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**Evaluation of the Corporate Entity's Environmental Stewardship in Business Practice:
A Case of Lafarge Company Plc.**

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**In partial fulfilment for the award of Master of Business Administration International
Business**

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Dedication

This research is dedicated to companies and/or manufacturing businesses that as a result of their processes impact the natural environment in a negative way as a means of encouraging them to have an holistic view of things in terms of economic and environmental aspects.

Declaration

I declare that this research was a result of my independent undertaking that was cognisant of the fact that plagiarism is a serious academic offence and as such made sure that this research does not replicate what has been done before except where due acknowledgement through citations and referencing has been rendered for both paper and electronic materials reviewed. Further, I declare that this research has not been submitted before any university for the awarding of any qualification.

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Acknowledgement

Acknowledgement goes to the almighty God and to my supervisor for the tireless guidance and counsel in crafting this mammoth task which would have not been possible had it not been for them, I can only say many thanks.

Acronyms and abbreviations

CER – Corporate Environmental Responsibility

ECZ – Environmental Council of Zambia

ISO – International Standard Organisation

UNCED - United Nations Conference on Environment and Development

UNEP - United Nations Environment Programme

VA - Voluntary Agreements

ZEMA – Zambia Environmental Management Agency

Abstract

The research sought to evaluate Lafarge's environmental stewardship responsibilities due to the nature of its production business that may have negative impact in terms of footprint on the environment. The research was qualitative in nature and collected data from a sample of fifteen respondents. The data was analysed using the statistical package for social sciences to produce charts that were thereafter analysed and interpreted after coding into similar themes through a process of content analysis. The study revealed that the company upholds its environmental stewardship responsibilities through investment in new technologies and seasonal scheduled shutdowns to repair and maintain equipment for improvement of efficiency and minimisation of environmental footprint. The research concludes that the company makes significant strides in ensuring that it upholds its environmental stewardship responsibilities with regard to the management of environmental footprint on the local environment resulting from its production processes. The company has demonstrated this through its environmental reporting of how it accounts for any negative impacts it may have on the environment and how it addresses them in the annual reports. The company also invests in regular training of its personnel to cope with latest developments in the management of the environment due to the constant interaction of the production processes with the environment. Further, the company's deliberate policy of investing in new technologies and equipment and schedule maintenance shut downs in managing the production processes, is also demonstrable of its efforts in upholding its environmental stewardship.

CHAPTER ONE: INTRODUCTION

1.0 Background

Environmental responsibility for this study refers to the entity's obligations to refrain from actions and/or practices that damage the natural environment through destruction of biodiversity and global warming among others and to instead maximise the efficiency and productive use of its resources (Mazurkiewicz, 2004). Business environmental responsibilities of organizations have emerged as an important concern for organizational administrators and scholars in recent past. Environmental matters have gained much impetus that practically most if not all stakeholders are now demanding environmental efficiency from modern-day corporate entities (Duker and Olugunna, 2014).

This has necessitated the sustainable increased debates on environmental aspect of corporate responsibility of business organizations over the recent years as stakeholder's demands increase massively on organizations to be more socially responsible and environmentally mindful in their business operations globally including Zambia.

Correspondingly, the concept of stewardship which denotes the cautious utilisation and protection of the natural habitat through a process of conservation and sustainable practices which include among other issues, the restoration and protection of local environment (Aldo, 1949). Aldo (1949) advocated for environmental stewardship with reference to land ethics as regard man's interaction with the land, animals and plants which develop on it. This is argued to be an important agenda for organisations that repetitively interact with the environment as they carry on business activities.

As corporate entities like Lafarge intermingle with the environment, they owe a duty of using the natural environment responsibly and with the utmost stewardship. For example, Porter and Kramer (2006) argued that social and environmental responsibility of organizations have become an inevitable primacy for business leaders globally, whereas Vogel (2006) upheld the view that neglecting environmental concerns may be costly in the long run, and emphasized also on the impact that it can have on the legitimacy of the organization. Holtbrügge and Dögl (2012) contended the presence of significant change in global climate and environmental conditions, and that these fluctuations have resulted in a growing public awareness of corporate environmental responsibilities (CER) as an important topic for both the business world and in academic literature. Other scholars have argued on the growing stakeholder's awareness and pressure on organizations regarding the quest for CER within their various fields (e.g., Sindhi

and Kumar, 2012). Globally, an empirical example to this effect was the pressure that Greenpeace wielded on Shell to circumvent dumping the Brent Spar in the Atlantic, indicating the impact of non-governmental organizations engagement on environmental matters (Porter and Kramer, 2006). Literature regarding wider thoughts on corporate social responsibilities (CSR) reveal that the concept has gained thrust as a management trend (Engwall *et al.*, 2010), and emerging global trend (Sahlin-Andersson, 2006). As such, Porter and Kramer (2006) argued that, in past years; governments, activists, including the media are very proficient at holding organizations accountable for the social and environmental damage caused by their business activities. Likewise, scholars globally have cited numerous reasons why organizations have tended to be more conscious about the carbon emissions of their business operations, such as through the enforcement of governmental and intergovernmental laws, rules, regulations, legislations and directives including non-governmental voluntary agreements (VAs) (e.g., Sindhi and Kumar, 2012; Porter and Kramer, 2006).

1.2 Statement of the Problem

Lafarge Plc. recorded sales of K961 million in 2021 which was a 51% higher than the 2020 and a K122 million profits compared to a loss of K12 million in 2020 and had a cash generation of K85 million compared to the 2020 comparatives of K16 million (Lafarge Plc. Annual Report, 2021).

Further, it is a well-known fact that Lafarge Plc. is an undisputed leader and building material manufacturer that operates two (02) integrated cement plants in Ndola and Lusaka with an annual approximate production capacity totalling 1.4 million tonnes (Lafarge Report, 2010). Despite the successes made by the company in revenue, profitability and cash generation, the company carries out manufacturing activities of cement products and thus impacts the environment through emissions and waste management of its consumables as well as through raw material sourcing.

This research therefore sought to evaluate the Lafarge's environmental stewardship responsibilities in Zambia due to this negative impacts on the environment, the company has coupled with the growing unanimity that transformations to safeguard the environment and conservation of natural resources should be more pervasive incorporating larger steps than those already undertaken and/or in place (Olson, 2009).

1.3 Research questions

- i) What is the importance of environmental stewardship responsibilities for manufacturing corporate entities in Zambia with regard to environmental impact?
- ii) To what extent does Lafarge Company Plc meet its environmental stewardship responsibilities to the environment?
- iii) What measures can companies like Lafarge embrace to uphold environmental stewardship responsibilities on Zambia's environment?

1.4 Research Objectives

In directing this research, the following objectives will serve as a guideline:

1.4.1 General Objective

To ascertain the environmental stewardship of Lafarge and the extent to which the manufacturing company is environmentally responsible

1.4.2 Specific Objectives

- i) To establish the importance of environmental stewardship responsibilities for Lafarge
- ii) To ascertain the extent to which Lafarge Plc, upholds its environmental stewardship responsibilities
- iii) To ascertain the measures Lafarge has implemented to enhance environmental stewardship responsibilities

1.5 Significance of study

The study was insightful to manufacturing firms in Zambia and across national borders in that it illuminated the means by which manufacturing organisations can uphold stewardship and environmental responsibilities through the effective utilisation of resources in a manner that eliminates or at least minimises the negative impact or damage referred to as footprint to the environment. Undoubtedly, the study also added valuable information and literature to the already existing body of knowledge with regard to environmental stewardship as companies particularly those in the manufacturing sector carries on their businesses.

1.6 Limitation of Scope

The study was only limited to an assessment of environmental stewardship and responsibilities of Lafarge and thus the generalisation of the research findings were restricted to the context of Lafarge Company Limited. Further, the population targeted was limited to the staff at the said company.

1.8 Research structure

The study covered chapters one to five with chapter one introducing the topic of research and highlighting the background, statement of the problem which the paper sought to address, the research questions and accompanying objectives, the importance and/or value of the study. Chapter covered the critical review of relevant and related literature to environmental stewardship and responsibilities with regard to manufacturing firms at global, African and local context, theoretical and conceptual frameworks and related literature on the subject. Chapter three discussed the methodological approaches employed in the research including design, paradigm, approach, sampling, validity and reliability issues as well as the ethical requirements in dealing with human subjects. Chapter discussed the findings of the research which were used at the basis of chapter five which summarised the findings, addressed the research objectives and made recommendations for future research propositions.

1.9 Chapter summary

This chapter covered the introductory aspects of the study to evaluate the environmental and stewardship responsibilities of Lafarge Company Plc highlighting the background, statement of the problem, objectives and questions, significance of study and research structure. The study also highlighted the performance of the company and how important environmental stewardship is to the company if business success is to be assured on a going concern basis.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The relevant literature on the study's subject was reviewed in this chapter drawing from global, African and Zambian perspectives, whose objective was not to re-invent the wheel by repeating previously published research but rather to focus on the extent to which Lafarge Company Plc upholds its stewardship and environmental responsibilities as a manufacturing firm.

2.2 Concept of Stewardship and Environmental Responsibilities

Historically, William Derham is believed to be the first philosopher to describe the nature of "stewardship" in the eighteenth century (Wood, 2021). According to this author, man was biblically bestowed with authority and superiority over the world and animals. He argued that God was the wise conservator and superintendent of the natural world, who created people in his image as caretakers and stewards on earth (Zelazna and Bojar, 2020). Nature was a "sacred trust" which, Derham warned, would be taken into account on the Day of Judgment, arguably suggesting that as companies carry on their business activities they must be wary of the dire consequences of failure to uphold environmental stewardship responsibilities which is the judgement being referred to above (Kasych, Suler and Rowland, 2020).

Deep ecologists and eco feminists also disputed the complete idea that stewardship related to Christianity but regarded it as human centred and managerial to be an adequate expression of the human-nature relationship that is shallow, anthropocentric environmental ethic, with roots in hierarchy, patriarchy and slavery. Perhaps, the concept of environmental stewardship is that viewed by grassroots organizations promoting environmental stewardship, and undertaking highly beneficial environmental projects who have popped up all over the world in some profusion showing a commitment to stewardship, environmental responsibility and embedding it in public policy (Henri, 2010).

2.3 Environmental Stewardship Characteristics

According to Beaumont (2012), there are four features of environmental stewardship namely social equity, community benefit, economic impact and environmental protection. Social equity looks at the benefit of the person, their well-being and a goal for equity that benefits all. Community value is measured as a benefit to the community which is essentially any type of community including town, village, county, group, association inter alia. Economic impact is the effect that occurs positively or negatively to the bottom line of the company, corporation, non-profit or other group. Environmental protection signifies positive or negative impact on

the environment and considers resources, re-use, pollution, destruction or saving habitat and other environmental concerns. The significance of the environmental stewardship lies in its ability of taking into account all factors of sustainable alternatives. Understanding these characteristics will be cardinal for this study in that it sets out the parameters within which the study is contextualized in ascertaining Lafarge's position with regard to environmental and stewardship responsibilities.

2.4 Enforcement Legislation on Environmental Stewardship Responsibilities

Apart from the Local legislation as provided in the Environmental Management Act of Zambia, since the publication of the Brundtland report in 1987, the outcome of the World Commission on Environment and Development set up in 1983; there has been a general accord that the economic gains ought to be obtained in a manner that is regarded as environmentally sustainable. At the United Nations Conference on Environment and Development (UNCED) held in June 1992 in Rio, three declarations and two conventions were approved in which the importance of cleaner production for a sustainable development were emphasized.

The United Nations Framework Convention on Climate Change and the Convention on Biodiversity were also ratified by most attendees. The Declaration of Rio on Environment and Development, Agenda 21 and the Declaration on Preservation and Management of the Forests were similarly accepted at the Rio conference via a general consensus. These were the first international agreements that made significant reference to sustainable development. Cleaner production and cleaner technology were highlighted as vital tools to the implementation of a strategy towards sustainable development. In the Declaration of Rio on Environment and Development, the development and transfer of cleaner technologies were professed as one of the most important aspects for achieving sustainable development. To re-enforce commitment to cleaner production, the United Nations Environment Programme (UNEP) organized the International Declaration on Cleaner Production after extensive consultation with diverse interest groups (UNEP, 2005). This International Declaration is a voluntary but public commitment to the strategy and practice of CP and was launched in October 1998 at Phoenix Park, South Korea (UNEP, 2005) which has stood the test of time in spearheading environmental development through cleaner production methodologies that do less harm to the environment.

2.5 Environmental Stewardship Responsibilities – Zambian Manufacturing Companies

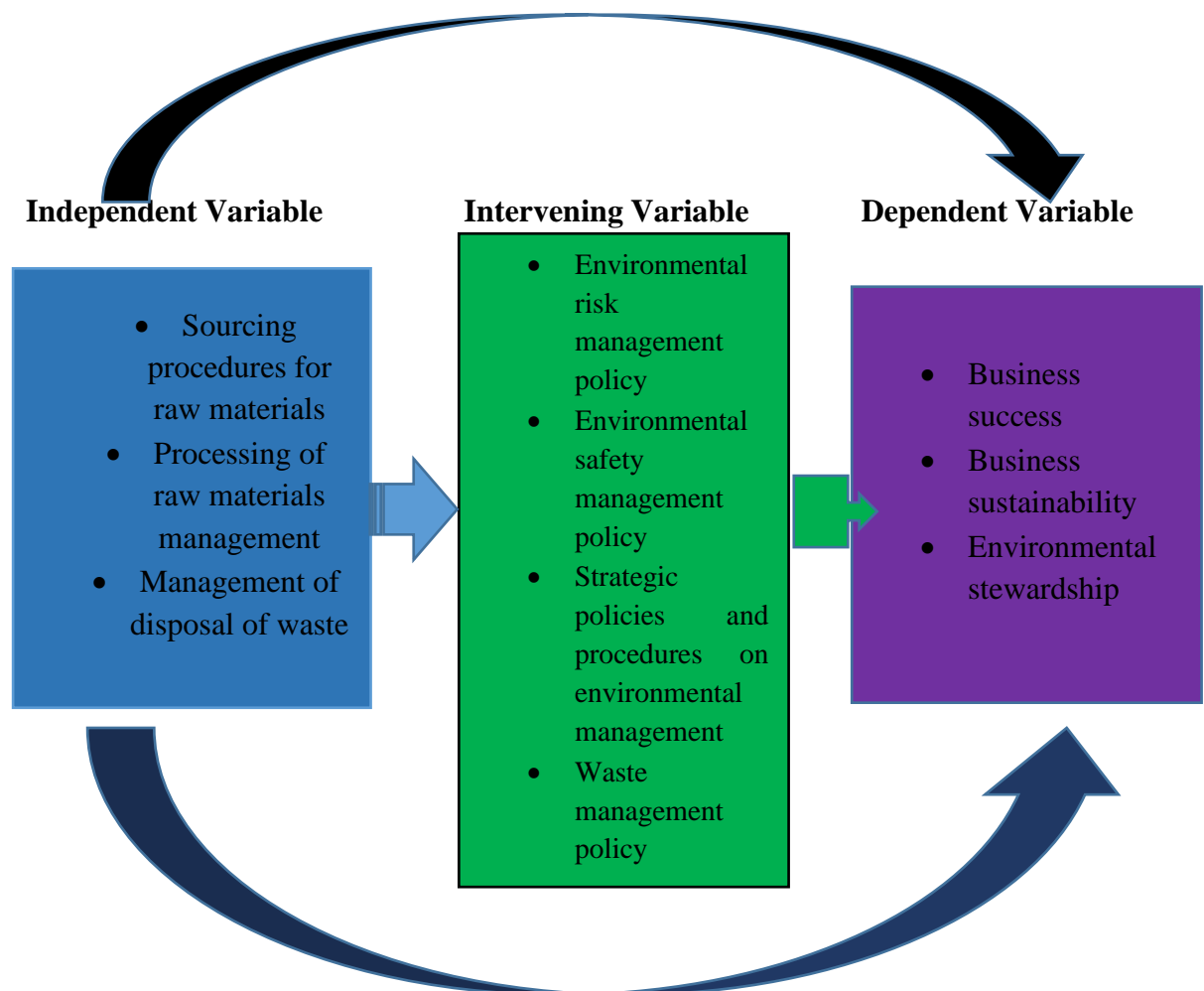
Zambian industries have been associated with having negative effects on the environment, partly attributed to the usage of inefficient production technologies and procedures or do not have pollution-preventive equipment (ECZ, 1994, 1997). This situation has been exacerbated by the dwindling economy and increased costs of doing business. In addition, despite a shortage of concrete data there is a general consensus that the widespread adoption of clean production in Zambia remains a principally a frustrated desire. The foremost underwriting factors to this leisurely uptake of clean production include companies' incapability to revolutionise from conventional technologies and strategies to contemporary environmentally sound technologies, a nonexistence of incentive and the non-availability of information illustrating the commercial and environmental benefits of clean production (ZNRIA, 1992).

This industry's failure to adopt new technologically efficient production methodologies stems from centralizing the environmental responsibilities to the Government of Zambia thereby obscuring the importance, ruthlessness and crosscutting nature of environmental issues in sustainable production and consumption from dissimilar stakeholders (ZNRIA, 1992). In mitigating this scourge, the government has been encouraging the integration of environmental management in all the sectors through the involvement of the stakeholders. This has presently given way for an opportunity for the development of a model for innovative dimensions for clean production policy in the country establishing environmental responsibility for all stakeholders. Therefore, to encourage the widespread adoption of clean production by Zambian industries, a new fiscal and policy context that conglomerates the correct mix of regulatory frameworks and incentives has been prioritized.

2.6 Conceptual framework

Conceptually for the company to record success and assurance of being a going concern, it is important that caution is exercised in responsibly sourcing for environmentally friendly resources which must be managed prudently by putting in place such policies such as the risk management policies relating to the management of environmental waste such as emissions which end up on the environment and negatively impact them in a manner that is sustainable. See figure 1 below.

Figure 1: Conceptual Framework



Source: Authors Construction, 2021

2.7 Review of Related Literature

In research conducted by Duker and Olugunna (2014) to investigate environmental practices of two (2) logistics companies in Sweden namely DHL and PsotNorb AB with the aim of shedding light regarding measures taken by these companies in response to the environmental effects of their business undertakings revealed that the case companies implement environmental practices to minimise carbon discharges of their business processes owing to stakeholders demand. The research identified stakeholders including customers, the government and capital providers and/or shareholders as those that exert the greatest pressure on these companies concerning their environmental practices and initiatives

In another research by Camilleri (2017) who investigated aspects of corporate sustainability and responsibility and how they create value for business, society and the general environment revealed that the corporate sustainability and responsibility concept relates to embedment of sustainability and responsibility through looking out and connecting the interests of various

stakeholders in which case as these generate returns and expand, it is inevitable that they will be able generate virtuous circles of desirable and/or positive repo effect which merits considering corporate sustainability and responsibility over the environment as businesses operate as of a strategic nature.

Further, research conducted by Carmer (2019) regarding corporate environmental strategies for balancing profitability with environmental Stewardship revealed that leaders of large corporations should have the reason to fear and respect shareholder's interests and to take measures that are aimed at minimising potential negative publicity and/or reputation through reduced embarrassment and improvement of social and environmental standings. This is consistent with the arguments by Kunz (2018) and Muslu, Mutlu, Radhakrishnan, and Tsang (2019) who hypothesised the connection between corporate social responsibility and capital costs in the interests of transparency in the management of shareholder funds.

In research by Bojar, Elazna and Bojar (2020) which sought to identify and analyse the most frequent environmental activities undertaken by enterprises that tend to be aimed at profit making at the expense of the well-being of the environment revealed that most of the activities carried out by most organisations and/or enterprises have not been altered over the last ten years and having realised the negative impacts that this has created, most enterprises have changed their approach to business by ensuring that their activities reduce environmental footprint as much as possible.

2.8 Theoretical Framework

This research study utilised Triple-bottom line Theory and the Value Belief Model as a means of adding academic rigor to the literature reviewed.

2.8.1 The Triple Bottom Line Theory

This was introduced by John Elkington in 1994. The theory helps in assessing business performance from social, economic and environmental aspects as a means of opposing the idea of only assessing the business from a profit or economic motive lens but a holistic approach covering the three spectrums. The model contends that business performance may be measured in a number of ways that is in relation to its finances, its environmental impact and how socially responsible it is in relation to employees. Elkington argued that only a company that was measuring performance in all three areas was measuring the full costs of its activities (Slaper and Hall, 2011).

From the theory, the economic strand of the theory refers to the benefits that are generated from the business's conduct of business in an environmentally friendly manner with little or no major environmental footprint with regards to such issues as pollution on the environment resulting from manufacturing activities (Akadiri, Olomolaiye, Chinyio, 2013).

The Social perspective of the theory refers to the people and the societal impact of a business and this group of stakeholders who include employees, customers and community members through such activities as hiring of employees on a fair basis, encouraging volunteering, development of strategic partnership with for example non-profit making organisations in sharing a common purpose with regards to organisational goals vai say corporate social responsibility of ploughing back to the community (Milner, 2020).

With regards to the economic strand, the theory advocates for businesses not to merely focus on making profit for the shareholders as the main objective of financial management but to address this in light of the environmental impact caused by activities of the organisation so much so that, as the business maximizes shareholders wealth, the environment would have been taken care of in manner that does not also affect the people negatively with regard to a company ceasing to operate due to regulatory sanctions for causing unnecessary environmental footprint (Kenton, 2022)

2.8.2 Value Belief Model

The Value Belief Model on the other hand was postulated by Stern *et al.*, (1999). The theory is concerned with the beliefs on how certain actions businesses take impacts the environment and the ability and capacity of these entities to avert the negative consequences of these vices which as a consequence results in or activates sustainable personal behaviour towards the environment with regard to stewardship and business reputation and success (Huang, 2016). The relevance of this theory is its emphasis on the behavioural aspect of humans when it comes to interaction with the environment in a way that is cautious not to negatively impact the environment. In other words, it is more concerned with inculcating a sense of responsibility of entities whose business activities may negatively impact the environmental.

2.9 Gaps in the Literature

Much of the literature has explored the environmental stewardship responsibilities from other regional and global perspectives. However, very little has been done to increase the scope to cover the Zambian context which prompted this research undertaking. Thus this research added to the existing body of knowledge through the additional literature.

2.10 Chapter summary

This study critically reviewed the different literature sources regarding environmental stewardship responsibilities including the conceptual and theoretical framework as well as identification of the gaps in then research. The critical review helped in appreciating the works that have been carried by other scholars regarding the topic and where this research was making the contribution.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the methodological techniques applied in the study in gathering and analysing the data to make conclusions on the environmental and stewardship responsibilities of Lafarge Company Plc. This covered the approach, design and paradigm, time horizon, data gathering and analysis tools, reliability and validity aspects, generalisation of research findings and ethical considerations.

3.2 Research approach

The study applied the inductive methodological approach which commences with making observations and concludes with proposition of theories through established patterns generalized to a particular context (Saunders *et al.*, 2012). In the case of this study it was generalised from the perspective of Lafarge Company Plc.

3.3 Design and Paradigm

The study employed the qualitative through the application of the Interpretivism philosophy (Saunders *et al.*, 2009). It was qualitative in that it was describing the lively experience of Lafarge with regard to stewardship and environmental aspects.

3.4 Time horizon

The cross section time horizon (observational in nature) was considered appropriate for this study involving comparisons of views regarding the research subject from the respondents and other secondary data sources at a single point in time. Its benefit in this research included the fact that it permitted the author to compare many different variables at the same time through description of characteristics that exist in the context being studied without necessarily determining the cause and effect relationship between the variables (Kendra, 2019). The participants and/or respondents in this study were selected based on environmental stewardship responsibility variable of interest

3.5 Research strategy

This research employed the case study strategy focusing on one case company of Lafarge Company Plc. to evaluate the environmental responsibilities and stewardship in its conduct of business. Case study approach helps in gaining insightful knowledge of a case or more and

hence it use in the study. This was evident in Syakalima *et al.*, (2005) who investigated the policy and operational constraints for the implementation of cleaner production in Zambia, Duker and Olugunna (2014) to investigate environmental practices of two (2) logistics companies in Sweden namely DHL and PsotNorb AB and Bojar *et al.*, (2020) who looked at corporate social responsibility towards the environment in Lublin region of Poland comparing 2009 to 2019.

3.6 Sampling frame and sample size

The study used interview questions to acquire primary data from a sample of fifteen (15) participants out of the target population of fifty five (55) employees who consented to participating in the study and were selected using non-probabilistic technique of purposive sampling, a method that selects participants based on judgement and knowledge regarding the subject matter.

3.7 Data collection

The data for the research was gathered through interviews of the purposively selected research respondents preceded by a pilot testing of interview questions to establish suitability of the sample. SPSS version 20 was then used to draw charts of the findings for ease of interpretation (Nie, Bent and Hull, 1970) to generate charts that were used as the basis of chapter five (conclusion and recommendations).

3.8 Data processing and analysis

The study employed the content analysis which is a research technique used to make replicable and valid inferences or interpretations from the text to the context of their use which basically links the text data or responses to the research questions (Krippendorff, 2004). Interview responses were coded and entered into the SPSS software for generation of charts for responses with recurring patterns for ease of interpretation and discussion as argued by Holloway and Wheeler (1996). These charts helped in reducing the data collected into meaningful themes and/or patterns.

3.9 Reliability of Research Findings

Joppe (2000) advanced that reliability refers to the extent to which results are progressively constant inferring a precise description of the entire population under evaluation, if the outcomes of the investigation can be reproduced under a repeated procedure. For this study reliability was achieved through pilot testing of research instruments to assess their suitability for this study.

3.10 Validity of Research Findings

Validity here deals with how credibly a test calculates what it professes to calculate (Winter, 2000). Validity for this investigation will be attained through triangulation of data sources, pilot testing of questionnaires and critically examination of literature from an international, African and Zambian viewpoint thereby speaking to internal and external validity of the findings.

3.11 Generalizability of Research Findings

The findings of the study will be applied to organizations and firms with a poor packaging scheme and Zambia as a whole only but due to the qualitative and exploratory nature of the study, the findings may also be generalized to other locations such as Africa.

3.12 Ethical and Access Issues

The research will take into account ethical demands to human subjects, by making sure the study respondents are knowledgeable of their rights and duty in taking part in the study through an informed agreement clearly stating the dangers and gains of the study, the need not to state their names, the likely rewards, the right to pull out from the research exercise at their convenience as well as the fact that their answers and research conclusions will only be employed for scholastic means in dealing with privacy and beneficence (Beauchamp and Childres, 2001). Additionally, researcher and participant partiality will be addressed in this study by making sure that the questions posed are semi-structured and the scrutiny thereof is done without coercion. Clearance from the University's Ethics Committee will also be sought.

3.13 Chapter summary

This chapter covered the methodological techniques applied in evaluating the environmental and stewardship responsibilities of Lafarge Company Plc including the justification for using the particular method. It covered the research design which was qualitative, the approach which was inductive that involves collecting data and then formulating the theories and/or contributions to the existing body of knowledge. It also covered sampling, data collection instrument and the analytical framework as well as the ethical consideration for interacting with human subjects

CHAPTER FOUR: ANALYSIS AND FINDINGS

4.1 Introduction

The study aimed at evaluating environmental stewardship responsibilities of Lafarge Plc and this chapter examined and considered the findings from the data collected from research respondents.

4.2 General Information

Generally the response rate to the interview questions was high attributed to the importance the research participants attaches to the environmental stewardship resulting from the effect that the operations the company has on the environment. This high rate helped in making reliable and valid generalisation of research results and/or findings consistent with Saunders et al (2012) arguments who hypothesised the effectiveness of the high response rate with regards to the reliability of the findings.

4.3 Demographic Characteristics

Table 1: Demographic Characteristics

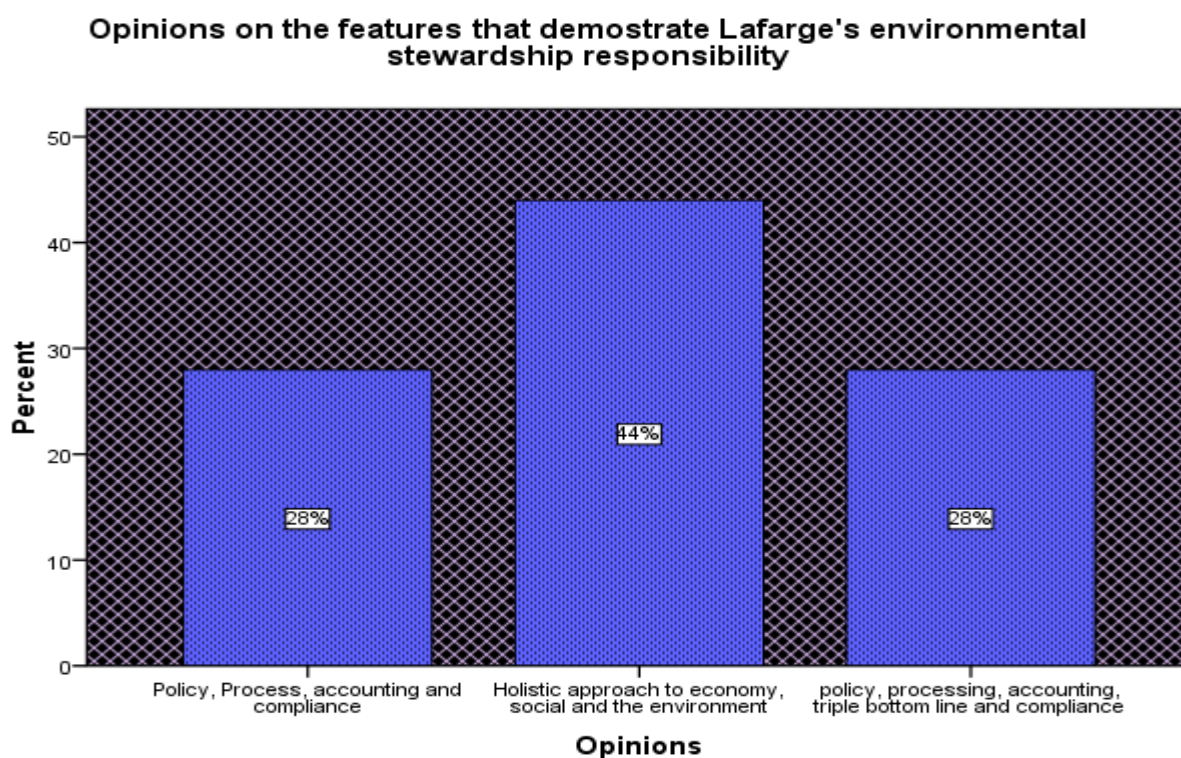
| Variable | | Frequency | % |
|-----------------------|--------------|-----------|-------------|
| Gender of Respondents | male | 10 | 67% |
| | Female | 5 | 33% |
| | | 15 | 100% |
| Age Group | 30 and below | 5 | 33% |
| | 31-40 Years | 5 | 33% |
| | 41 and above | 5 | 33% |
| | | 15 | 100% |
| Education Level | Diploma | 4 | 27% |
| | Degree | 6 | 40% |
| | Postgraduate | 5 | 33% |
| | | 15 | 100% |

Source: Participant response, 2022

The research findings regarding demographic features of the respondents revealed that 67% of the respondents administered with the questionnaire were male while the remainder of five (5) participants representing 33% were female. Their age group revealed that five (5) representing 33% were between 30 years and below, five (5) representing 33% were aged between 31 and 40 years while the remainder five (5) were aged between forty one (41) and above. With regard to educational status, six (6) respondents representing 40% were degree holders. Five (5)

representing 33% were postgraduates while the remainder four (4) were diploma holders from various institutions of learning in Zambia. The statistics demonstrate that there was no biasness in the representation with regard to age, gender and educational status which helped in the authentication of the research findings in terms of reliability and validity.

Figure2: Features Demonstrable that Lafarge upholds environmental stewardship responsibilities

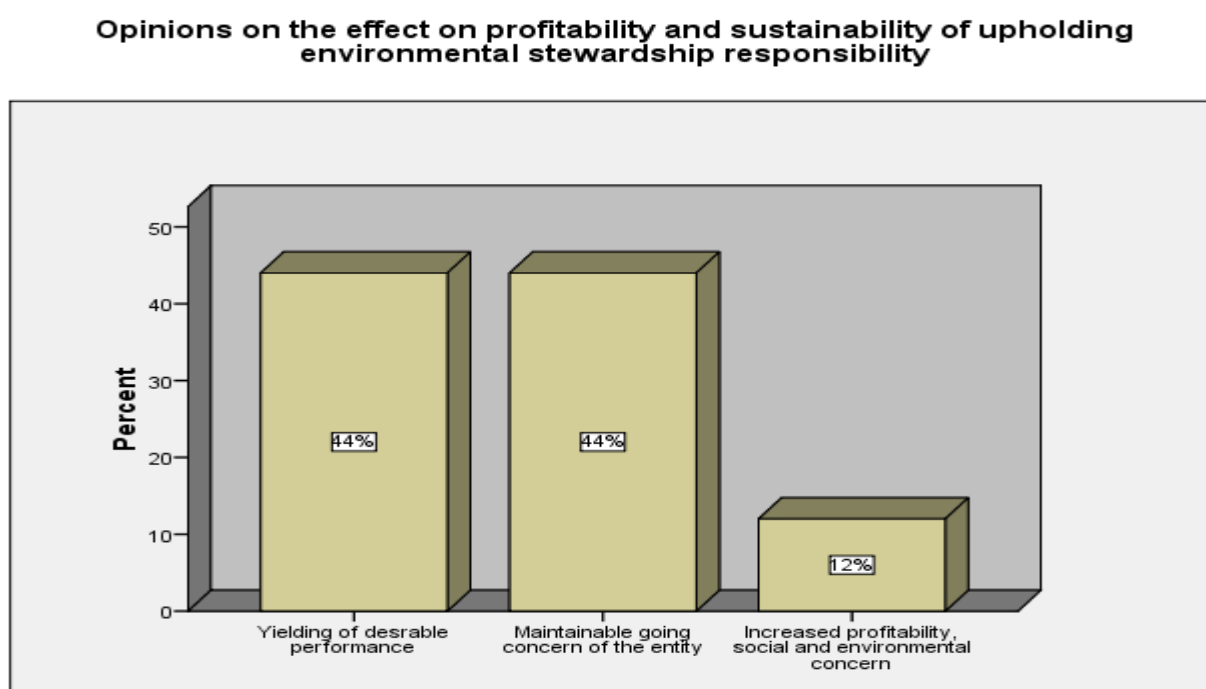


Source: Fieldwork responses, 2021

Research findings regarding the features that are demonstrable that Lafarge Company Plc upholds its environmental stewardship responsibilities revealed that 44% of the respondents were of the view that this can be inferred from the holistic approach that the company has adopted in ensuring that it balances the need for profitability from an economic point of view which is in relation to maximizing shareholder wealth and company sustainability but also ensuring that the social and environmental aspects of its activities are addressed concurrently. The company has further demonstrated these features through environmental reporting highlighting how it manages the environment footprint resulting from its processing of various cement products which have the potential to harm the environment consistent with the arguments by Beaumont (2012).

However, 28% of the respondents were of the view that the company has attempted to demonstrate its ability to uphold its environmental responsibility by having an environmental policy guideline that drives its direction with regard to managing its production processes in a manner that reduces its footprint which is embedded in its culture, mission and vision. Further, 28% of the respondents were of the views that the company provides an environmental report as part of the annual report to demonstrate its efforts to deal with environmental effects that results from its operations including the cost of doing so with regards to accounting and compliance with regulations such as the ZEMA guidelines on clean production methodologies which in a way translates into the three triple bottom line parameters of social, economic and environment management of its production processes.

Figure 3: The Effects of Upholding Environmental Stewardship Responsibilities on Profitability

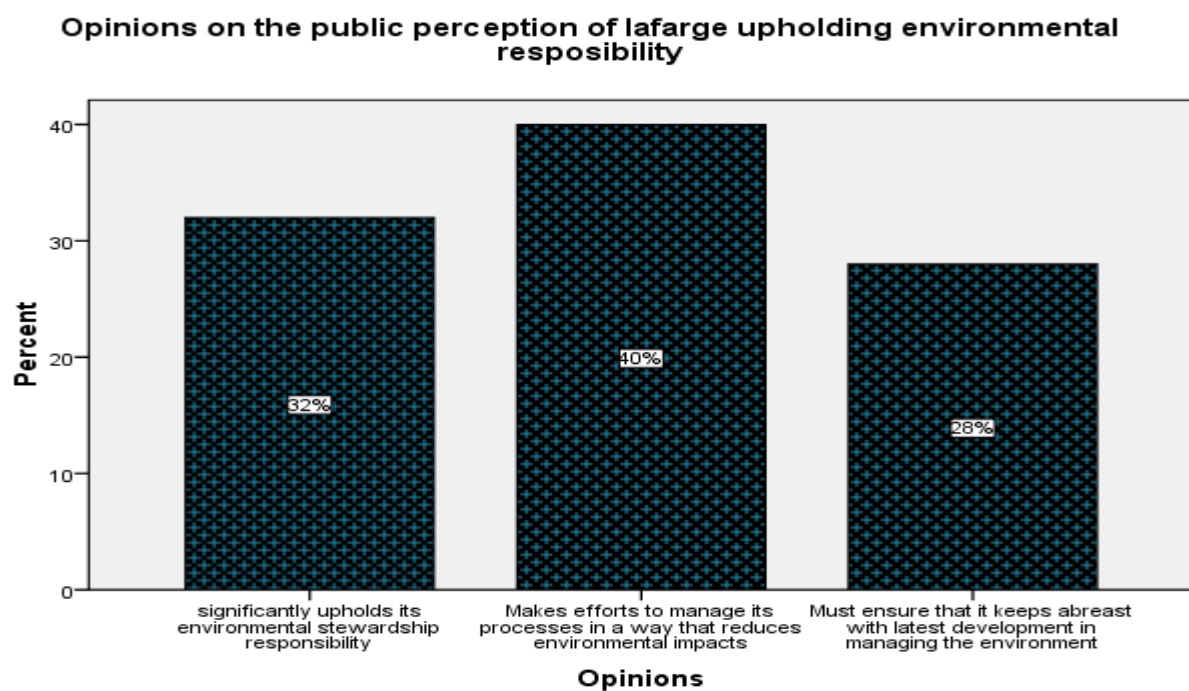


Source: Fieldwork responses, 2021

With regards to the impact on profitability of Lafarge's upholding of environmental stewardship responsibilities, the research findings revealed that upholding environmental stewardship has helped the company in being able to compete favourably on the market in terms of market share and profitability on a sustainable trajectory and thus the going concern of the company as indicated by the 44% response with regard to performance and being a going concern consistent with arguments by Kunz (2018) and Muslu, Mutlu, Radhakrishnan, and

Tsang (2019). Further, 12% of the respondents were of the view that upholding environmental stewardship has the positive effect of increasing profitability with regard to maximizing shareholder wealth being the core objective but not at the expense of company's social and environmental concerns. This is indicative of the extra mile the company is able to go in order to ensure that it manages its operations in a manner that does not negatively affect the environment by putting in place measures to combat any negative effects on the environment that are bound to affect its reputation and consequently profitability such as training its employees on good practices in relation to environmental footprint management and also with regard to being up to date with current trends and/or development with regard to production of the cement products and the management of such negativities as emissions in a manner that is favourable to the surrounding communities consistent with the arguments by (ZNRIA, 1992).

Figure 4: Public Perception on Lafarge Upholding Environmental Stewardship

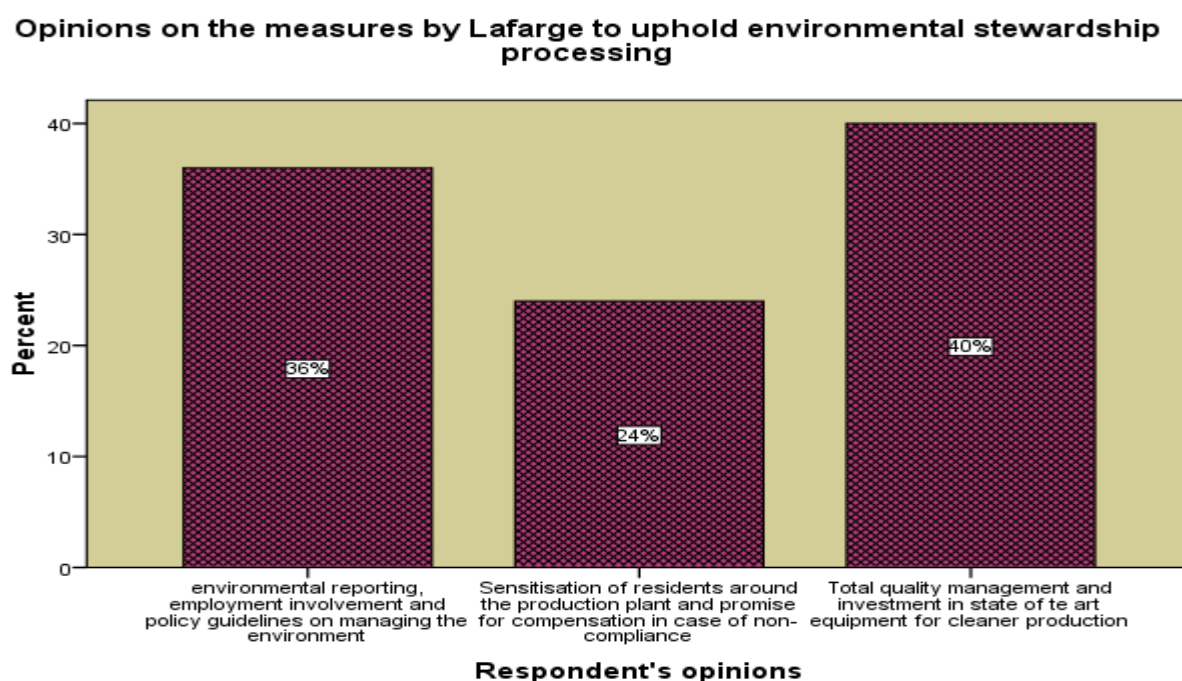


Source: Fieldwork responses, 2021

With regard to public perception on whether Lafarge upholds its environmental stewardship, research findings revealed that the company has a demonstrable record of caring for the environment which could be inferred from the customer feedback and the public commentators as well as sentiments from the locals that the company receives on how it manages its production processes and reduction of emissions resulting from such processes. This can be

seen from the 44% emphasis of the company's effort in ensuring that it reduces any environmental footprint resulting from its production processes. This is compounded by the 32% public perception that the company has upheld its environmental stewardship responsibilities through being a responsible corporate entity that ensures that all its processes are environmentally friendly through not only reduction of emissions but also through the sourcing of environmentally friendly raw materials. Further, the remainder 28% demonstrates that for the company to have a maintainable reputation in managing its processes in a way that does not negatively impact the environment, the respondents were of the view that it must ensure that it keeps abreast with latest developments on the management of its operations through its research and development department including benchmarking activities with other globally recognized production best practices.

Figure 5: Measures by Lafarge to Uphold Environmental Stewardship Processing

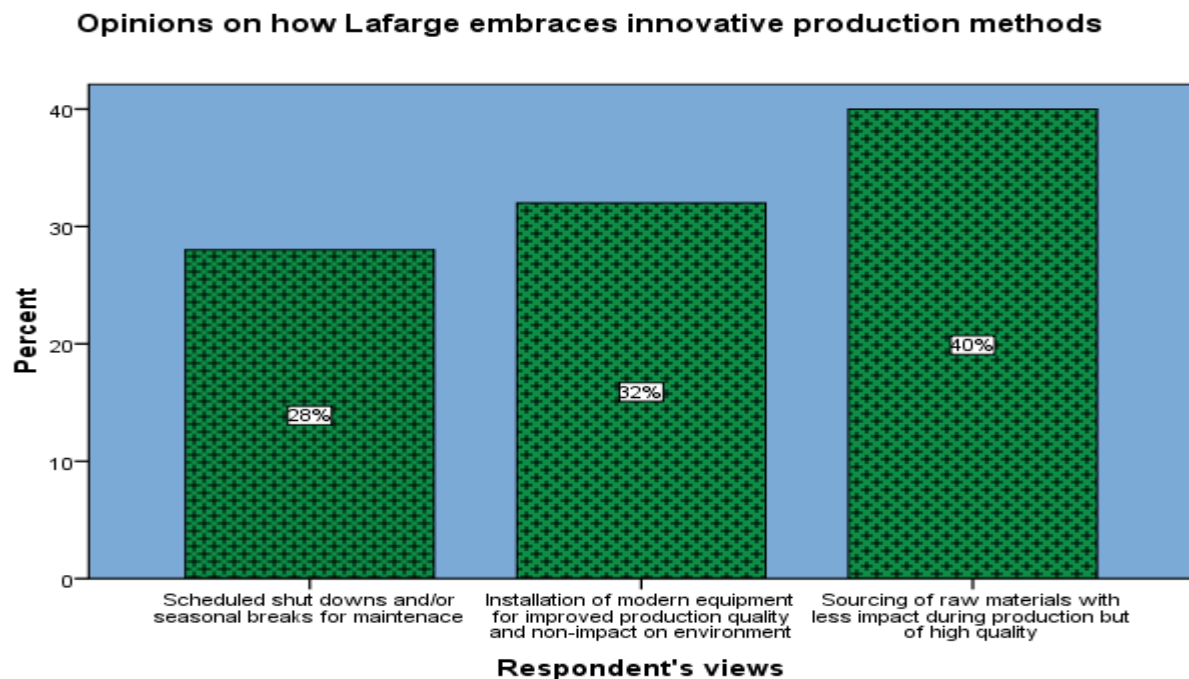


Source: Fieldwork responses, 2021

With regards to the measures the company ought to institute to uphold its environmental stewardship, the research findings showed that 40% of the participants thought that the company ought to embrace total quality management in its production processes covering material acquisition, desirable equipment and trained workforce. In this way the company will ensure that all its processes are in a manner that is compatible with the requirements of total quality management at every stage of the production process consistent with arguments by

(Akadiri, Olomolaiye, Chinyio, 2013) in the literature. Further, 36% of the respondents were of the view that the current environmental reporting must not only be limited to what the company sees at environmentally friendly practices but must endeavor to interview the local surrounding areas for more feedback as regards any negative impacts on the environment including the disposal of the by-products of the cement products so as to ensure that these are addressed highlighting the measures put in place in the annual reports on the environmental component. 24% of the respondents were also of the view that sensitization through informative platforms must also be embraced by the company to get feedback on how improvements can be made to the production processes in a manner that minimizes environmental footprint.

Figure 6: Lafarge's Ability to Embrace Innovative Production Methods

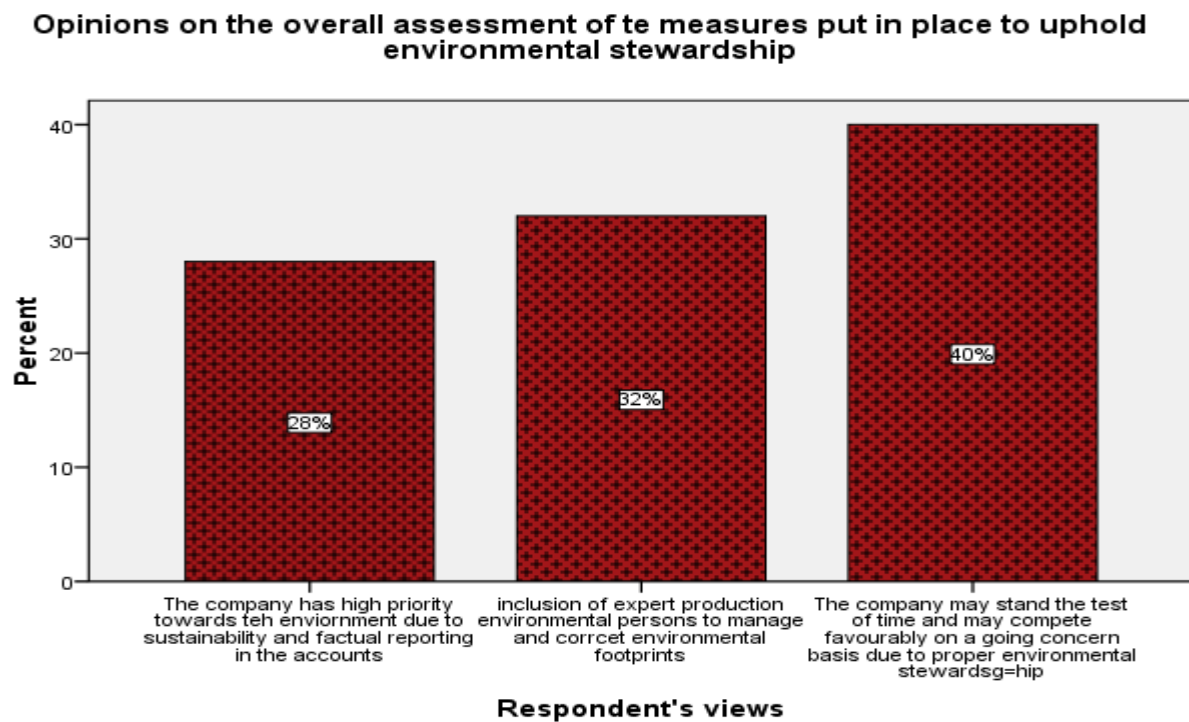


Source: Fieldwork responses, 2021

With regards to the how Lafarge Company embraces innovative production methods, the research findings showed that 40% of the participants were of the view that the company ensures that it sources for environmentally friendly raw materials in its production processes which has less emission impact. Further, 32% of the respondents were of the view that the company embraces innovation through huge investment in modern equipment that is aimed at reducing environmental footprint and through maintenance shut downs to ensure operative efficiency in the production processes as revealed by the 28% which translates into the

desirable public perception and confidence that the public have on the company with regard to its production processes and with regards to the emissions on the environment consistent with arguments by (ECZ, 1994, 1997) in the literature review. . This suggest the strategic commitment that the company has as regards being efficient in its production processes so as to ensure that the environmental footprint is reduced or indeed eliminated which translates into desirable performance with regard to profitability and sustainability including market share in comparison to other industry players.

Figure 7: Overall Assessment of Measures in Upholding Lafarge’s Environmental Stewardship



Source: Fieldwork responses, 2021

On the overall assessment of the company’s commitment to upholding environmental stewardship, the research findings revealed that 40% of the respondents were of the view that the company is more than likely to stand the test of time and has the ability to compete favourably on a going concern basis due to proper environmental stewardship with regard to its innovative investment in modern equipment and scheduled maintenance shut downs to ensure efficiency in terms of production and reducing of emissions. Further, from the 32% of the respondents, it can be seen that the company embraces expertise not only in other production technologies but also with regard those specialties in managing the environment

such as the Sanitation and Health Experts as well as compliance experts who ensure that the all production processes are managed in a manner that is efficient and one that reduces emissions and thus environmental footprint to the minimum. Additionally, the company updates the public on the management of its production processes and environmental footprint through the environmental component of the annual report which demonstrates how the company sells its ability to manage the environment effectively in light of the research problem consistent with arguments by Stern *et al.*, (1999) in the value belief model.

4.4 Chapter Summary

The Chapter dealt with the analysis and interpretation of the findings with regard to the characteristics that demonstrate how Lafarge Company upholds and embraces environmental stewardship responsibilities such as having a policy guideline on managing the environment and training and having a well-informed workforce, the chapter also discussed the findings regarding the perception of the public on the company's ability to uphold environmental stewardship responsibilities. The innovative strategy of investing in new and modern production equipment and schedules shut downs for maintaining the equipment in a manner that reduces environmental footprint through emissions as well as the measures put in place to ensure effective and efficient production translating into increased profitability and therefore maximization of shareholder wealth and a fair share of market share on the market in comparison to other industry players.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The research sought to evaluate Zambia's corporate entity's environmental stewardship responsibilities using a case of Lafarge Company Plc. This chapter discussed the summary

findings addressing the research objectives and providing the policy recommendations and conclusions as to whether Lafarge Company upholds its environmental stewardship responsibilities.

5.2 Summary findings

The research revealed some of the features that demonstrate that Lafarge Company upholds its environmental stewardship responsibilities include having an environmental policy guideline which strategically help the company to manage any environmental footprint that the company may be emitting to the environment as a result of its production and/or manufacturing processes. The company actually takes a holistic approach to management of its operations by not only focusing on profitability from the economic perspective of the triple bottom line theoretical framework but does this in combination with the social and environmental dimension to reduce its footprint on the environment including with regard to compliance.

The research also revealed that upholding environmental stewardship responsibilities has helped the company sustain its profitability among other industry players such as Dangote sustainably from the going concern point of view.

From the public perception view point, the company is recognized as one of the companies in the manufacturing sector that priorities the reduction of environmental footprint through the use of clean energy and raw materials that are environmentally friendly. Further, the company has a deliberate policy of investing in new and/or modern technologies and equipment and shut down for maintenance of equipment that helps in managing its production processes in a way that significantly deals with any environmental footprint. This innovation has also helped the company to sustain its profitability and reputation not only in Zambia but across the world where the company has presence.

On the overall, the company's commitment to upholding environmental stewardship, the company is more than likely to stand the test of time and has the ability to compete favourably on a going concern basis due to proper environmental stewardship with regard to its innovative investment in modern equipment and scheduled maintenance shut downs to ensure efficiency in terms of production and reducing of emissions. Further, the research revealed that the company embraces expertise not only in other production technologies but also with regard those specialties in managing the environment such as the Sanitation and Health Experts as well as compliance experts who ensure that the all production processes are managed in a manner that is efficient and one that reduces emissions and thus environmental footprint to the minimum. Additionally, the company updates the public on the management of its production

processes and environmental footprint through the environmental component of the annual report which demonstrates how the company sells its ability to manage the environment effectively.

RO1: To establish the importance of environmental stewardship responsibilities for Lafarge

The research revealed that environmental stewardship responsibilities are an important aspect of any manufacturing company in that during the process of production, the likelihood of emissions is unlikely to be avoidable and thus it is important to the company in case because it helps in identifying the impact the production processes are having on the local environment in terms of pollution from the emissions and how the company addresses these negative impacts which have the potential to erode investor confidence, prosecutions and fines from regulatory bodies such as ZEMA and plummeting profitability and market share in comparison to other industry players. This importance attached to environmental responsibility is demonstrable in the company's ability to manage its operations through for example the use of raw materials that are environmentally friendly, investing in new technologies and equipment, hiring staff with requisite competence in managing environmental issues and having a policy strategy on managing production and environmental impact issues among others.

RO2: To ascertain the extent to which Lafarge Plc, upholds its environmental stewardship responsibilities

To a large extent, the company upholds its environmental stewardship responsibilities in that it goes an extra mile to demonstrate this through including a component of environmental accounting and reporting in its annual report of its performance in line with the global and national requirements. It also has accreditation with international environmental standards bodies such as the International Standards Organization (ISO) to ensure that the standards of environmental management and quality of production processes is upto the benchmark standards. The company also interacts with the general public to get feedback on any aspect of its production activities that the public may feel impacts them through different forums such as through sporting activities as part of the corporate social responsibilities and through customer feedback as the customers buy the cement products which are then reviewed strategically for considerations.

RO3: To ascertain the measures Lafarge has implemented to enhance environmental stewardship responsibilities

With regard to measures to sustain the company's operations in terms of profitability, going concern and paramountly, the management of environmental footprint resulting from its manufacturing process of cement products, the company has a deliberate policy of investing in modern technologies and equipment to ensure that the company conducts its production processes in an environmentally friendly fashion and to reduce to the minimum its environmental footprint resulting from its operations.

Further, the company has also put in place scheduled seasonal shutdowns for the maintenance of its equipment to ensure effectiveness and efficiency in managing its production processes. This is demonstrable of the effort the company makes in ensuring that the company is held in high esteem with regard to environmental stewardship which translates into increased profitability and sustainability in terms of being a going concern among other industry players. `

5.3 Conclusion

The research concludes that the company must make significant strides in ensuring that it upholds its environmental stewardship responsibilities with regard to the management of environmental footprint on the local environment resulting from its production processes. The company must by all means also demonstrate through its environmental reporting of how it accounts for any negative impacts it may have on the environment and how it addresses them in the annual reports. The company ought to also invest in regular training of its personnel to cope with latest developments in the management of the environment due to the constant interaction of the production processes with the environment. Further, the company's deliberate policy of investing in new technologies and equipment and schedule maintenance shut downs in managing the production processes, must be addressed in upholding its environmental stewardship.

5.4 Recommendations

The research recommends for Lafarge to uphold its environmental stewardship by embracing new technologies such as new equipment that is environmentally friendly including the training of staff to cope with any latest developments in the environment as well as scheduled maintenance for the repair of equipment as a means of improving the efficiency of the operations. The company must also continue to invest in hiring human capital that has the requisite knowledge and experience in managing operations of such a nature. This way the going concern including the profitability in maximizing shareholder wealth may be achievable.

The research also recommends for ensuring that the tone at the top of the organization involved in manufacturing business activities such as Lafarge is one that embraces clean green energy production processes including the sourcing of raw materials that are environmentally friendly as well as accreditation with international standards in minimizing the environmental footprint. Adherence to the regulations and statutory requirement must also be embedded in the culture of Lafarge through publication in policy documents such as the strategic plan, operational manuals and through regular training of personnel of the benefits of operating with the idea of sustainable development in which case they must look at not only the interests of the current generation but also the future generation.

5.4 Chapter summary

The chapter covered the summary of the findings from the analysis and findings and accompanying interpretation chapter. It also addressed the research objectives that the research sought in evaluating whether Lafarge Company upholds environmental stewardship responsibilities in its production activities with regard to the footprint on the environment. The chapter also provided some policy recommendations on how companies in such a sector ought to deal with their operations and guard against negative environmental impacts.

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Appendices

Appendix I: Interview Schedule



ZCAS UNIVERSITY

GRADUATE SCHOOL OF BUSINESS AND ECONOMICS

MASTERS OF BUSINESS ADMINISTRATION INTERNATIONAL BUSINESS

INTERVIEW SCHEDULE FOR DATA COLLECTION

Evaluation of Zambia's Corporate Entity's Environmental Stewardship in Business Practice: A Case of Lafarge Company

I am glad to have you as one of my research respondent in the study in which I am evaluating the corporate entity's environmental and stewardship responsibilities using a case study of Lafarge Company Plc. Your responses to the questions will be purely for academic purposes and your identity will be treated with utmost confidentiality in this discourse.

I am hopeful that I will not waste much of your time in that the discussion will not take more than 20 minutes and the focus will be on your experience as a worker at Lafarge Plc.

Questions

1. What environmental features demonstrate that the company upholds environmental stewardship responsibilities?

2. How do these features affect the company's reputation with regard to sustainability and profitability?
3. What is your perception on whether Lafarge upholds environmental and stewardship responsibilities in its production processes?
4. What measures and/or policies has Lafarge Plc. put in place to demonstrate its commitment to safeguarding the environment?
5. How has the company embraced innovative and efficient production methodologies that do less or no harm to the environment?
6. In your view what mitigating measures should a company like Lafarge put in place to safeguard the environment from negative impacts that result from manufacturing processes?