it focuses on the amount of information about the topic of interest. On the other hand quality based analysis attempt to evaluate the quality of disclosures using a quality index and meaning of what is written is a paramount. In this study the choice of content analysis technique is due to the fact that the required data are contained in annual reports in the form of written material thus the best possible way to extract the data for analysis is by content analysis technique. The technique is adopted because it has been considered and reported as of the most systematic, objective and quantitative method of data analysis technique as evidenced by its application in previous researches involving corporate environmental disclosures practices (Deegan & Gordon, 1996, Wiseman, 1982, Uwuigbe & Jimoh, 2012, Aerts, Cormier & Magnan, 2008, Hooks & van Staden, 2011, Branco, et al;, 2008, Sen, Mukherjee & Pattanayak, 2008, Eljayash, James & Kong, 2012, Elijido-Ten, 2004, Hackston & Milne, 1996, Kabir & Akinnusi, 2012, Hughes, et al;, 2001) .

A significance step in content analysis is the selection of the recording unit for analysis. Recording unit can be a word, sentence, paragraph, pages, and proportion of pages. In the studies of social and environmental reporting, most researchers tend to use one or combination of words, sentences and pages. However each has advantage and its limitation. Number of pages as measure of disclosure may have the advantage of being able to include figures charts or graphs into the analysis, however is often criticized because it does not consider different page sizes, font sizes margin size (Hackston & Milne, 1996). On the other hand, number of words has advantage of being more objective in the quantification of disclosure even though it is said to cause difficulties due to different styles of writing and comprehending the meaning of individual word in isolation is difficult (Hackston & Milne, 1996). For this study, the recording unit is defined as a sentence in annual report that is considered to be an environmental disclosure. Number of sentences has been used in previous studies like (Hackston & Milne, 1996, Tilt & Symes, 1999, Guthrie, Cuganesan & Ward, 2008, Sen, et al;, 2008, Tilt, 2001, Elijido-Ten, 2004). The sentence is chosen as unit of analysis as it overcome the problem with verbose or concise style of writing associated with word counts and is not affected by font or page size as are other measures such as paragraphs or pages (Hackston & Milne, 1996).

The quality of environmental reporting was measured using the disclosure index developed by Hooks and van Staden (2011). The index consist of 23 main environmental reporting items (some with sub-items) and a total of 32 items arranged into six categories; the entity, management policy, environmental impacts, stakeholders, financial impacts and general, Table 2.

Table 2: Disclosure quality index

Category	Issues Covered	Scale	Cum score
(A) The entity	Corporate profile: context to understand environmental performance	0-4	4
	Governance structure of the organisation: responsibility for environmental performance(1: mention 2: elaborate)	0-2	6
(B) Management policy and systems	Corporate environmental policy: the main issues for the organisation related to environmental performance	0-4	10
	Environmental objectives/targets: specific aims to address the impacts of processes, products or services	0-4	14
	Performance measured against previous years targets;	0-4	18
	Environmental management system: structure, responsibilities, practices and procedures for determining and implementing the environmental policy	0-4	22
	Environmental audit (1; that one was done 2: if report included)	0-2	24
	Employee environmental programme: programme of awareness-raising, education and training regarding environmental responsibility (1: program exist 2: if details are provided)	0-2	26
(C) Environmental impacts	Inputs: Materials used; Water consumption; Energy consumption (3 aspects)	All 0-4	38
	Outputs: Emissions – water; Emissions – air; Waste (reduction and disposal – incl. recycling) Noise and odours; Transportation (5 aspects)	All 0-4	58
	Process Management: Environmental Impacts; Supplier programme; Clean technology (3 aspects)	All 0-4	70
	Products/Services: Life-cycle – design and assessment; Packaging (reduction/recyclable) (2 aspects)	All 0-4	78
(D) Stakeholders	Identification of relevant stakeholders (1: minimum coverage; 2 descriptive with clear evidence of the impact)	0-2	80
	Communication with stakeholders (same scale as above)	0-2	82
(E)Financial	Environmental liabilities (1: minimum coverage; 2 quantitative with the impact clearly defined in monetary terms	0-2	84
	Current expenditures: environmental equipment, facilities, operations and remediation (same scale as above)	0-2	86
	Past expenditures: on the above (same scale as above)	0-2	88
	Future expenditures: on the above (same scale as above)	0-2	90
(F) General	Global Operating Standards (1: reference to global standards i.e. ISO; 2: detail on compliance)	0-2	92
	Report design and accessibility: layout and readability (1; fair 2: exceptional)	0-2	94
	Covers full ecological footprint: eco efficiency and measures	0-4	98
	Awards received: (reporting and environmental) rewards noted in the report (1: if reported; 0 if not reported)	0-1	99
	Support for environmental organisations (1: if reported; 0 if not reported)	0-1	100
cum score is the cumulative score if the maximum score was achieved for each item			

Source; Hooks & van Staden, 2011.

Each sentence related to environmental reporting was read and evaluated to determine which item was covered in the index, and the appropriate score was assigned for quality. In their index most of the items were measured using a 5-point scale (0-4). The scale was applied as follows; 0 if item is not disclosed, 1 if there is minimum coverage of the item, little detail-general terms or briefly mentioned, 2 if the description of item is given i.e. the impact of the company or its policies was clearly evident, 3 if item is quantitative i.e. the environmental impact was clearly defined in monetary term or actual physical quantities, 4 if the item is extraordinary i.e. benchmarking against the best practice. A five point scale was appropriate for 19 index items. The 11 items were measured using 3- point scale (0-2) and 2 item on 2-point scale (0-1) with clear guidance as to allocation of the score for these items. The data were statistically analysed using Analysis of Variance (ANOVA) at a significance level of about 0.05

4. Findings

The aim of this study was to examine the extent and quality of environmental reporting by manufacturing companies listed at DSE their annual report. The extent of reporting was measured using number of sentences related to environment disclosed in annual report. The study assumed a null hypothesis **(Hoa)** that there is no significant difference on the extent environmental reporting among the selected DSE listed companies. The data collected are presented in Table 3. The data were statistically analysed using ANOVA and the results presented in table 4. The ANOVA results indicated that the "F" value was greater than unit. This implies that the null hypothesis **(Hoa)** that there is no difference on the extent of environmental reporting among the DSE listed companies is rejected. From the ANOVA results it can be explained that the extent of environmental reporting varies among the DSE listed companies.

Table 3: Total number of sentence of reported for year 2006 to 2013

Company /Year	2006	2007	2008	2009	2010	2011	2012	2013	Mean
TBL	5	3	3	5	10	11	12	11	7.5
TCC	6	6	6	6	16	6	7	6	7.4
TOL	0	2	2	1	1	1	1	0	1
TATEPA	0	0	0	0	0	0	2	6	1
Twiga	1	10	8	13	0	21	22	28	12.9
Simba	14	2	8	27	33	36	32	31	22.9
Total	26	23	27	52	60	75	76	82	52.6

Table 4: The ANOVA results for the extent of environmental reporting for the DSE listed manufacturing companies

Source of variation	Sum of squares	Degree of freedom	Mean square	F	P
Between groups	2720.9	5	544.2	10.8	0.05
Within group	2119.6	42	50.5		
Total	4840.5	47	103.0		

The findings show that there is general increase of extent of environmental reporting for companies listed in DSE. The number of sentences disclosed increased by 215% from year 2006 to 2013. The overall extent of environmental reporting among the companies indicated that Simba is leading in terms of number of sentences disclosed, next to Simba is Twiga cement, and then followed by TBL and TCC. The least disclosing companies are TATEPA and TOL.

The disclosure differences among the companies may be due to the nature of the company activities and industry from which the company belongs to (Lu & Abeysekera, 2014). For instance cement companies have strong interaction with environment and pollutes more (Chatterjee & Mir, 2008, Sutantoputra, et al;, 2012), thus the cement companies have more environmental activities to disclose than TBL, TCC, TOL and TATEPA. In addition, the probable explanation for cement companies to disclose more is to gain legitimacy to operate from key players surrounding the company. The level of acceptance of the company by the community will depend on the quantity of environmental related information disclosed to the public. The third factor which account for more disclosure from the cement companies could be strong requirements by the government regulations. Thus companies with more environmental activities would disclose more information so as to gain social right to operate and show that they adhere to the government regulations on environmental management. The results on the differences in extent of environmental reporting are in line with the previous results reported in the literature(Elijido-Ten, 2004). Furthermore the trends indicate that 2006-2009 the level of environmental reporting among the highly reporting companies was relatively low compared to 2010-2013. Since environmental reporting is still a voluntary activity, the rapid increase in reporting during the 2010-2013 period may be due to increase in public awareness on environmental issues hence posing more pressure on environmental reporting by the companies.

The quality of environmental disclosure was measured using disclosure index developed by Hooks and van Staden (2011). The index consisted six categories on which the companies should report on. The categories were; the entity, management policy and systems, environmental impacts, stakeholders, financial impact and general, Table 2. The total quality score from each company for the eight years is presented on table 5. In order to investigate whether there is any variation on the quality of environmental reporting for the period under investigation, an average score for 2006 to 2013 were calculated. One way ANOVA was used to test a null hypothesis **(Hob)** that there is no significant difference in the quality of environmental reporting among the DSE listed companies, Table 6. The ANOVA results indicated that the "F" value was greater than unit. This implies that the null hypothesis **(Hob)** that there is no significant difference in the quality of environmental reporting among the DSE listed companies is rejected. From the ANOVA results it can be explained that the quality of environmental reporting varies among the DSE listed companies.

Table 5: Total quality score for the DSE listed manufacturing companies

Company/Year	2006	2007	2008	2009	2010	2011	2012	2013	Mean Score
TBL	9	5	5	7	8	15	16	10	9.4
TCC	7	7	10	10	14	10	11	9	9.8
TOL	1	1	1	1	2	2	2	1	1.4
TATEPA	1	1	1	1	1	3	6	11	3.1
Twiga	4	12	6	13	0	20	20	19	11.8
Simba	13	5	12	25	22	22	26	35	20

Table 6: ANOVA results for quality disclosure of environmental reporting for listed companies at DSE

Source of variation	Sum of squares	Degree of freedom	Mean square	F	P
Between groups	1772.9	5	354.6	11.4	0.05
Within group	1305.6	42	31.1		
Total	3078.5	47	65.5		

The variation in quality of disclosures indicates that Simba discloses more quality information (20% of the required score) than the rest of the companies. Next to Simba is Twiga whose score was at least 11% of the total scores recommended in the literature. TCC and TBL scored at least 9 % and the rest had a score of at least 1.4%, Table 7. These results follow similar trend as the one obtained on the extent of environmental disclosure. The reasons for the observed trends are explained by the nature of the companies' activities as just explained under the results for extent of environmental disclosure.

Table 7: Mean score per each quality category for the DSE listed manufacturing companies

Quality category	Required Score	TBL		TCC		TOL		TATEPA		Twiga		Simba	
		achieved score	%	achieved score	%	achieved score	%	achieved score	%	achieved score	%	achieved score	%
The entity	6	1.3	21.7	0.8	13.3	0	0.0	0.3	5.0	0.9	15.0	0.6	10.0
Management policy & systems	20	4	20.0	2.8	14.0	0.4	2.0	0.3	1.5	2	10.0	9.6	48.0
Environment impact	52	1	1.9	0.5	1.0	0	0.0	0.9	1.7	2.5	4.8	2.8	5.4
Stakeholders	4	0	0.0	2.3	57.5	0	0.0	0.8	20.0	1.3	32.5	1	25.0
Financial	8	0.5	6.3	0	0.0	0	0.0	0	0.0	3	37.5	2	25.0
General	10	2.6	26.0	3.5	35.0	1	10.0	1	10.0	2.1	21.0	4	40.0
Total	100	9.4	9.4	9.8	9.8	1.4	1.4	3.1	3.1	11.8	11.8	20	20.0

In order to get a clear picture on the extent and quality of the reported information, the quality of the disclosed information was scanned in detail based on the quality disclosure index as discussed in the subsequent paragraphs;

The entity: In this category companies were expected to provide information related to organisational profile that will enable users to understand the environmental performance of organization. Information can include name of organization, brand. Product and services provided structure of organisation. The maximum score for this category is six (6). The findings show that TBL scored 21.7% of the recommended scores. Twiga, TCC, and Simba had achieved 15 to 10% of the required score. While TATEPA scored 5% of the required points, TOL did not disclose any information about the entity, Table 7. Lack of sufficient information about the entity imply that the society has been denied a right to understand the name of the organizations type of products from the organization and organization structure .The information such as organization structure is important to the society because it tells the society who they should consult when they face any issues related to the environment. Furthermore by reporting the products and brand names, the reporting company will benefit as part of marketing their products.

Management policy and systems: In this category companies were expected to disclose if they have environmental policy, environmental objectives/target to address the impacts of the processes, products or services, information related to performance measured against previous year's target, environmental management system, environmental audit and employee environmental programme. The maximum score for this category is 20. From table 7 it can be observed that Simba achieved 48% of the scores on the management policy and systems. TBL achieved just below half of Simba's achievement. TCC and Twiga achieved 14 and 10 % of the required scores on the management policy and systems respectively. The least score was from TOL and TATEPA with at most 2%.

Simba provided intensive information related to environmental policy and the policy was disclosed consistently throughout the reported period. Simba complies with ISO14001 for environmental management systems whereby environmental objectives, targets and programmes are reviewed periodically depending on the needs. In resource utilization Simba committed to promote eco-efficiency, conservation of non-renewable resources and recycling of secondary materials by pursuing the optimal utilisation of resources, the reduction of waste and use of fossil fuel. Moreover, Simba has policy on prevention of pollution, continuously review environmental impact in order to minimize environmental degradation and rehabilitation of mining sites to self-sustainable or positively usable landform on final closure of operations. Despite the policy on environmental

impact, Simba indicated poor implementation of the policy as observed under the environmental impact quality category.

Simba committed to engage its stakeholders and report to them on environmental compliance and performance. Simba has committed on participating in environmentally related dialogue with stakeholders, provide appropriate environmental training for all employee and contactors and publish a report on sustainable development. TBL has been implementing the sustainable development framework with emphasis on the reduction in water and energy; however no explanation were provided about the framework. TATEPA explained that they have adopted policies aimed at protecting environment by distributing low energy stoves and forest nurseries to its small holder tea growers free of charge. In addition TATEPA explained that they discourage the harvesting of immature forest by not buying firewood harvested from immature forest. They further explained that they have programs, policies and independent standards that involve training of farmers of good agricultural practice, the use of pesticides and safe disposal of containers. Twiga has environmental policy on restoration of the quarry environment. Likewise TOL and TCC claimed to have environmental policy; however no details regarding the priority areas of environmental activities were mentioned. It is thought that disclosure of the environmental policy is important because it enables users to understand the details of the policy and strategies that company has set to achieve the environmental targets. However the general observation is that, while all the companies have shown to have environmental policy, very little was implemented in terms of the environmental impact as observed under the environmental impact quality category.

Information related to environmental management system was reported by TCC, Twiga, and Simba. All the three companies have in place an environmental management system certified by ISO 14001. Simba and TCC certified their environmental programme since 2004, while for Twiga environment management system was accredited in year 2010. Simba indicate in the reports on how they are committed to maintain the ISO 14001 certification; no commitments were reported by Twiga and TCC.

Most of the companies reported that they have training programme but they did not specify whether the training involved environment and awareness rising. More interesting is that, Simba despite having environmental policy for providing appropriate environmental training for all employees and contractor they only reported this information in 2006, as environmental training being among the environmental achievement for that year. No information was given by all companies related to environmental audit, though it is important information to the users as it assures the users about the state of environmental performance of the companies

Environmental impact: In this category companies were expected to report information on the inputs and outputs of their process. Information like material used, water consumption, energy consumption, pollution to water, emission to air, waste management, noise and odour, transportation. In addition information related to management process like environmental impact, supplier programme and clean technology were expected to be disclosed. Furthermore information related to product/service life cycle design and assessment and packaging was also expected to be reported. In this category the maximum score is 52. The results on table 7 indicate that the maximum percentage of achievement was 5.4% for Simba followed by 4.8% from Twiga. Other than TOL which did not score any in this category, the rest of the companies achieved at most 1.9%.

Information related to performance measured against previous year's target was reported by TBL, Simba and Twiga only. TBL started reporting the information since 2010, In 2010 TBL reported that, they have installed a data base software monitoring programme for water consumption at each production process and set target of 5% water and energy reduction per annum and the results in the subsequent year indicated an achievement of 13.4% and 1.6% reduction of water and energy usage respectively. The underperformance on energy reduction was mainly due to over usage of diesel for electrical self-generation. The use of diesel for generation of electricity is due to power shortages from the national grid in Tanzania. In 2012 and 2013 TBL reports indicated that they exceeded their targets on minimization of water and energy consumption.

Simba started reporting on environmental performance measurement since 2008; however between 2008 and 2011 they reported the information in general terms without quantification. For instance, as part of environmental awareness Simba reported they have reduced the emission of all critical gases, namely particulates, NOx, and SO_2 below the legal emissions limits. Better quality disclosure by Simba is observed in the 2012 and 2013 annual reports whereby the company managed to disclose information in a detail manner. In 2012 Simba reported that they have achieved important milestone in their environmental performance whereby emissions have been reduced to 50mg/Nm^3 which is below the legal limit of 500mg/Nm^3. This performance is ahead of the legal deadline of December 2013 after which emission may not exceed 50mg/Nm^3. In 2013 Simba reported that its environmental performance surpassed the set milestones and targets by achieving emission level below 50mg/Nm^3 each month throughout the year. Twiga reported information related to environmental performance measurement in general terms. For instance from year 2011 to 2013, the company reported that emissions monitoring took place for all operating kilns, and the results for dust and gases for two operating kilns were in full compliance with Tanzania national standard and in line with IFC/World bank standards for dust emission without clarifying the requirements of the referred standards.

It was anticipated that companies would have aimed at achieving maximum scores from this category because it is concerned with direct impact of the company activities on the environment. For instance every company uses energy in its production but none of them have disclosed information related to energy consumption. In addition type of energy used is important information to be disclosed because some types of energy are environmentally friendly and others are not. TBL claims to be one of the main users of water but failed to disclose information related to quantity of water consumed per year in its process. However in 2009, TBL reported that due to drastically shortage of water, new water recovery plant was installed that enabled the company to re-use 65% of its waste water in secondary, non-product application. None of the companies disclosed information related to type of material used in their products, noise and odours reduction and supplier program. TBL provided information related to management of waste effluent treatment plant in its annual reports. In 2006 TBL reported that the company managed to put in place effluent treatment plant in Dar es Salaam factory. In 2012 TBL reported that effluent treatment plant was completed in Arusha factory. Twiga in its annual reports reported that they had extensive rehabilitation of the two kilns and overhaul of other equipment during the period 2002 to 2006, which have had a major impact in reducing dust emission. Also Twiga reported that bag filters were installed for all three mills and the packing machines in 2005 and 2006. In 2010 TCC reported that the use of natural gas has reduced TCC's carbon dioxide emission by 30%. Generally it can be concluded that, despite the category to be most important, the category has been underreported and most probably could be due to the absence of guideline to assist the companies on how to report the environmental issues.

Stakeholders: In this category companies were expected to disclose if they have identified their key stakeholders and if they have communicated with them. The aim is to understand if the stakeholders' expectations are taken into consideration when reporting environmental issues. The maximum score for this category is 4. The findings show that, TCC achieved at least 57% of the required score followed by Twiga, Simba and TATEPA with 32.5%, 25% and 20% respectively. TBL and TOL did not provide any information regarding the stakeholders.

Financial: In this category companies were expected to report if they have environmental liabilities related to their activities, information related to current, past and future expenditure (i.e. expenditure related to purchase of environmental equipment or facilities, operations and remediation). The purpose is to know how much is spent in maintaining and improving equipment and issues related to restoration of environment. The maximum score for this category is 8. The findings on table 7 show that only Twiga, Simba and TBL disclosed information at 37.5%, 25% and 6.3% respectively. The rest of the companies did not provide any information in this category. TBL for instance spend money for installing waste water treatment plant in Dar es Salaam and Arusha. Twiga reported that they had extensive rehabilitation of the two kilns and the overhaul of the other equipment during the period of 2002-2006, and the cost related to these have been reported in their annual report since 2006-2012. Moreover, Twiga reported that despite having the quarry restoration plan, no provision has been set aside for this activity as they are expecting to use the removed overburden as natural backfill material. Likewise Simba reported provision for quarry restoration. The disclosure of information from this category by Simba and Twiga could be due to the nature of their activities, and requirements from government to set aside some money for restoration of their quarry after finishing limestone extraction (URT, 2004).

General: This category included items that are general and not captured in previously discussed categories. Information related to awards received, report design and accessibility, support for environmental organizations, compliance with global operating standards, conservation of environment etc. The maximum score for this is 10. The results on table 7 shows that the maximum achievement for this category was from Simba with 40% followed by TCC, TBL and Twiga with,35%,26% and 21% respectively .The least score was from TOL and TATEPA who scored 10% each. The trends indicate that, the companies are more willing to report information related to this category than the other categories probably due to the type information required. For instance companies would be more willing to report about awards received than penalties received.

To summarise, the research findings revealed that the level and quality of environmental reporting for the DSE listed manufacturing companies varies from company to company and year to year. However, the nature of reporting was observed to be similar in the sense that companies prefer to report less information an environmental impact of their activities. This nature of companies to lean on soft information which are strategic and mission based has previously been reported (Sutantoputra, et al;, 2012). It is important that companies should consider a balance of information relevance during reporting. The lack of balance on the information reported is probably due to lack of reporting framework that environmental reporting in Tanzania is done voluntarily.

5. Conclusion

In this study the level and quality of environmental disclosure for the selected DSE listed manufacturing companies were investigated using a content analysis approach. Annual reports for 2006 to 2013 for the six companies were reviewed and the data were statistically analysed using ANOVA. The results revealed that extent and quality of reporting varied depending on the nature of the company's operations. There were an increase in the extent of reporting from 2006 to 2013 and this were probably due to public awareness on environmental issues hence making

companies disclose more information. From the investigated companies, cement companies were the leaders followed by breweries on reporting. The nature of reporting was almost the same. Most of the companies reported very little information on environmental impact of their activities. Most of the reported information was mainly on management policy and systems and general categories. Lack of sufficient information on environmental impact of the company's activities imply that, the public is missing such information and there is need for setting guidelines for environmental reporting in Tanzania so as to ensure quality reporting under the voluntary reporting regime.

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