



ISSN: 0975-833X

RESEARCH ARTICLE

ENVIRONMENTAL ACCOUNTING PRACTICES IN BUSINESS: A CASE OF LARGE PETROL FILLING STATIONS IN ELDORET MUNICIPALITY, KENYA

*Peninah Jepkogei Tanui, Sarah Chumba and Jared Bogonko Bitange

Catholic University of Eastern Africa, Kenya

ARTICLE INFO

Article History:

Received 09th January, 2015
Received in revised form
22nd February, 2015
Accepted 24th March, 2015
Published online 28th April, 2015

Key words:

Environment Management,
Environmental Costs,
Environmental Accounting.

ABSTRACT

Environmental accounting practices are integral part of business success. They help in allocating environmental costs and integrating them in business decisions. These practices usually precede environmental reporting where the organization communicates its accountability regarding environmental efforts. Globally, some of the contemporary environmental issues that affect business include climate change, lack of access to clean drinking water, acute food shortages caused by draught and the use of non-renewable energy sources. Due to the rapid environmental deterioration, stakeholders, including business persons, are called to unite in curbing depletion of the natural resources by excessive human exploitation. The Kenya Vision 2030, in its social pillar, aims at making the country enjoy equitable social development in a clean and secure environment. This paper examines the environmental accounting practices and environmental costs of business based on a study of sampled large petrol filling stations in Eldoret Municipality in Uasin Gishu County, Kenya. The study was conducted in the month of November 2014. The study was guided by Stephen Ross and Barry Mitnick's Agency Theory. A total of 70 large petrol filling stations were selected using purposive sampling. The study employed a survey research design. Data was collected using questionnaires. Data analysis was done with the aid of the Statistical Package for the Social Sciences (SPSS) and presented using descriptive statistics. 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. In addition, there is need to devise ways to sensitize and motivate petrol filling stations to engage more in frequent evaluation of these practices, environmental reporting, support environmental groups, train on environmental issues and carry out more research on environmental issues.

Copyright © 2015 Peninah Jepkogei Tanui et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

Environmental accountability has become a crucial part of all aspects of life. It touches on all of human activities and is a key consideration in the development and running of national economies globally. Generally, the environment consists of all living (any living component) and non-living (soil, water, rocks and air) things. Despite the fact that the environment is the pillar of all life on earth, the world's ecosystem today is under threat because of increased human need for and exploitation of natural resources. The forms of human encroachment on natural resources include poaching, over-fishing, deforestation and all kinds of pollutions from industrial waste. The most commonly discussed environmental issues in the world today are: climate change, access to clean

drinking water, food shortages caused by draught and use of non-renewable energy sources. The deterioration of the earth's environment has necessitated the need for world leaders to unite in a bid to regulate the humanity's exploitation of the natural resources at the expense environment. On 23rd September 2014, United Nations Climate Summit was held in New York. The Summit brought together world leaders from government, finance, business and civil society sectors. The Summit tasked the leaders with the responsibility of coming up with strategies to reduce green gas emissions, strengthen climate resilience and mobilize political will for a meaningful legal agreement in 2015 (United Nations, 2014). Indeed, climate change is such a serious problem that it has caused global panic as national economies crumble due to drastic weather changes. With concerted efforts from all the stakeholders (the government, business sectors, families, civil society, religious and educational institutions) in the society,

*Corresponding author: Peninah Jepkogei Tanui,
Catholic University of Eastern Africa, Kenya.

environmental problems can be easily managed. Africa has borne the greater brunt of the negative effects of industrialization and development from developed countries. The endless cycle of poverty is both the result and the cause of many problems relating to environmental degradation in the continent. This is especially because Africa depends on natural resources for both economic and social needs since the socio-economic development of peoples depends mostly on agriculture and mining. In 2002, the World Summit on Sustainable Development (WSSD) was held in South Africa, 10 years after the 1992 Earth Summit (United Nations Conference on the Environment and Development) in Rio de Janeiro.

The WSSD delegates identified the environmental problems facing the sub-Saharan Africa as water pollution and sanitation, use of fuel as source of energy, deforestation, oil pollution and degradation of arable lands to support food production. The Summit, just like the United Nations Climate Summit of 2014, also called for partnerships between governments, business and civil society in the achievement of sustainable development, in its environmental, social and economic dimensions. The East African Community (EAC) developed an EAC climate change policy in 2011 to guide partner states and other stakeholders in the preparation and implementation of collective measures to address climate change in the region while assuring sustainable social and economic development. Climate change adaptation is the priority of EAC countries, especially due to high food shortage as a result of draught. The drafting of the policy shows commitment towards eradicating environmental problems in East Africa and beyond.

Kenya is one of the largest economies in East Africa and the chair of East African Community (EAC). The most common environmental issues affecting Kenya include deforestation, water pollution (due to agricultural chemicals, urban and industrial wastes), poaching of wildlife, poverty, floods, soil erosion and water shortage. Since independence in 1963, Kenya's first, second, third and fourth presidents have been in the frontline in spearheading measures of environmental preservation. The social pillar in the Kenya's Vision 2030 aims at solving environmental issues so as to create a just and cohesive society enjoying equitable social development in a clean and secure environment. To achieve this, some of the strategic flagship projects include improving the waste management system, rehabilitation and protection of indigenous forests in five water towers, preparation of a national spatial plan and securing wildlife corridors and migration routes.

Kenya is home to the 2004 renowned Nobel Peace Prize winner (for her work in Green Belt Movement), leading environmentalist and political activist the late Wangari Muta Maathai. In 1977, Wangari Maathai formed the Green Belt Movement, the indigenous grassroots non-governmental organization based in Nairobi, Kenya. The movement mobilised women in rural areas to plant trees and use other sources of fuel for cooking to combat deforestation (Maathai, 2004). The relentless effort by Kenyan leaders, the citizens and businesses are all directed at saving the country's environment for sustainable development of its social, economic and

political needs. The lead UN organization that deals with environmental issues is United Nations Environment Programme (UNEP). UNEP aims at providing leadership and encourages partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations. In its 2013 annual report, UNEP noted that there is need for stronger global, regional, national and local responses involving a wide range of actors to manage the planet's rich and diverse natural resources. In line with this ardent call, Kenya established the National Environmental Management Authority (NEMA) in 1999 under the Environmental Management and Co-ordination Act No. 8 of 1999 (EMCA) as the principal instrument of Government for the implementation of all policies relating to environment.

In its Strategic Plan for 2013-2018, NEMA aims at aligning the Authority's operations to Kenya's constitution and Vision 2030 to fulfil its 5 major objectives, namely: to coordinate stakeholders and lead agencies in order to create synergy in management of the environment; to ensure compliance with environmental legislation and policies in order to maintain a clean, healthy and sustainable environment, to strengthen institutional capacity for effective and efficient management of the environment; to build and nurture strategic partnerships aimed at enhancing sustainable management of environment, and to enhance the use of communication as a tool to achieve the Authority's performance objectives. Businesses in Kenya play a key role in the economic development of the nation. Apart from provision of goods, services and generating profits, businesses in Kenya need to move a notch higher by joining the government and other citizens in the management of environment. Safaricom Company Limited is one of the leading telecommunication companies in Kenya that has received environmental compliance certificate from National Environmental Authority (NEMA) because of its passion on environmental management (use of e-waste management system and green energy). Manu Chandaria, the leading industrialist and philanthropist, has been ranked the best among those who conduct business in an environmentally friendly manner without compromising future generation's ability to meet their needs in Kenya.

In his industries, Chandaria has implemented modern technology to ensure that waste water, materials and energy are well managed to prevent pollution. Having environmental management plans in place, both businesses and the environment can peacefully coexist. Kraft and Kamieniecki (2007) state that going green is not always economically efficient for businesses, even if it makes society better off in the long run. This statement is true because many businesses, both in Kenya and around the world, struggle with the problems resulting from strict environmental legislations. These problems include purchasing of eco-friendly equipment, packaging and materials; the changing demand of customers who require green products and organic products; high marketing costs for organic products, and implementation of recycle systems in the business for packaging and materials used. There is, therefore, a need for businesses to reconcile the tightening legislation on environmental issues with their pursuit of profit.

Statement of the Problem

Kenya is considered the most developed country in the Eastern Africa region in terms of its economy and infrastructure. Businesses in Kenya also enjoy easy access to a pool human resources (English, Kiswahili speaking and multilingual professionals with entrepreneurial tradition), natural assets and strategic location. Despite having all these resources that give it competitive edge against its neighbours, Kenya suffers from the problems of poor legal and regulatory environment that constantly disrupts the growth of both Small and Medium Enterprises (SMEs) and macro enterprises (Wanjohi, 2009). In a study carried out in Nairobi Central Business District by Wanjohi (ibid.), 84.2% of the challenges facing SMEs stem from unfriendly legal and regulatory environment laws. This means there is a need to enforce environmental legislations in a way that does not create problems for business investors and/or increase the cost of operations. Putting in place conducive environmental legislations and implementation plans will reduce the friction that businesses have with the government and enable them enjoy more stable growth. More importantly, properly implemented environmental legislations will help create harmony between the environment and businesses and enhance sustainable development for the present and the future generations. Therefore, as the government endeavours to draft and implement legislations, businesses will need to put in place environmental accounting skills and come up with business strategies will, in the long run, help them carry out environmental costs-benefit analysis. Being the pillar of Kenya's economy, business enterprises need to improve their strategies as regards incorporating environmental management in their daily operations. By so doing, they will reduce costs accruing from non-compliance with environment legislations thus gaining competitive advantage against the counterparts in other countries. Failure to do so may even lead to businesses in Kenya losing some of their customers, especially most people are currently enlightened on environmental issues. Moreover, businesses that do not comply with environmental legislation are bound to suffer heavy penalties from the environment legislations enforcing organizations. Failure to protect the environment directly contravenes the aspirations of the Kenya Vision 2030 of becoming middle income level economy by the year 2030. According to Uasin Gishu County Government (2014), there are 33,796 businesses in Eldoret Municipality. The study targeted 70 large petrol filling stations in Eldoret Municipality, the County headquarters. The filling stations were selected because their main product, namely petrol (which falls under fossil oil category), is among the most serious sources of environmental pollution. In case of leakage, petrol can cause soil contamination, fire, ground water and air pollution. Based on the study, this paper examines the environmental accounting practices and environmental costs among the selected large petrol filling stations with the aim of suggesting to Kenya's business operators ways to alleviate their managerial handicaps as a result of environmental legislations for better and competitive businesses internationally.

Theoretical Framework

The theory of agency by Stephen Ross (1973) and Barry Mitnick (1973) guided the interpretation and discussion

findings in the study. The theory explains the relationship between the principal and the agent in order to recommend the incentives for both parties and reduce agency costs in the long run (costs as a result of disagreement between the two parties). According to this theory, an agent is a party appointed to carry out a task on behalf of the principal. In relation to the study, businesses are seen as agents that have been entrusted by the principal (their surrounding environment) to carry out business activities in such a way as not to create conflict between the two parties, namely business entities and the environment.

Literature Review

Environmental concerns are important in any business and are a source of competitive advantage if addressed properly. Any successful business entity must put in place sound environmental management strategy to enhance compliance with the laid down environmental legislations. The review is divided into three sections. It begins with synopses on environmental management; followed by abridged section on environmental accounting; and lastly, outlines environmental accounting as a tool for peaceful coexistence between business and environment.

Environmental Management

Environmental management aims at ensuring that there is harmonious interaction between humans and the natural world. Biblically, the opening verses of Genesis state that God is the source of all life and that His creation is good. In Genesis Chapter 1 Verse 28, God commands humanity to replenish the earth and subdue it. Furthermore, in Chapter 2 verses 15 of the same book, God created man and put him into the Garden of Eden to dress it and keep it. In this regard, God calls upon all human beings to preserve and protect the earth and its creatures. This calls for the need for environmental management in all human institutions on earth, more so the businesses institutions since they are at the centre of human development and subsequent environmental destruction.

In the 1960s and 1970s, environmental movement emerged in the United States of America and much of its impetus still stems from present-day global environmental concerns (MacEachern and Turkel, 2009). The movement was founded on conservation issues but has since broadened to include more general social and scientific history or sustainable development. According to Worster (1992), environmental history looks at the physical impact of humans on earth (land, water, atmosphere and biosphere), how humans use nature (changing patterns of production and consumption) and how people think about the nature (attitudes, beliefs and values). Triple bottom line (TBL or 3BL) is an accounting framework which has been adopted by profit, non-profit and government organizations because it consists of three pillars for sustainability (social, environmental and financial) (Slaper and Tanya, 2011). All this goes to show how important the environment is and the need to manage it well for the present and future generations. In recent times, the world has experienced some of the biggest environmental crises as a result of over-exploitation of the natural resources. Human activities have been identified as significant cause of recent climate change or global warming (America's National

Research Council, 2010). According to Weber (2006), people must clearly perceive risks of global warming in order to take actions to manage them. As a result of environmental problems, many environmental policies and laws have been enacted.

Following the Millennium Summit of the United Nations in 2000, eight international development goals (popularly known as Millennium Development Goals [MDGs]) were established. The seventh MDG focuses on the need to ensure environmental sustainability which entails integration of sustainable development principles on every country's policies, reversing the loss of environmental resources and reducing biodiversity losses. Kenya in particular is faced with diverse and complex environmental challenges and has been struggling to resolve them. For a long time, the country had been operating without a national environmental policy. However, as the country strives to accelerate the pace of development, environmental concerns have become more evident (Kenya Environmental and Political News Weblog, 2009). The Kenya constitution, for instance, recognizes the need for environmental management because every person has a right to a clean and healthy environment (Kenya's Constitution Chapter 4 clause 42). This has led to the implementation of environmental legislations spearheaded by NEMA, Kenya's Constitution and the Vision 2030 development blue print. These legal frameworks are paramount in Kenya and as such every citizen and institution, including businesses, must observe these legislations.

Environmental issues have gained more prominence over the past decades thus increasing financial attention firms are giving to these issues (Coate *et al.*, 2014). Businesses, therefore, have an uphill task of ensuring that they meet the demands of their customers at the same time protect the environment. It is no longer business as usual. Ecological problems rooted in organizational activities have increased significantly, yet the role of corporations in achieving ecological sustainability is poorly understood (Shrivastava, 1995). Despite the problems faced by business as regards environmental issues, they need to be 'giraffe thinkers' in ensuring that they lay down measures for managing the environment. In their study, Russo and Fouts (1997) note that it pays to be green since environmental performance and economic performance of the firm are positively linked and that industry growth moderates the relationship, with the returns to environmental performance being higher in high-growth industries. This is good news to the Kenya's businesses. They should emulate this by putting in place sound environmental management strategies. Ethical trade is a fast-growing concept both in terms of interest and practice. It calls for a need to increase integration between social and environmental issues (Blowfield, 1999). The term 'ethical trade' in this case refers to the act of engaging in trade in a right and just way. It is true that businesses require ethics to ensure they balance their needs with those of the environment. This calls for the infusing of environmental management skills among business people both in Kenya and around the world. Environmental management requires an inclusive approach to be adopted so that all individuals and institutions are involved. According to Cortez and Penacerrada (2010), protecting the society and environment is part of the corporate social

responsibility of the corporations. As such, corporations and business entities should take responsibility for environmental crises if they cause damage to the environment. No single individual can be in charge of the environment; all are responsible for it. Businesses in Kenya have are currently faced with the challenge of complying with environmental legislations. According to Wanjohi (2009), 84.2% of the SMEs in Kenya's Nairobi Central Business District have the challenge with the government environmental laws. They view these laws as being 'unfriendly' to business operations. Environmental management programmes thus need to be established to provide a roadmap to achieving environmental goals. A good environmental programme consists of environmental accounting.

Environmental Costs

Environmental costs are those costs that arise as a result of complying with environmental legislations. United Nations (1997) defines environmental costs to include those connected with the actual or potential deterioration of natural assets due to economic activities. They can be those costs actually associated with economic units or potentially causing environmental deterioration by their own activities, or those costs incurred by economic units independently whether they have actually caused the environmental impacts or not. Jasch (2003) states that environmental costs or expenditures (costs on emission treatment, disposal, environmental protection and management) are assessed through environmental accounting. These costs affect managerial accounting and thus must be recognized, measured and included in product costs and firm decisions (Coate *et al.*, 2014). King and Lenox (2008) wonder: "When does it pay to be green?" May be a more important question is: "Does it pay to be green?"

Kenya's businesses should not give up 'going green' by simply checking the costs related to this task (asking themselves the question, "does it pay to go green?"). Rather, they should be able to assess the environmental costs accordingly. By so doing, businesses will understand the environmental costs that will in turn help them to answer the question of 'when does it pay to go green?' According to Environmental Protection Agency (1995), environmental costs relating to firms include potentially hidden costs (up-front, regulatory, voluntary and back-end costs), contingent, image and relationship costs. Businesses in Kenya also incur such costs and they need to understand and report them accordingly.

Environmental Accounting

Environmental accounting is a household term among many businesses nowadays, given the concerns on the environment. It is an integral part of businesses' success which helps in allocating environmental costs and integrating them in business decisions. In this regard, environmental accounting is done first so as to facilitate environmental reporting in any organization. Notably, the financial statements prepared by Kenya's businesses mainly show the core activities of the business and very little on issues of environment such as cost. For instance, in a study by Barako and Brown (2008), the findings show that the level of corporate social disclosure is not the primary concern of Kenyan banks because disclosure

level was at 15%. These results are tragic considering corporate social disclosure should be part of the organizational culture. Ingley (2008) also adds that companies are beginning to recognise the concept of Corporate Social Responsibility as presenting a new business model and an opportunity for building innovative forms of competitive advantage. Corporate social responsibility, which entails the need for a company to give reports to address the impact their activities on a broader social and environmental spectrum, is crucial and must be part of business routines. These reports detail information concerning their employees, customers, environment and society at large. It is high time that businesses, regardless of their size laid emphasis on incorporating in their reports their core activities as well as detailed environmental information. The goals of environmental accounting is to ensure compliance with regulations, increase efficiency of resource, energy and material use, decrease waste, continually improve environmental performance, reduce or minimize damage to the environment over the life-cycle of products and processes (Bebington, 1997). These goals are relevant to Kenya's businesses in their attempt to cope with the recent developments on environment.

Safaricom Company Limited, the leading telecommunication company in Kenya, and Chandaria Industries are among the business examples which others need to emulate when it comes to balancing business objectives and environmental management. The two companies have made notable efforts of going green in order to preserve the environment in the process of their day to day operations. These efforts include waste recycling systems, use of renewable energy sources and participating largely in environment campaigns in Kenya. According to United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development and World Bank (2003), environmental accounting can be conducted at the corporate level or national economy level. Therefore, Kenya's businesses should not leave the task of environmental management to the government but they too should own up and do the same. In their financial reports, businesses are required to give details on environmental issues such as costs in their financial accounts (prepared for external by lenders, investors and others) and managerial accounts (internal financial reports to support management forward-looking decision-making).

The United States Environmental Accounting Agency (1995) states that environmental accounting can be employed by firms, large and small, in almost every industry, in both the manufacturing and services sectors, large scale or small scale. There is increasing pressure from stakeholders concerned about the impact of corporate activities on the environment, and the costs of environmental legislation (Burritt *et al.*, 2002). Stakeholders' ethical branch theory states that all stakeholders have a right to fair treatment regardless of how distant or close they are to the business (Deegan *et al.*, 2000). In business, stakeholders consist of the customers, employees, government, lenders, suppliers and the surrounding community. Therefore, Kenya's businesses need to look at the environmental costs, performance and decisions whereby its top management must set the positive tone to adopt environmental accounting. By so doing, businesses will be able to report environmental related

impacts on its economic situation and company related impacts on environmental system (Schaltegger and Burritt, 2000). Furthermore, businesses will be able to comply with environmental legislations thus reducing costs related to legal cases as a result of non-compliance. Moreover, they will be able to protect the environment for posterity. No doubt the implementation of environmental accounting will put Kenya's businesses at a higher competitive edge compared to their African counterparts.

Environmental Accounting Practices for Peaceful Coexistence between Business and Environment

Environment and businesses can coexist peacefully. This is the essence of sustainable development. Environmental reporting represents a tool for providing environmental information to the stakeholders and for reflecting environmental performances and companies' concerns on environmental issues (Shearer, 2002). Branco and Rodrigues (2006) state that firms need to voluntarily incorporate economic, social and environmental concerns in their operations as part of Corporate Social Responsibility (CSR). Environmental costs and obligations will continue to grow in line with the consciousness of society, government regulation and corporations towards environmental concerns (Rezaee *et al.*, 1995). Hess (2007) also adds that the growing interest and the rise in prominence of corporate environmental and social reporting for achieving corporate accountability is in line with the new governance regulation model. In a study on environmental reporting among petroleum industries Ionel – Alin *et al.* (2012) state that independent board members and environmental committees help in securing the transparency of environmental performance within a company. In this regard, good environmental accounting practices help companies in disclosing environmental issues to various stakeholders.

According to Ehnert (2009), the concept of sustainable development has its roots in forest management which emerged as early as the 12th to 16th centuries. Over the past five decades, the concept has widened so much so that the Earth Charter for building a just, sustainable and peaceful society in the 21st century has been published (United Nations Conference on Environment and Development, 1992). According to the Brundtland Commission (1987), sustainable development refers to the practice working to meet the needs of the present without compromising the ability of future generations to meet their own needs. As a result, the United Nations Millennium Declaration identified principles and treaties such as environmental protection, economic, social development as a means to attaining sustainable development.

Businesses, therefore, need to ensure that they deliver competitively priced goods and services that satisfy human needs and bring quality to life, while progressively reducing ecological impacts and the intensity of resource exploitation throughout the life-cycle to a level at least in line with the earth's carrying capacity (DeSimone and Popoff, 1997). The study on which this paper is based targeted the contributions of Kenya's businesses to environmental management through environmental accounting. It has been noted that businesses exert minimal efforts in ensuring that the environment is protected because they operate under the "business as usual"

mentality (Cohen and Winn, 2007). In Kenya, for instance, the government agency called NEMA was formed in 2002 to deal with environmental management and policy. This agency works closely with the Kenya Bureau of Standards (KEBS) - member of International Organization for Standardisation (ISO) – that is responsible for governing and maintaining the standards and practices in Kenya.

Businesses in Kenya are must comply with the requirements of these institutions (NEMA and KEBS) which help them keep up with the legislation of protecting the environment to ensure sustainable development. Schmidheiny (1992) says that environmental costs need to be incorporated in the business accounts using full cost accounting method. Environmental accounting is an inclusive field of accounting that provides reports for both internal use (generating environmental information to help make management decisions on pricing, controlling overhead and capital budgeting) and external use (disclosing environmental information of interest to the public and to the financial community) (Bartolomeo *et al.*, 2000). To be on the safe side, therefore, Kenya's businesses need to show great concern for the environment by clearly accounting for it in their financial statements.

MATERIALS AND METHODS

The study was conducted in Eldoret Municipality, the headquarters of Uasin Gishu County in Kenya, during the month of November 2014. It targeted 70 large petrol filling stations in the Municipality. Purposive sampling was adopted because the list of large petrol filling stations was readily available.

Furthermore, the study adopted a survey research design. The list and location of petrol filling stations within the Municipality were as shown in the table below.

Table 1. List of large petrol filling stations in Eldoret Municipality

Location	Number of large petrol filling stations per location
CBD	47
Munyaka/Kimumu	2
Langas	5
Langas Phase 11	1
Mailinne/Uganda road	8
Kipkenyo/ Huruma	3
Industrial area	1
Kingongo	1
Kimumu	1
Eldoret municipal	1
TOTAL	70

Data was collected using questionnaires whose reliability and validity were tested using test and retest technique. After coding and editing, data collected was entered in the Statistical Package for the Social Sciences (SPSS) then analysed using descriptive statistics. However, among the 70 questionnaires issued, 40 were returned fully filled, 10 were not fully filled, 7 were not filled because the petrol stations in the list had diversified to other businesses and 13 were not returned.

RESULTS

The study sought to establish if large petrol filling stations in Eldoret Municipality carried out environmental accounting practices. The results were as shown in the table below.

Table 2. Statistics on Environmental Accounting Practices

		Carries out environmental accounting	Reports environmental issues in financial statements	Evaluates environmental accounting practices	Frequency of evaluation of environmental accounting practices	Incurs challenges in environmental accounting practices
N	Valid	40	40	40	40	40
	Missing	0	0	0	0	0
Mean		1.12	1.20	1.02	3.12	1.80
Mode		1	1	1	4	2
Variance		.112	.164	.025	1.446	.164
Skewness		2.357	1.559	6.325	-.904	-1.559
Std. Error of Skewness		.374	.374	.374	.374	.374

Table 3. Statistics for Image and Relationship Environmental Costs

		The firm incurs corporate image costs	The firm incurs host community relationship costs	The firm incurs environmental regulators costs relationship	The firm incurs customer relationship costs
N	Valid	40	40	40	40
	Missing	0	0	0	0
Mean		1.80	1.72	1.65	1.78
Mode		2	2	2	2
Skewness		-1.559	-1.048	-.654	-1.369
Std. Error of Skewness		.374	.374	.374	.374

Table 4. Statistics Contingent Environmental Costs

		The firm incurs future complaints costs	The firm incurs penalties and fines costs	The firm incurs natural resource damages costs	The firm incurs remediation costs
N	Valid	40	40	40	40
	Missing	0	0	0	0
Mean		1.75	1.80	1.82	1.80
Mode		2	2	2	2
Skewness		-1.200	-1.559	-1.778	-1.559
Std. Error of Skewness		.374	.374	.374	.374

The results in Table 2 clearly indicate that the large petrol filling stations in Eldoret Municipality carried out environmental accounting practices (87.5%). Therefore, only a small percentage (12.5%) of these petrol filling stations did not carry out environmental accounting practices. The results further showed that 80% of the large petrol filling stations reported on environmental issues in the financial statement, one of the major tasks in environmental accounting practice, whereas 20% do not report. Apart from practicing environmental accounting practices, 97.5% petrol filling stations evaluated these practices compared to 2.5% who did not. Still on evaluation of environmental accounting practices, the results of how often this exercise was done had majority of the petrol filling stations (60%) doing yearly while others did on a monthly (17.5%), quarterly (12.5%) and semi-annual (10%) basis.

Table 5. Statistics for Potentially Hidden Environmental Costs

		The firm incurs environmental reporting costs	The firm incurs inspection costs	The firm incurs financial support for environmental groups	The firm incurs training on environmental issues	The firm incurs labelling costs
N	Valid	40	40	40	40	40
	Missing	0	0	0	0	0
Mean		1.63	1.45	1.75	1.68	1.53
Mode		2	1	2	2	2
Skewness		-0.537	0.209	-1.200	-0.777	-0.104
Std. Error of Skewness		.374	.374	.374	.374	.374

Table 6. Statistics for Potentially Hidden Environmental Costs

		The firm incurs environmental insurance cost	The firm incurs pollution control costs	The firm incurs spill response costs	The firm incurs waste management costs	The firm incur recycles costs	The firm incurs environmental studies, research and development costs
N	Valid	40	40	40	40	40	40
	Missing	0	0	0	0	0	0
Mean		1.6	1.25	1.23	1.23	1.73	1.93
Mode		2	1	1	1	2	2
Skewness		-0.424	1.200	1.369	1.369	-1.048	-3.354
Std. Error of Skewness		.374	.374	.374	.374	.374	.374

The environmental accounting practice seems to be facing minimal challenges so that 20% of the large petrol filling stations faced the challenges compared to 80% that did not. The study also sought to determine environmental costs associated with the large petrol filling stations in Eldoret Municipality. The findings were as shown in the table below. From the results in Table 3 above, majority of the large petrol filling stations in Eldoret Municipality did not incur the image and relationship environmental costs as shown by the mode (2 which represent 'No').

Each category of these costs had negative skewness so that in terms of percentages, the filling stations did not face these costs in terms of corporate image (80%), relationship with host community (72.5%), relationship with environmental regulators (65%) and relationship with customers (77.5%). Table 4 above indicates that more than half of the large petrol filling stations in Eldoret Municipality do not incur contingent costs as shown by the mode (2 which represents 'No'). In addition, the negative skewness is a clear indication that future complaints (75%), penalties and fines (80%), natural resource damages (82.5%) and remediation (80%) contingent costs are not incurred. The table below shows the study findings on the

potential hidden environmental costs. Table 5 and 6 summarize the statistics for various potentially hidden environmental costs. The large petrol filling stations in Eldoret Municipality face potentially hidden environmental costs which include inspection, pollution control, spill response and waste management costs as shown by the Mode (1 which represents 'Yes') and positive skewness (0.209, 1.200, 1.369 and 1.369, respectively). In terms of percentages, these costs incurred by the filling stations were: 55%, 75%, 77.5% and 77.5%, respectively. On the other hand, the petrol filling stations did not incur other potentially hidden costs such as environmental reporting, financial support for environmental groups, training on environmental issues, labelling, environmental insurance, recycling, environmental studies, research and development. This is shown by the mode (2 – which represents 'No') and the

negative skewness (-0.537, -1.200, -0.777, -0.104, -0.424, -1.048 and -3.354 respectively). In terms of percentages, the scores for these potentially hidden costs were: 62.5%, 75%, 67.5%, 52.5%, 60%, 72.5% and 92.5%, respectively.

DISCUSSION

Environmental Accounting Practices

Environmental accounting practices are very vital for any business, especially in the present times when sustainable development is being encouraged in all places. From the findings of the study, most of the large petrol filling stations in Eldoret Municipality have taken up the task of environmental management and incorporated it into their daily business activities. The study results showed that most of the filling stations have environmental accounting as part of their practices and thus report in their financial statements. These results concur with the views of Branco and Rodrigues (2006) that require firms to incorporate social, economic and environmental aspects in their operations. In addition, the results agree with what Slaper and Tanya (2011) state, that

businesses, regardless of their nature, have adopted the triple bottom line (TBL or 3BL) accounting framework.

Incorporating environmental practices in their business operations implies that the large petrol filling stations in Eldoret Municipality have fulfilled the three pillars of the sustainability (social, environmental and financial). Moreover, God's command to preserve and protect the earth is obeyed by businesses carrying out environmental preservation practices. It has been observed that environmental accounting practices need to be conducted at corporate and national level (United Nations, European Commission, International Monetary Fund, World Bank, Organization for Economic Cooperation and Development, 2003). The study revealed that, as corporations, most of the large petrol filling stations have dedicated themselves to ensuring that the environmental accounting practices are upheld. Implementing these practices in business is also part of meeting the MDG number 7 of the United Nations. In this case, petrol stations will be at the forefront in reversing the loss of environmental resources and thus creating environmental sustainability. In this way, businesses (including large petrol filling stations) and the environment can peacefully coexist.

Environmental Costs

Environmental costs need to be identified and reported as they occur. Based on the findings of the study, large petrol filling stations in Eldoret Municipality do incur these costs. This shows that the costs are being assessed through environmental accounting (Jasch, 2003). The results of the findings on environmental costs, according to Environmental Protection Agency (1995), do not agree with the categories of costs which the business should incur. However, more than half of the petrol filling stations do not incur the contingent, image and relationship costs. On the other hand, potentially hidden environmental costs such as inspection, pollution control, spill response and waste management are largely faced by majority of the filling stations. The other costs under this category (environmental reporting, financial support for environmental groups, training on environmental issues, labelling, environmental insurance, recycling, environmental studies, research and development) do not affect many petrol filling stations as shown by the findings. However, the filling stations need to carry out more research and development studies to be able to unravel more on how to avoid environmental costs of businesses. In addition, there is need to recycle more of the used up resources as a way of reducing pollution, saving energy, reducing waste products and mitigating global warming.

Conclusion and Recommendations

The earth's environment is key to human life. This is why businesses are beginning to focus their attention on, not only the social and economic but also environmental impact of their business activities. The best framework for this endeavour is that of the triple bottom line accounting which helps a business to pursue the three pillars of sustainability (social, environmental and financial). By so doing, business objectives will no clash with the need to preserve the environment.

Based on the findings, analysis, discussions and conclusions of the study, it is recommended that there is a need to come up with ways to come up with ways to deal with the challenges being faced by large petrol filling stations while carrying out environmental accounting practices. Moreover, there is need to sensitize the large petrol filling stations to engage more on environmental reporting, financial support for environmental group, training on environmental issues, environmental studies, research and development. In addition, despite the fact that large petrol filling stations evaluate their environmental accounting practices, there is need to designate the ideal time to do this task to avoid doing evaluations at the end of the year when corrective actions cannot be implemented in time.

REFERENCES

- Blowfield, M. 1999. Ethical trade: A review of development and issues. *Third world Quarterly*, 20(4), 753-770.
- Barako, D. G., and Brown, A. M. 2008. Corporate Social Reporting and board representation: Evidence from the Kenyan banking sector. *Journal of management and governance*, 12, 309-324.
- Bebbington, J. 1997. A review essay on environmental accounting. *Accounting, Auditing and Accountability Journal*, 10(3), 365-376.
- Bartolomeo, M., Bennet, M., Bouma, J. J., Heydkamp, P., James, P., and Wolters, T. 2000. Environmental management accounting in Europe: Current practice and future Potential. *The European Accounting Review*, 9(1), 31-52.
- Branco, M. C., and Rodrigues, L. L. 2006. Corporate social responsibility and resource-based perspective. *Journal of Business Ethics*, 69, 111-132.
- Brundtland Commission 1987. *Report of the world commission on environment and Development*. United Nations.
- Coate, C. J., Frey, K. J., and Sakovich, W. S. 2014. Environmental accounting and reporting 101. Retrieved from http://www.newaccountantusa.com/newsFeat/ip/ip_environmental.html
- Cohen, B., and Winn, M. I. 2007. Market imperfections, opportunity and sustainable Entrepreneurship. *Journal of Business Venturing*, 22(1), 29-49.
- Cortez, M. A. A., and Penacerrada, N. T. 2010. Is it Beneficial to Incur Environmental Cost? A Case Study of Toyota Motors Corporation, Japan. *Journal of International Business Research*, 9(2).
- Deagan, C., Rankin, M., and Voght, P. 2000. Firms' disclosure reactions to major social Incidents: Australian evidence. *Accounting forum*, 24(1), 101-130.
- DeSimone, L., and Popoff, F. 1997. *Eco-efficiency: The business link to sustainable Development*. Cambridge: MIT Press.
- Environmental Protection Agency 1995. *An introduction to environmental accounting as a Business management tool: Key concepts and terms*. Environmental protection Agency USA. Office of Pollution prevention and toxics, Washington D.C.
- Ehnert, I. 2009. *Sustainable Human Resource Management: A conceptual and exploratory Analysis from a Paradox Perspective*. Springer. Holy Bible (King James Version). *Genesis 1:28* (easy reading edition word of Christ in Red).

- Lagos, Nigeria: Hilson Publishers and Distributers Ltd. Holy Bible (King James Version). *Genesis 2:15* (easy reading edition word of Christ in Red). Lagos, Nigeria: Hilson Publishers and Distributers Ltd.
- Hess, D. 2007. Social Reporting and New Governance Regulation: The Prospects of Achieving Corporate Accountability through Transparency. *Business Ethics Quarterly*, 17(3).
- Ingle, C.B. 2008. Company growth and Board attitudes to CSR. *International journal of Business Governance and Ethics*. Vol 4 (1), p.p. 17-39.
- Ionel – Alin, I., Emil, P. I., and Maria, I. N. 2012. Environmental reporting and good practices of corporate governance: Petroleum Industry Case study. *Procedia Economics and Finance*, 3, 961-967. Babes – Bolyai University, Romania.
- Jasch, C. 2003. *The use of environmental management Statistics, studies in methods*. Series F.No. 67. New York.
- Kraft, M. E., and Kamieniecki, S. 2007. *Business and environmental policy: Corporate Interests in the American political system*. American and Comparative environmental Policy. Cambridge, MA: MIT Press.
- Kenya Environmental and Political news Weblog 2009. Kenya in dire need of a national Environmental Policy. Retrieved September 16, 2014 from <http://www.kenvironews.wordpress.com>
- King, A. A., and Lenox, M. J. 2008. Does it really pay to be green: An empirical study of Firm Environmental and financial performance. *Journal OF Industrial Ecology*, 5(1), 105-116.
- MacEachern, A., and Turkel, W. J. 2009. *Method and Meaning in Canadian Environmental History*. Toronto: Nelson Education.
- Maathai, W. 2004. *Green Belt Movement: Sharing the approach and the experience*. New York: Lantern Books.
- Mitnick, B. M. 1973. *Fiduciary rationality and public policy: The theory of agency and some consequences*. Paper presented at the 1973 Annual Meeting of the American Political Science Association, New Orleans, Louisiana, September
- National Research Council 2010. *America's Climate Choices: Panel on Adapting to Impacts of Climate Change*. The National Academies Press.
- Rezaee, Z., Szendi, J. Z., and Aggarwal, R. 1995. Corporate Governance and Accountability for Environmental Concerns. *Managerial Auditing Journal*, 10(8), 27-33.
- Russo, M. V., and Fouts, P. A. 1997. A resource based perspective on corporate Environmental Performance and Accountability. *Academic journal of management*, 40(3), 534-559.
- Republic of Kenya: Vision 2030. www.vision2030.go.ke/cms/vds/Popular_Version.pdf
- Republic of Kenya. National Environmental Management Authority (NEMA). www.nema.go.ke
- Republic of Kenya 2010. *The Constitution of Kenya* (Chapter 4, Clause 42: The Bills of Rights).
- Ross, S. A. 1973. The economic theory of agency: The principal's problem. *American Economic Review*, 62(2), 134-9.
- Shrivastava, P. 1995. The role of corporation in achieving ecological sustainability. *Academic Journal of Management*, 20(4), 936-960.
- Shearer, T. 2002. Ethics and accountability: From for itself to the for-the-other. *Accounting, Organizations and Society*, 27, 541-575.
- Schaltegger, S., Hahn, T., and Burritt, R. L. 2000. Environmental Management Accounting - Overview and Main Approaches. Centre for Sustainability Management at the University of Lueneburg, Germany.
- Scerri, A., and James, P. 2010. Accounting for sustainability: Combining qualitative and Quantitative Research in developing indicators of sustainability. *International Journal of Social Research Methodology*, 13(1), 41-53.
- Saunders, M. 2007. *Research Methods for Business Students* (4th ed.). New Jersey: Prentice Hall.
- Schmidheiny, S. 1992. *Changing Course: A global business on development and the Environment*. Cambridge: MIT Press.
- Slaper, T. F., and Tanya, H. J. 2011. The Triple Bottom Line: What is it and how it Works. *Indiana Business Review*, 86(1).
- United Nations 1992. World Summit on Sustainable Development (WSSD), South Africa. United Nations.
- United Nations 1992. *United Nations Conference on Environment and Development*. United Nations.
- United Nations 1997. *Glossary of environment statistics, studies in methods*. Series F. No.67: New York.
- United Nations, European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development and World Bank 2003. *Hand book of National Accounting: Integrated Environmental and Economic Accounting*. Author.
- United Nations 2014. *United Nations Climate Summit*. New York, 23rd September, 2014.
- Weber, E. U. 2006. Experience – based and description based perceptions of long-term Risks: Why global warming does not scare us (yet). *Climate Change*, 77(1 and 2), 103-120.
- Worster, D. 1992. *Under Western Skies: Nature and History in the American West*. Oxford University Press.
- Wanjohi, A. 2009. *Challenges facing Small and Medium Enterprises in Kenya*. Retrieved from <http://www.kenpro.org/challenges-facing-smes-in-kenya-and-the-efforts-in-progress/>
