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Towards Implementation of Green Practices for Environmental Compliance by Beverage Producing Industries in Kampala, Uganda

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Natural resource depletion as a result of widespread worldwide economic growth has encouraged business players to rethink the environment. Therefore, the adoption and implementation of green practices by business-oriented players are likely to abate some challenges brought about by unsustainable industrial practices. The study aimed to assess the implementation of green practices by beverage-producing industries in Kampala. It tried to determine the types of green practices adopted by the beverage-producing industries, explored drivers that encouraged green practices adoption, and the benefits the beverage-producing industries obtained as a result of green practices adoption. Methods including questionnaire surveys and interviews were used to elicit the required data for the study. Water conservation (CV=12.1), green awareness (CV=12.0) and energy management (CV=12.5) were mainly the green practices adopted by beverage-producing industries. Implementation of the green practices was enabled by regulatory bodies, pressure from the local community and a need for international recognition among others. The beverage-producing industries benefited by gaining a competitive advantage, improved customer relations and easy access to foreign markets. It is recommended that business firms promote more green awareness, and regulatory bodies continue to mount more pressure on all the business firms for more conformation aimed at enabling the environment to become more compliant and sustainable.

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INTRODUCTION

Natural resource depletion as a result of widespread economic growth has encouraged business players to rethink the environment (Purwandani & Michaud, 2021). Environmental pollution as a result of activities, including business firm operations, has become a major concern that requires greater attention (Suharti & Sugiarto, 2020). Industrial activities are ever-increasing in order to answer the needs of the growing population, which results in greenhouse gas emissions that contribute to environmental destruction (Moise *et al.*, 2021; Al-Juboori *et al.*, 2020). The adoption and implementation of green practices by industries are more likely to abate pollution (Barakagira & Paapa, 2023) and its effects on environmental sustainability (Barakagira & Paapa, 2023; Woo *et al.*, 2017). Green practices are highly connected to natural resource protection (Abofemi & Ihunwo, 2022). Green practices are viewed as environmentally sound undertakings of industries (Smith & Perks, 2010), which may include energy and water saving, solid waste reduction and reduction in operational costs (Barakagira & Paapa, 2023; Manaktola & Jauhari, 2007). Green practices constitute the production of environmentally responsible practices (Foris *et al.*, 2020) together with environmentally friendly goods that cause minimal environmental damage (Abofemi & Ihunwo, 2022).

Relatedly, green practices adopted in industries during the production chains are aimed at significantly lessening the eco-footprint due to the use of land, energy, water and chemicals

(Rodriguez-Sanchez & Sellers-Rubio, 2021; Kee *et al.*, 2023), which would otherwise lead to an escalation of the pollution of the environment. Green practices may also involve the use of modern technology by an organization, green procurement utilization by a firm, adoption of energy management practices, prevention of air pollution, green building designs, green manufacturing and promotion of water conservation (Al-Juboori *et al.*, 2020; Cuce *et al.*, 2017; Smith & Perks, 2010). Onyinkwa & Ochiri (2016) posit that industrial and business sectors should aim at balancing productivity and competitiveness alongside promoting environmental integrity through the restructuring of supply chain networks to achieve environmental sustainability.

Across the world, green issues especially in developed countries are top on the agenda, and as a result, firms employ a variety of strategic ways to counter the challenge leading to environmental benefits, economic advantages, competitive advantage, and promotion of social responsibility towards environment (Kee *et al.*, 2023; Luo *et al.*, 2021; Yee *et al.*, 2020). Implementation of green practices differs between the most and least developed countries (Sachan & Datta, 2005). However, Christopher (2011) argues that despite governments, industries and the general population receiving a plethora of important reports on the subject of greenhouse gases, getting everyone to agree on the use of green practices has proven to be challenging.

Many of the obstacles that have impeded the successful adoption of green practices are common

in both industrialized and developing countries. Policies and regulations, unfriendly management styles, resources, costs and lack of environmental awareness, as reported by Luo *et al.* (2021) are some of the barriers. In addition, (Purwandani & Michand, 2021; Carret *et al.* 2014) document that the adoption of green techniques is sometimes hampered by continuous demand for economic growth as well as a lack of funding and technical resources. Ghazilla *et al.* (2015) state that, weak organizational structure, lack of support, lack of corporate social responsibility, a society with low green attitudes, inadequate research and development, design technology, lack of environmental enforcement and limited financial resources hinder effective green practices enforcement. In addition, the lack of skilled staff and less severe penalties for the non-conformists to environmental regulations further compounded the problem of the green practices' implementation (Loke *et al.*, 2014). Kaur (2021) states that initial implementation costs, high costs and complicated certification process, weak legislation and management style significantly affect the adoption and implementation of environmentally sustainable practices.

In the developing countries of Africa, UNEP (2016) reports that management of the environment and natural resources remained one of the biggest challenges forcing the government to continuously pursue major policies and development initiatives. For example, in 2011, the Kenyan government with support from the Climate Change and Development Knowledge (CDKN), the Common Market for Eastern and Southern Africa (COMESA) and other development partners commenced the process of developing a comprehensive climate change action plan (GOK, 2012). The United Nations Climate Change conference held in South Africa in 2011 agreed on a new legally binding treaty limiting greenhouse emissions to all 194 member state countries including Uganda (GOK, 2012). According to the 2008 report of the National Environment Authority, a Memorandum of

Understanding was entered between Kenya and the United Republic of Tanzania to establish a treaty of the East African Community (EAC) and the waste and climate convention on control of transboundary movements of hazardous waste disposal (GOU, 2008).

In Uganda, the environmental regulation National Environment Act of 1995 which established the National Environment Management Authority (NEMA) as a watchdog, marked the beginning of the hunt for knowledge regarding environmental management concerns. Despite the high expense of compliance, industries that flout laws like the Wetlands Protection Act of 1995, the Water Act of 2006, the National Environment Action Plan (NEAP) of 1994 and the Environmental Conservation Act of 2006, as they conduct business, face serious consequences (GOU, 2008). Ugandan Policymakers understand the industrial sector's significance for sustained economic growth. However, Uganda's industrial sector, like any other industrialized area, demands environmentally sound and responsive practices for the needs and interests of society (Nsambu, 2016). This is the reason why green practices were encouraged in all sectors of the country for environmental sustainability. The Economic Survey of 2012, states that 400 Ugandan businesses in the industry sector were engaged by the Ugandan government through NEMA to persuade them to implement green practices that aimed at curbing high costs of fuel, raw material supply and high costs of production. Another economic survey conducted in 2016 showed that only 24% of the manufacturing industries in Uganda tried to adopt some green practices (Nsambu, 2016). This is the reason why Jjuko (2015) indicated that there were less stringent regulatory and enforcement mechanisms where manufacturing firms in Uganda had the potential to lower the quality of the environment by not employing green practices. Nsambu (2016) stated that Uganda, like any other developing country, needed to have its industrialized activities pay attention to environmental protection. It was hence against this

background that the study was set out to (i) determine the types of green practices adopted by beverage-producing industries in Uganda; (ii) explore the drivers to green practice implementation by beverage-producing industries in Uganda; and (iii) determine the benefits the beverage producing industries in Uganda are getting through the implementation of green practices.

METHODS AND MATERIALS

The study gravitated to ascertaining whether beverage-producing industries in Kampala implemented green practices for environmental compliance. The study employed a cross-sectional research strategy, in which a semi-structured questionnaire (attached) was used to collect qualitative and quantitative data throughout the research survey. Before the questionnaire was administered, the respondent had to first consent whether s/he was willing to participate in the study (form attached). Different alternatives based on the five-point Likert scale existed in the questionnaire, where the respondents selected appropriate responses that concerned types of green practices, drivers and benefits of green practice implementation. The questionnaire was opted for because it is quite easy to administer with less interference to the respondents (William, 2011). After being calculated, the Cronbach's alpha coefficient was discovered to be $\alpha = 0.963$, which exceeded $\alpha = 0.70$ and confirmed the reliability of the items found in the questionnaire as stated by (Amin, 2005). The qualitative data collected corroborated the quantitative data (Lindlof & Taylor, 2011).

Furthermore, a semi-structured interview guide was utilized to collect data using a qualitative descriptive design method from top-level managers who were identified as Key Informants. The top-level managers were deliberately chosen in accordance with Hyman *et al.* (2001). These provided experts with information about green practices' implementation in the beverage industries. The information enriched the collected

data on the topic of the study (Kombo & Tromp, 2006). Interviews were sought because they provide in-depth information about a particular research issue and can help achieve information about experiences on the study subject (Mugenda & Mugenda, 2003).

A total of twenty-nine beverage industries that comprised 170 officials including managers, supervisors and corporate customers (Uganda Manufacturers Association, 2018) were considered for the study. From the 170 officials, a total of 119 members were randomly selected and included in the study as the sample size which was calculated using Yamane's formula (1967); $n = N / (1 + Ne^2)$.

$$n = 170 / (1 + 170 \times 0.05^2)$$

$$n = 119$$

(n = sample size; N = Total number of officials; e = significant level, 5%).

The sample size of $n = 119$ was regarded as significant and representative of the number of beverage industries in Kampala. Out of the 119 respondents randomly selected and administered the questionnaire, 103, representing a response rate of 86.6%, participated in the study. The percentage was regarded as ideal for the study since it was beyond 70% of the response rate (Mugenda & Mugenda, 2003).

IBM-SPSS for Windows version 20.0 was used to analyze the data that was gathered using the questionnaire. This yielded both descriptive and inferential statistics that concern green practice implementation for environmental compliance by beverage-producing firms in Kampala. Descriptive statistics like frequency and mean gave the information on the background information of the respondents and also types of green practices. Inferential statistics like the correlation gave the results concerning the possible associations between the constructs under study, such as how regulatory pressure affects the adoption of green practices by the beverage-producing industries in

Kampala. The key informants availed data that were thematically classified based on specific interests (Sarantakos, 2005; Sekaran, 2003).

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

The demographic profile of the respondents (Table 1) showed that the majority (81%) were males while only 19% were females. The majority (77.4%) were aged 26 years and above. The biggest percentage (94.6%) had at least attained the post-secondary (diploma and above) level of education. Also, most of them (80.7%) had dealt or worked with the beverage-producing industries for 6 years and above. This meant that most beverage industries in Kampala are mostly associated with males, with fewer females involved since in most cases, industrial activities are mostly regarded as male-

related works. The results also showed that the respondents had the capacity to inform the researchers how green practices had been implemented in the beverage-producing industries based on their academic qualifications and the period worked or dealt with the firms. In addition, the respondent's level of education indicated that the responses provided were based on some higher level of discernment among the enablers of the different green practices implemented. A smaller percentage of female participants in the study could also, have been attributed to a low network among the females who exhibited the desire to work in the beverage-producing industries as reported by UNICEF (2023), yet, women are sometimes regarded as very influential agents of change that can contribute to sustainable development (Leach, 2016).

Table 1: Demographic Profile of the Respondents. N = 103 (Primary data, 2020)

| Attribute | Categorical Level | Percentage |
|--------------------------------------|--------------------|------------|
| Gender | Male | 81 |
| | Female | 19 |
| Age | 18 – 25 | 22.6 |
| | 26 – 35 | 46.2 |
| | 36 – 45 | 19.4 |
| | 46 and above | 11.8 |
| Educational level | Secondary | 5.4 |
| | Diploma | 21.5 |
| | Degree | 73.1 |
| Period worked or dealt with the firm | Less than 5 years | 19.4 |
| | 6 – 10 years | 62.4 |
| | 11 years and above | 18.3 |

Types of Green Practices Adopted by Beverage-Producing Industries

The beverage-producing industries in Kampala implemented some green practices aimed at environmental compliance. They include energy management, water conservation, waste management, reduction in packaging, and green awareness, among others, as shown in Table 2. The

mean scores obtained did not significantly vary and hence the Coefficient of Variance (CV), which is the measure of dispersion of data around the mean, is the ratio of standard deviation to the mean (Li, 2016), had to be determined to give insights on the practices to concentrate on. A lower ratio means the activity is more significant.

Table 2: Green Practices Adopted by Beverage Producing Industries in Kampala (Respondents Questionnaire Survey, 2020)

| Green Practices | Mean | Standard deviation (std) | Coefficient of Variance (CV) |
|------------------------|------|--------------------------|------------------------------|
| Energy Management | 3.83 | 0.480 | 12.5 |
| Water Conservation | 4.23 | 0.511 | 12.1 |
| Waste Management | 3.91 | 0.521 | 13.3 |
| Reduction in packaging | 3.45 | 0.640 | 18.6 |
| Green Awareness | 4.11 | 0.492 | 12.0 |

Measure scale: 1.00 – 1.80 Rarely undertaken; 1.81 – 2.60 Least undertaken; 2.61 – 3.40 Moderately undertaken; 3.41 – 4.20 Sometimes undertaken; 4.21 – 5.00 Highly undertaken.

The beverage-producing industries are practising more green awareness (CV=12) followed by water conservation (CV=12.1) and then energy conservation (CV=12.5). Reduction in the packaging (CV=18.6) was the least green practice adopted by the beverage-producing industries in Kampala. From the findings, it was revealed that green awareness was implemented through seminars and guest speakers the workers accessed occasionally. Water conservation was achieved through recycling and installation of water-efficient equipment. Utilizing highly energy-efficient lighting systems and renewable energy sources, such as solar systems, was the primary method of energy management.

The results are in agreement with authors like Barakagira & Paapa (2003) and Murimi (2020) who stated that water conservation, energy management and waste management are some of the green practices implemented by different firms for environmental sustainability. Abrudu *et al.* (2020)

and Kaur (2021) mentioned that water management and waste reduction, among others, are some of the initiatives adopted by firms to keep the environment sustainable. Waste and energy management, as mentioned by Luo *et al.* (2021), are some of the practices which must be paid attention to by firms to curb some dangerous environmental issues. Regarding green awareness, Luo *et al.* (2021) posit that green leadership and innovation is one of the programmes that may promote the adoption of environmental practices by firms. Obafemi & Ihunwo (2022) stated that green marketing and packaging changes not only help in brand awareness but also contribute to the sustainability of the environment.

Drivers to Green Practice Implementation by Beverage Producing Industries in Uganda

Several green practices, including among others, green awareness, water conservation and energy conservation (Table 2) were adopted by the food and beverage industries in Uganda. Some enablers of green implementation include pressure from regulating bodies, customers, international recognition, pressure from the local community, improved image of the organization, and competition as shown in Table 3.

Table 3: Drivers to Green Practice Implementation (Respondents Questionnaire Survey, 2020)

| Drivers | Mean | Standard deviation | Coefficient of Variance |
|---------------------------------|------|--------------------|-------------------------|
| Regulatory bodies | 4.68 | 0.621 | 13.3 |
| Customers | 3.58 | 0.592 | 16.5 |
| International recognition | 4.18 | 0.619 | 14.8 |
| Pressure of the local community | 4.69 | 0.630 | 13.4 |
| Improved image | 4.17 | 0.606 | 14.5 |
| Competition | 4.68 | 0.589 | 12.6 |

Mean scale: 1.00-1.80 Rarely enabled; 1.81-2.60 Least enabled; 2.61-3.40 Moderately enabled; 3.41-4.20 Sometimes enabled; 4.21-5.00 Highly enabled.

The most common enabler of green practice implementation by the beverage-producing industry was competition (CV=12.6), followed by regulatory bodies (CV=13.3) and pressure from the local community (CV=13.4). The least enabler of green adoption was customers (CV=16.5). Competition was the main enabler probably because, in order to keep afloat in business, the management of the firms had to ensure that their undertakings positively met the expectations of the national and international community for easy marketing of their products. This could be true since also, pressure from the local community was also mentioned as one of the other drivers for the implementation of green practices. The findings are in agreement with Purwandani &

Michaud (2021), Ashton *et al.* (2017), and Alayon *et al.* (2022) who stated that commercial and financial benefits and competitiveness encourage business firms to adopt green practices. On regulations, one key informant stated;

“The regulations are tough and serious, and quite many firms have fallen victim of the regulatory bodies. I am sure that if the authorities implemented the regulations as they are written in the books, many firms country-wide would fall victim”.

A correlation coefficient test on regulatory pressure and green practice implementation was conducted. The results revealed that regulatory pressures significantly influenced the implementation of green practices by the beverage-producing industries in Uganda at $P < 0.05$, as shown in Table 4.

Table 4: Correlation Coefficient Test Between Regulatory Pressure and Green Practice Implementation (Respondents' Questionnaire Survey, 2020)

| Test Variable | | Regulatory Pressures | Implementation of green practices |
|-----------------------------------|---------------------|----------------------|-----------------------------------|
| Regulatory Pressures | Pearson Correlation | 1 | .491** |
| | Sig. (2-tailed) | | .000 |
| | N | 93 | 93 |
| Implementation of Green practices | Pearson Correlation | .491** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 93 | 93 |

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

Concerning regulatory pressure of bodies, Kalbauer *et al.* (2014), Purwandani & Michaud (2021), and Luo *et al.* (2021) state that government initiatives and regulations can mount pressure on industries to

promote green practices as legal requirements. The beverage firms strived to promote their local and international image (CV=14.5), which is in agreement with Purwandani & Michaud (2021), and

Rahbauer *et al.* (2016) who posit that green practice implementation by industries creates an opportunity for improving public image. Rodriguez-Sanchez & Sellers-Rubio (2021) state that the sustainability of a given firm is hinged on its business practices, which are responsive to the requirements of society.

Benefits of Green Practices' Implementation to Beverage Producing Industries in Uganda

Some different drivers encouraged the management of the beverage-producing industries to adopt green practices as spelt out in sub-section 3.3 above. Implementation of green practices benefited the beverage industries through easy access to foreign markets, improved customer relationships, competitive advantage and saved fuel as shown in Table 5.

Table 5: Benefits to Industries as a Result of Green Practices Implementation (Respondents' Questionnaire Survey, 2020)

| Benefits | Mean | St.D | CV |
|--------------------------------|------|-------|------|
| Easy access to foreign markets | 4.59 | 0.672 | 14.6 |
| Improved customer relations | 4.17 | 0.536 | 12.9 |
| Competitive advantage | 3.51 | 0.612 | 17.4 |
| International recognition | 3.61 | 0.601 | 16.7 |
| Saved fuel | 3.86 | 0.635 | 16.5 |

Mean scale: 1.00-1.80 Rarely enabled; 1.81-2.60 Least enabled; 2.61-3.40 Moderately enabled; 3.41-4.20 Sometimes enabled; 4.21-5.00 Highly enabled.

The most realized benefit as a result of the implementation of green practices is the improvement in customer relations (CV=12.9), followed by easy access to foreign markets (CV=14.6), and then saving fuel (CV=16.5). The customer relationships were improved probably due to the fact as shown in Table 3, that satisfying customer needs was one of the drivers to green practice implementation. It was also observed that the management of beverage-producing industries strived to be internationally recognized so as to improve their image, which culminated in the stated benefits. On the improvement of customer relations, Suharti & Sugiarto (2020) state that consumers' needs tend to be fulfilled when industries become green practice compliant and produce environmentally responsive products. Barakagira & Paapa (2023) posit that when hotels adopt green practices, customer retention increases. Abdou *et al.* (2020) assert that when a firm adopts green practices, its relationship with stakeholders also improves.

As far as cost saving is concerned, another key informant had this to say:

"When it comes to implementation of green practices like water conservation, the proprietors of business firms must comply. This is because, if there are no strategies put in place to conserve water, the bills become very high and in the long run, this affects the profit margin of the firm"

Concerning competitive advantage, some authors like Murimi (2020) and Van der Werf *et al.* (2019) affirm that the reputation and positive effects of industries that implement green practices tend to significantly improve, which at the same time enhances their competitive advantage. In addition, Purwandani & Michaud (2021) report that, companies that go green commercially benefit by gaining a competitive marketing advantage over non-compliant firms. Singjai *et al.* (2018) also confirm that green strategies adopted by companies positively affect organizational competitive advantage.

CONCLUSIONS

Overall, the study adds to the body of knowledge regarding the application of green practices for environmental compliance. The beverage-producing industries in Kampala have adopted some green practices, including, among others, water conservation, energy management and green awareness aimed at environmental compliance.

The enablers of the implementation of green practices included regulatory bodies, the quest for the industrial actors to satisfy the needs of their customers and members of the community, competition amongst firms and international recognition. Therefore, the adopted green practices, together with their enablers, could be used by the other categories of industries to promote industrial works while at the same time aiming for environmental sustainability.

Some benefits, including but not limited to easy access to foreign markets, improved customer relations, competitive advantage and enhanced international recognition, emanated, as a result of business firms implementing green practices.

The study, therefore, recommends that business firms, especially those in developing countries, should emphasize more on green awareness where many more practices should be promoted aimed at environmental sustainability and compliance. Also, results from this study should be utilized by the government and other business actors to formulate better strategies, programmes and policies for implementing advanced business techniques while at the same time promoting environmental sustainability.

In addition to the pressure from the regulatory bodies which emphasize the adoption of green practices, many more members of the local community need to be educated about the demands required by business actors including industries to implement activities that should have friendly outputs to the environment which should enable it to sustainably serve the needs and benefits of the

people and at the same time being environmentally compliant.

Limitations of the Study and Perspectives of Future Research

For conformance reasons, this study details some conclusions and recommendations. Nonetheless, it still has some limitations that can be addressed by other researchers. The study was undertaken only in beverage-producing industries and not in any other types of industries, like steel industries and food processing firms, in order to comprehend the implementation of green practices more thoroughly in all the industries in the country. In addition, there was observed gender disparity in relation to the study participants. Therefore, some other detailed studies should be conducted in order to verify whether unequal contributions by males and females towards green practices' adoption may significantly compromise their implementation and at the same time hinder environmental compliance.

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Author Contribution

AB formulated the title and study objectives, searched for relevant literature, analyzed the collected data, discussed the findings and typeset the entire manuscript. **AA** formulated the objectives of the study, searched for the related literature, collected the data and edited the manuscript.

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Data Availability

The data presented in the manuscript are available on request.

Declarations

Conflict of interest. The authors declare no conflict of interest in the conduct of the research.

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QUESTIONNAIRE**Dear Respondent,**

I am Anita Ainomugisha, a student at Nkumba University. I am undertaking a study with the aim of gaining a clear understanding of the drivers of the implementation of green practices in the beverage manufacturing industries in Kampala, Uganda. You are considered as one of the resourceful persons and as such you are kindly requested to spare some time and respond to the questions/statements frankly, honestly and independently. Your response will be treated with utmost confidentiality. This research is for academic purposes only. Thank you for accepting to participate in this study.

SECTION A: DEMOGRAPHIC INFORMATION

Please circle the correct response or fill in the blank space.

1. Gender

- A. Male B. Female

2. Age in years

- A. 18 – 25 B. 26 - 35 C. 36 – 45 D. 45 – 55 E. Over 55

3. Highest level of education attained

- A. Secondary B. Diploma C. Degree D. Masters E. PhD

F. Others (specify).....

4. Length of period worked in current role

- A. 5 years or less B. 6 to 10 years C. 11 to 15 years D. 16 years and more

5. Length of period worked in the firm

- A. 5 years or less B. 6 to 10 years C. 11 to 15 years D. 16 years and more

SECTION B: DRIVERS FOR IMPLEMENTATION OF GREEN PRACTICES**i) Regulatory pressures**

In this section please tick in the box that corresponds to your opinion/view according to a scale of 1 = strongly Disagree, 2 = disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree

| No | STATEMENT | 1 | 2 | 3 | 4 | 5 |
|----|--|---|---|---|---|---|
| 1 | Pressure to comply with various Acts that have implications to the environment for example; forestry, Water, waste disposal and the Constitution of Uganda | | | | | |
| 2 | High pressure to adhere to limitations of the use of toxic substances | | | | | |
| 3 | Loss or closure of business due to new regulatory policies for example ban on the use of certain materials that are critical to our operations | | | | | |
| 4 | Trade barriers due to lack of international certification for example ISO 14001, Kyoto protocol | | | | | |
| 5 | International restrictions shipment of goods | | | | | |
| 6 | Pressure from environmental regulations in other countries | | | | | |
| 8 | High pressure to adhere to clean water assurance | | | | | |
| 9 | Pressure to comply with annual environmental audits and perpetual inspections | | | | | |
| 10 | High pressure to adhere to clean air assurance | | | | | |

ii) Customer Pressure

In this section please tick in the box that corresponds to your opinion/view according to a scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree.

| No. | STATEMENT | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 1 | Loss of customers whose demand for greener products is not met | | | | | |
| 2 | Disposal and transport issues/challenges | | | | | |
| 3 | Shortage of quality raw materials as a critical input to our operations | | | | | |
| 4 | Pressure from suppliers demanding green standards | | | | | |
| 5 | Pressure from NGOs, green movements, and financing institutions who may demand a good environmental policy | | | | | |
| 6 | Pressure from the community for want of a safer and cleaner environment | | | | | |
| 7 | Marketing of green products by marketers/competitors | | | | | |
| 8 | Desire to be a market leader in green initiatives | | | | | |
| 9 | Improved organizational image | | | | | |
| 10 | Design environmentally friendly products. | | | | | |
| 11 | Designed an environmentally friendly process of production | | | | | |

SECTION C: COSTS AND BENEFITS OF IMPLEMENTATION OF GREEN PRACTICES

In this section please tick in the box that corresponds to your opinion/view according to a scale of 1 = strongly Disagree, 2 = disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree

| No. | STATEMENT | 1 | 2 | 3 | 4 | 5 |
|-----|--|---|---|---|---|---|
| 1 | Have a green or sustainable building (e.g. multi-level warehouse) using healthier and more resource-efficient construction materials. | | | | | |
| 2 | The benefits involved in the implementation of green practices is more than the cost incurred. | | | | | |
| 3 | Clients are willing to pay up to 10% more for environmentally safe products. | | | | | |
| 4 | The costs involved in the implementation of green practices is above 10% of the usual costs that were incurred. | | | | | |
| 5 | Use green buildings to cut energy bills. | | | | | |
| 6 | Ensure better management of waste disposal in order to save costs. | | | | | |
| 7 | Use biofuels as fuel alternatives and greener technologies. | | | | | |
| 8 | Limit carbon emissions (according to legislation) linked to the movement of goods, transit packaging used for distribution, the operation of distribution facilities, and damage or wastage. | | | | | |
| 9 | Limit distances travelled for raw materials and finished products. | | | | | |
| 10 | Save warehouse space by cutting transport costs and a number of trips. | | | | | |
| 11 | Establish suppliers' partnerships to share warehouses and fleets. | | | | | |
| 12 | Identify the shortest distance between the warehouse and customers to save fuel costs. | | | | | |
| 13 | Improved customer-supplier relationships | | | | | |
| 14 | Easy access to foreign markets | | | | | |
| 15 | Competitive advantage | | | | | |
| 16 | Receiving innovative green/environmental awards | | | | | |
| 17 | Marketability of green products – a perception that green products are more marketable | | | | | |
| 18 | Cost-effectiveness for example; innovativeness resulting in the use of cheaper alternatives | | | | | |
| 19 | Get up-to-date information about new environmentally friendly technology. | | | | | |

SECTION C: IMPLEMENTATION OF GREEN PRACTICES

In this section please tick in the box that corresponds to your opinion/view according to a scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Not Sure, 4 = Agree, 5 = Strongly Agree

a) Energy Management

| | | | | | |
|---|---|---|---|---|---|
| Ensures that its activities minimize the amount of energy used | 1 | 2 | 3 | 4 | 5 |
| Ensures that its activities minimize the amount of emissions | | | | | |
| Set measurable targets for reducing energy usage | | | | | |
| Has very effective strategies for improving energy management | | | | | |
| Utilizes sustainable energy sources wherever possible | | | | | |
| Uses energy-efficient equipment and products for the production process | | | | | |
| Uses high energy efficient lighting | | | | | |
| Regularly monitors trends in energy consumption. | | | | | |

b) Water Conservation

| | | | | | |
|--|---|---|---|---|---|
| Ensures that its activities minimize the amount of water used | 1 | 2 | 3 | 4 | 5 |
| Promotes the re-use of water in the production process | | | | | |
| Set measurable targets for reducing water usage | | | | | |
| Has very effective strategies for improving water conservation | | | | | |
| Promotes recycling of water with re-circulating cooling system | | | | | |
| Installs water-efficient devices and equipment to control water usage | | | | | |
| Regularly monitors trends in water usage. | | | | | |
| Ensures that its activities minimize the amount of effluent discharged | | | | | |

c) Waste Management

| | | | | | |
|--|---|---|---|---|---|
| We have a dumping space | 1 | 2 | 3 | 4 | 5 |
| We have trash all over potential disposal places in the area. | | | | | |
| Trashes are collected every day | | | | | |
| Solid Wastes are transported safely without littering them on the road. | | | | | |
| Solid waste is disposed off in time. | | | | | |
| We engage in recycling solid wastes for value addition. | | | | | |
| Many people have been equipped with mechanisms on how to control solid waste | | | | | |

d) Other green practices

| | | | | | |
|---|---|---|---|---|---|
| Eliminate/reduce hazardous /toxic materials from products | 1 | 2 | 3 | 4 | 5 |
| Eliminate/reduce hazardous /toxic chemicals from manufacturing processes. | | | | | |
| Reduce packaging | | | | | |
| Increased campaigns for green products, processes and activities for example; tree planting | | | | | |
| Use of green criteria in technical specifications of contracts | | | | | |
| Increased green awareness training and campaigns | | | | | |

THANK YOU FOR YOUR PARTICIPATION