

## **CHAPTER ONE: INTRODUCTION**

### **1.1. Background of The study**

Corporate Social Responsibility (CSR) is a hot issue spoken of today. In Ethiopia, there is no general aversion to the concept of CSR (Fantaye Kassa, 2018). Companies habitually open, and operate business inside the community based on permits to operate business in their jurisdiction. In return, to their benefits from business activities, companies have expected to create job to residents, support the community to be a better place for living, pay tax, and be sources of revenue for the community, and preserve the environment. This interaction between companies and the host community establishes a tacit obligation on companies to consider the wellbeing of employees and their families, the local community as well as to act towards societal problems, goals, and aspirations or to the benefit the society. This demonstrates the notion of CSR (Alemayehu Yismaw Demamu, 2020).

Ethiopia has not yet enacted a separate CSR law that imposes specific or directly enforceable CSR obligation on companies and it is a voluntary concept in Ethiopia (Alemayehu Yismaw Demamu, 2020). As a result, the majority of the companies do not perceive CSR as one of the engagements in their day-to-day pursuits and concerns, and they tend to consider that socially responsible activities are the duty of the government as long as they pay tax (Alemayehu Yismaw Demamu, 2020). There are few companies that participated in various philanthropic; economic supports; environmental and other CSR activities. However, the motives behind such CSR activities primarily focus on making the local community feel good about them and collect more profit.

Moreover, most CSR activities of companies fail to holistically consider the interests of their employees, customers, the local community and the environment thereby failing to live up to the expectations of the public (Alemayehu Yismaw Demamu ,2020).

An interview conducted on Academicians and Businesspeople revealed that the Ethiopian private sector is not taking the leadership in CSR and private-public partnership is very limited. Firms do not think in terms of CSR, but instead, for the most part, are concerned with economic survival. This is mainly because the main priorities of the Ethiopian policy are investment, output, employment creation, healthcare, education, income, exports, and not CSR performance (Fantaye Kassa, 2018).

For the Ethiopian government, responsible business is in the first place business that contributes to growth and survival, although it has recognized that environmental and social values need to take into account (Robertson, 2009). Ethiopia does have a number of regulatory and policy initiatives in place, which indirectly concern CSR. These include: Proclamations and policies related to consumers, environmental issues, labor and social issues are among others (Alemayehu Yismaw Demamu ,2020).

From the Environmental side: air pollution, water pollution as well as domestic and industrial wastes are some of the problems that have resulted from the process of industrial expansion and social transformation taking place in the Ethiopia (AlemayehuYismaw Demamu ,2020). Consequently, three stage approach such as Constitutional Measure, Policy Measures and legislative measures were adopted in

order to address these environmental problems and heading towards achieving sustainable development.

The 1995 Constitution of Ethiopia has a large environmental scope, which defined the environmental values preserved and protected. More specifically, the constitution under Articles 44 and 92 proclaims that all citizens shall have a right to live in a clean and healthy environment. Government and citizens shall have a duty to protect the environment. In addition to this, adoption of environmental policy and the Conservation Strategy of Ethiopia, ratification of multilateral environmental Conventions, establishment of the Environmental protection Authority are some of the basic moves towards heading for environmental protection and sustainable development in Ethiopia (AlemayehuYismaw Demamu, 2020).

From the Social development front, Ethiopia has developed different social and social related policies to address the pressing social problems in the country. The issue of social development has been getting a growing attention because social development is at the center of overall human development efforts (AlemayehuYismaw Demamu, 2020). Expanding human capital and improving human development outcomes is still a central pillar strategy of Growth and Transformation plan (2011 to 2015).

Most of them are located in cities or in productive agricultural or horticulture sites. The companies are indeed indispensable to Ethiopia's pursuits of development efforts but should at the same time give due attention to the safety and wellbeing of employees, the community and the environment. Emission of dust and gases above the recommended standard causes respiratory and stress related diseases on employees and local communities. Most of the cement factories have harmed the surrounding farmlands by making them unsuitable for agriculture or other investments. Moreover, they usually do not provide training; offer job for local communities as well as

participate in local infrastructure development activities such as schools, medical facilities, road, water supply, etc. the environmental harm caused by these factories include land degradation that affects vegetation, air pollution, and discharge of waste to nearby watercourses and agricultural fields in violation of the law. This caused community grievances in various locations (Alemayehu Yismaw Demamu, 2020). According to Getaneh (2010) and Abebe Demissew Gashahun (2020), cement industry is highly dependent on power and transport. Cement industry is one of the highest energy-intensive industries in the world, with fuel and energy costs typically representing 30-40 % of total production costs. Raw material costs represent the second-largest percentage of cement manufacturers' cost structures. The specific thermal energy consumption of a cement kiln varies between 3,000 and 7,500 million joules per ton of clinker, depending on the basic process design of the plant. The specific electrical energy consumption typically ranges between 90-130 kWh and 60 - 130 Kg of fuel oil per ton of cement.

The production process of cement has mainly classified into three, the raw material preparation process; the clinker burning process and the finish grinding process. Of all this processes, clinker burning is the most energy intensive process, accounting for about more than 97.3 % of the fuel consumed and about 30 % of the electric power consumption and the rest the finish consumes about 40% of the electric power grinding process and about 30 % by the raw material preparation (Hailu, 2011; MOI, 2015, 2016). Fuel costs are a large part of the manufacturing cost of the cement industry, making cement plants to have aggressive energy consumption.

Sustainable development of cement and construction industry in relation to environmental impact is one of the biggest challenges. The production of one ton of Portland cement release approximately one ton of CO<sub>2</sub> to the atmospheres in the manufacturing process. The cement industry contributes about 5-7 % of the total atmospheric CO<sub>2</sub> emissions globally (Yossef, 2016). Most of the CO<sub>2</sub> emissions and energy use in the cement industry are related to production of the clinker; 63 % of the CO<sub>2</sub> emitted during cement production comes from the calcinations process, while the

rest (37 %) is produced during the combustion of fossil fuels to feed the calcinations process (Mercier, 2010).

Researchers mentioned above investigated that companies are working to words maximizing their profits and minimize costs of productions through their effort, which could also have an adverse effect on the wellbeing, and development of society. More specifically, adversely affect employees, environment, increase pollution, and engagement in voluntary activities towards contributing to properly discharge, CSR. These all investigations of different researchers focused on elements of CSR are the main pillars of this research on CSR implementation of Muger Cement Factory Ade'a-Berga plant.

## **1.2 Statement of the Problem**

CSR has practiced in Ethiopia in traditional ways for a long time. There are traditional institutions that embedded social responsibility practices and serve as instruments for socio-economic collaboration and cooperation among people. The most common examples of CSR in Ethiopia are (Idir; Iqub; Zikir; Sedeka; Zekat; Asirat; Ayalew 2018). CSR is at its earliest stages in Ethiopia as in most sub-Saharan countries (Kassa 2018).As discussed in Robertson (2009), it is at a stage in which it has being pitched by the academics and the government, and has not been implemented yet. Multinational companies usually undertake CSR in Ethiopia while participation of locally owned companies in CSR is low. However, Kassa (2018) suggests that it is difficult to say that companies in Ethiopia are averse towards CSR. Rather, he argues that the political framework is lacking to practice CSR in a sustainable manner.

For instance, Atles (2018) found that there is no concerned government organ on CSR practices in the tourism industry. Zhower, as cited in Nigatu (2018), Asfaw mentioned that the Ministry of Trade and Industry, with support from the World Bank, USAID and other development partners, is developing a CSR programme in order to instill a CSR culture in the national companies. According to Kassa (2018), local companies usually prioritize economic aspects of their endeavors. Ethical practices

towards social and environmental protection have seen as less ranked than economic returns to investment (Altes 2018; Amare 2019). As stated in Desjardins (1998), business should also consider their CSR while pursuing profits. However, as cited in Amare (2019), Nukpezah (2010) argued that business in developing countries forgo the future at the cost of present benefits. Andualem as cited in Nigatu (2018) identified lack of awareness about CSR, by the business community as the main reason for low participation in CSR. Potluri and Temesgen (2008) stated that competition by other businesses is a threat for them.

This is due to the additional financial resources allocated for CSR activities, which could reduce their profitability compared to others. Available empirical evidences on the status of corporate social responsibility in Ethiopia indicates the lack of a well-developed culture of CSR and its integration into corporate. Mostly multinationals and large local companies are implementing CSR. However, these are mostly inconsistent philanthropic activities, and not supported by sustainable CSR policies and strategies. There are also companies that have CSR policies but do not comply with their implementation. This is specifically evident in environmental management issues (Ahimed Kellow, 2020). No legislation in Ethiopia that directly enjoins companies to either incorporate CSR in their policies or enforce CSR compliance. There is no any provision upon which companies can held accountable for the negative impact they caused on employees, local residents and the environment beyond the standard of the law.

The gaps in fulfilling the CSR is partly because of its nature that it has a voluntary element, which requires that businesses should excel than simply complying the legal requirements stipulated in a specific law or regulations. Therefore, the focus of the research was on the assessment of CSR implementation of Muger Cement factory Ade'a-Berga District plant in order to find what the real experience looks like and find how the implementation in this regard are in line with the required standards, rules, regulations and expectations in the country and at International level.

## **1.3 Research Objective**

### **1.3.1 General Objective**

The general purpose of this study is to assess the practical Corporate Social Responsibility implementation experiences of Mughar Cement Factory, in the perspectives of its responsibility to economic (Profit); social (people); and environmental (Planet) performance indicators; identify gaps and recommended based on analysis of findings. Having this in general objective, the study has some more specific objectives, which have indicated as follows.

### **1.3.2 Specific objectives**

The specific objectives are:

1. To assess the extent to which the factory has registered a sustainable growth in regards to sustainable financial, and market share growth; internal processes improvement; and employee learning and development throughout the assessment periods;
2. To assess the extent to which the factory has perform according to environmental standards included in Global Reporting Initiatives (GRI) in terms of factory's air emission and carbon dioxide emission reduction; and natural resource protection criteria;
3. To assess the extent to which the factory has invested in the local community development activities according to the Global Reporting Initiatives (GRI) social performance indicators.

## **1.4 Research Questions**

- To what extent the factory can be effective in making sustainable profit growth.
- To what extent the factory protect human beings and natural resources?
- To what extent the factory invested in community development activities?.

### **1.5. Significance of the study**

The research has the following significances for parties who have direct or indirect interest on it;

- The output from the research can help Factory, policy developers and policy implementers to take some remedial actions to improve potential problems identified by the research;
- It enables the researcher to acquire basic experiences regarding several issues on areas of corporate social responsibility implementation in cement factory and related aspects and the tentative solutions provided by the researcher can also enable the interested parties to solve the identified problems;
- The identified role of Factory will help the country to integrate their role in the policy of sustainable development achievement;
- It will also serve as a future reference for researchers in the same area. In addition, importantly, this research will educate clients in deciding on whether the industries are really fulfilling its responsibility to the corporate social responsibility implementation or is just showing off to promote its business; and
- To give a clear image of CSR responsibilities of factory especially in improving the wellbeing of local communities life

### **1.6 Scope of the study**

The scope of the study is thematically limited to the implementation of corporate social responsibility in Muger Cement factory in relations to economic; social; and environmental dimensions. The study used both qualitative and quantitative approaches to collect and analyze data as a methodology. The study covers the period from 2010 to 2012 E.C. there were some limitation on the study with regard to participants, less management body willingness to cooperate due to COVID-19 cases. This research cannot include the opinions of Local community and District Offices due to instability of political situation existed in the area. The area is under Command



Post starting from 2009 E.C. Any meeting and contact have illegal without the permission of Command Post in this area, and the researcher does not need to try to include their participation under this instable conditions.

### **1.7 Organization of the paper**

The research paper has five chapters. Chapter one deals with background of the study, statement of the problem, definition of key words, research objective, significance of the study and scope and limitation of the study. Chapter two deals with the review of related theoretical and empirical literatures, and chapter three contains methodology of. Chapter four present data analyses and presentation, and the final chapter, chapter five summarizes the findings, draw conclusions, and forward some important recommendations.

## **CHAPTER TWO: RELATED LITRATURES REIWEV**

### **2.1: Introduction**

In this chapter of the paper, the study presents the theoretical model used to study the problem based on the empirical data as to answer the research questions.

#### **2.1.1. Corporate Social responsibility:**

It is quite difficult to have an agreed definition that clearly reveals the concept of corporate social responsibility. For the purpose of this paper, it is better to look at definitions of CSR that will help us to analyze the problem statement. This section overviews some literatures about CSR and provides some key concepts in this area. How CSR has defined and concepts under the context of economic, social, and environmental perspective of CSR has assessed.

CSR is complex area with an interdisciplinary focus, which includes human rights, environmental responsibility, and diversity of management, sustainability, and philanthropy (William 2010).CSR concerned with treating stakeholders of the firm ethically or in a responsible manner. It is a new phenomenon as well as the business practices associated with it (John 2005). “Ethically or responsible” means treating stakeholders in a manner deemed acceptable in civilized societies with regard to social, economic and environmental responsibility. Stakeholders exist both within a firm and outside. The wider aim of social responsibility is to create higher and higher standards of living, while preserving the profitability of the corporation, for peoples both within and outside the corporation. (Micael 2006).

However, giving a single definition is not enough because various issues would have risen inside this paper. Another broad definition given by International Institute for Sustainable Development is a balanced approach for organizations to address economic, social and environmental issues in a way that aims to benefit people, communities and societies. (Sexsmith & Potts2009).Similarly according to William CSR is a complex area with an interdisciplinary focus, which includes human rights,

environmental responsibility, and diversity of management, sustainability, and philanthropy. To ensure a long term economic, social and environmental sustainability one organization should identify its relevant and appropriate procedures to develop specific competence and undertake profitable investment (Idow & Fiho 2009). Based on the above definitions, CSR has developed as common was expressing abroad concepts of business concerns such as environmental protection, workers right, consumers and suppliers protection and its behavior on social issues like health, safety under the consideration of profit making. This paper theoretical framework mainly focuses around on triple bottom line, which is a powerful way to grasp the factory's CSR implementation and measure its success in terms of economy, environment, and the society.

## **2.2 Triple Bottom Line**

This concept explained how it could be useful for business, policy makers, and economic development practitioners as base for formulating corporate social responsibility theories. TBL is an accounting framework that incorporates three dimensions of performance: social, environmental and financial. This differs from traditional reporting frameworks as it incorporates environmental and social measures that can be difficult to assign appropriate means of measurement. The triple bottom line has made up of "social, economic, and environmental" (Mothy2011). Using this 3 pillars today companies prefer to use their sustainability framework under this approach.

According to John most companies report uses the triple bottom line performance measurement. However there are most important key elements of CSR drivers but the most important business competitiveness is to incorporate a triple bottom line effect into their corporate practice, it becomes as one of a framework for accosting and reporting. (William2010). Still companies have difficulties to define their sustainability accounting measure. According to William, today's challenge for companies to come up with accountability for sustainability development is to combine and report the financial, social, environmental and use this ethical accounting reporting for decision

making for future sustainability development. These three traditional sustainability measures, examined through academic dialogue, have presented below.

### **2.3 Economic performance, and its distribution.**

A financial perspective includes the traditional financial ratios reflecting the firm's economic achievements. In the BSC, the financial perspective indicates whether the transformation of a strategy leads to improved economic success. Measures chosen in this perspective should reflect the product or service life-cycle stages, which have summarized by Kaplan and Norton as rapid growth, sustain, and harvest. Economic sustainability deals with an economic growth of an organization should as increased in overtime, and this profit should earned without the impact of environmental degradation or from negative social impact (Rogers et al 2008).It is related to enhancing the living standard of citizens through increasing of income, giving education, health care, job creation and so on and on the other hand it is directly associated with an economic growth at the aggregate. Studies and company experience reveals that there is a clear positive relationship between CSR practice and their economic performance and others vice versa. However, current researchers acknowledge that positive financial performance has gained by attainment of a high level of CSR practice.

According to TBL theory, the most important for a company is not to make high profits but to achieve continuous profit for the long term (Pavlo Brin, & Mohammed Nassil Nehme, 2019).

Economic variables ought to be variables that deal with the bottom line and the flow of money. It could look at income or expenditures, taxes, business climate factors, employment, and business diversity factors. Specific examples include: Operational income, Net Sales growth, investment in social responsibility matters, cost minimization; energy management, water management, and labor productivity; employee training and education; air emission reduction, carbon dioxide reduction, and natural resource management; occupational health & safety, and purchase of raw material from local community. Profitability is the ability of a company to use its

resources to generate revenues in excess of its expenses. It indicates how efficiently a company generates profit and value for shareholders. Higher ratio results are often more favorable, but these ratios provide much more information when compared to results of similar companies, the company's own historical performance, or the industry average.

### **2.3.1 Financial perspective:**

Financial ratio analysis and percentages are among the important income statement measurement tools. Financial ratio analysis of Income statement gives us meaningful information about the level of financial status and the operational results of the company. It enables a company to see what kind of financial and operational problems faced it. Financial ratio analysis can have meaning only when a company's results of one period is compared with another period, and if we can get industry average data, they have big meaning when they can able to compared with industry average and the performance results of the another company within the same industry.

Generally, a financial ratio is:-

1. Helps to identify effective and non-effective companies within the same industry, by comparing their performances to see the root causes of their success and failures, and
2. Helps to see where the company goes, by comparing a one's company one's period achievement with the other period of performances. When we need a financial ratio analysis has meaning, the analyst shall choose only meaningful ratios that can tell something about the company's situation. In this study, the researcher used the 2010-2012 years financial ratio analysis reports of Muger Cement Factory to arrive on meaningful conclusions.

#### **2.3.1.1 Profitability Ratios**

This ratio can interpret in to two ways: Profitability in relation to sales and investment. They are the indicators of a company's operational efficiency.

### **2.3.1.1.1 Profitability in Relation to Sales**

#### **2.3.1.1.1.1 Gross Margin = Sales minus Cost of Goods sold/Sales**

The gross profit margin ratio analysis is an indicator of a company's financial health. It tells investors how much profit has earned from a sale of single birr. Compared with industry average, a lower margin could indicate a company is under-pricing. A higher gross profit margin indicates that a company can make a reasonable profit on sales, as long as it keeps overhead costs in control. Investors tend to pay more for a company with higher gross profit (<https://efinancemanagement.com/>). Theoretically, it is satisfactory when its ratio falls between the ranges of 35% to 50% (Muger Cement annual financial ratio analysis reports).

#### **2.3.1.1.1.2 Profit Margin**

*Profit margin* is the result of the ratio of profit before interest and tax to sales. It indicates how much operational profit has earned from a sale of single birr. The higher ratio indicates the ability levels of the factory to overcome adverse conditions. Theoretically, the threshold ratio of 15% to 25% is acceptable and it can be increased or decreased from this threshold ratio based on industry situations (Factory's annual report).

#### **2.3.1.1.2 Profitability in relation to Investment**

It shows the amount of asset used in earning the amount of sales revenue. As much as possible, a company has to generate a big amount of sales revenue by using a minimum amount of asset value.

#### **2.3.1.1.2.1 Asset Turnover=Sales/Total Assets**

Asset turnover ratio (net sales/total asset) measures how efficiently a firm uses its assets to generate sales, so a higher ratio is always more favorable. Higher turnover ratios mean the company is using its assets more efficiently. Lower ratios mean that

the company is not using its assets efficiently and most likely have management or production problems. Theoretically, the accepted industry ratio is 1:1 to 2:1.

#### **2.3.1.1.2.2 Return on investment**

Return on investment (ROI) is a major instrument to measure profitability and it could be measure in two ways: by using the ratio of Profit before interest and tax to total asset or by the Product of asset turnover and profit margin. Theoretically, expected ratio of effective companies should be greater than 15%. A high ROI means the investment's gains compare favorably to its cost. As a performance measure, ROI has used to evaluate the efficiency of an investment or to compare the efficiencies of several different investments. In economic terms, it is one way of relating profits to capital invested.

#### **2.3.1.1.3 Net Sales Growth**

*Net Sales Growth* means the percentage increase (if any) in net product sales for the Plan Year relative to net product sales for the fiscal year preceding the Plan Year, adjusted for the translation effect of changes in foreign exchange rates between each fiscal year, rounded to the nearest one-tenth of one percent. It measures the performance of the sales team to increase the revenue over a pre-determined period. It is an essential parameter for survival and financial growth of the company. Sales returns, allowances, and discounts are the three main costs that can affect net sales. Companies will typically strive to maintain or beat industry averages. Often returns can quickly resell without creating issues. Allowances are typically the result of transporting problems, which may prompt a company to review its shipping tactics or storage methods. Companies offering discounts may choose to lower or increase their discount terms to become more competitive within their industry.

#### **2.3.1.1.4 Investment in social responsibility activities**

There are no strict rules about setting CSR Budget ceiling. However, there is a consensus that says investing 2-3% minimum of an organizations profit makes

good business sense. A good example of country legislation supporting this is India, which has recently introduced a company law into the private sector that makes CSR policy, and recommends companies to spend 2% of the profits on social and environmental activities (Julia Lieser, 2013). However, Ethiopia and most countries in the world do not yet have a mandatory legislation on CSR and therefore CSR, budgeting has often left to CSR practitioners to design and convince management of why a budget has needed. It really, all depends on company type and size, profit margins, long-term vs. short-term goals, budgeting resources, ownership, bottom-line benefits and mostly trial and error. Some companies invest a good amount of money into CSR activities, of them, some have large profit margins, and others have small profit margins – so how do they determine their budgets?

#### **2.3.1.1.5 Cost minimization**

*Production costs* refer to all the costs incurred by a business from manufacturing a product or providing a service. Cost reduction is the achievement of real and permanent reduction in unit cost of products manufactured. It therefore continuously attempts to achieve genuine savings in cost of production, distribution, selling and administration. It does not accept a standard or budget as impenetrable or fixed, it rather challenges the standards or budgets continuously to make improvements in them (<https://www.economicdiscussion.net>).

Cost reduction can be achieved through the following ways: by minimization/elimination of wastes; increasing productivity of labour; more efficient purchases of raw materials; better bargain on other elements of costs; adopting Economic Order Quantity for purchases; production Planning and control; mechanisation and automation of procedures and processes; adoption of Enterprise Resource Planning (ERP), if possible.



### **2.3.2 Customer perspective:**

Describes the firm's customer value proposition via asset of objectives, measures, and initiatives reflecting how the firm wants to be perceived by its customers. It defines the market segment and reflects the positioning that the firm desires to have to be competitive in the marketplace.

#### **2.3.2.1 Market Share**

It defines targeted market segments and measures the company's success in the segment. It equally considers the number of new customers and customer satisfaction rating. It indicates how well the organization meets the customer requirements and expectations.

### **2.3.3 Internal Processes:**

Focus on the internal production or service processes that take place throughout the value chain. It reflects the firm's ability to adapt, change, and innovate. It defines the processes that will transform intangible assets into customer and financial outcomes. It focuses on internal operations that create value for customers and shareholders. Using strategic initiatives, products, services and processes are created to meet customer needs. Based on this, quality is an additional strategy at securing the attention of customers, improving service delivery time by way of reduction in the time taken for goods or services to reach the customer demands for immediate and on the spot delivery or delivery by post. To enhance achievement of internal processes that create value for the customers and shareholders, it is necessary to identify organization capabilities that can enhance a successful reengineering process.

#### **2.3.3.1 Energy Management**

The cement industry is one of the highest energy-intensive industries in the world, with fuel and energy costs typically representing 30-40% of total production costs. In

Ethiopia, the specific electrical energy consumption ranges between 90-130 kWh per ton of cement (Abebe Demissew, 2020).

### **2.3.3.2 Water consumption**

A modern, dry-process cement factory *consumes water* in three ways: (i) for cooling the bearings of large machines, (ii) for spraying into the process for gas conditioning and evaporative cooling, and (iii) as potable, drinking water. Older, wet-process cement factories consume much more water for the preparation of the kiln feed slurry (Abebe Demissew, 2020). Water consumption for bearing cooling and process water shows wide variation from one cement factory to another. Water is increasingly becoming a scarce and precious natural resource.

### **2.3.3.3 Labour productivity**

Siagian (2014) explained that *work productivity* is the ability to produce goods/ services from various resources and capabilities possessed by each worker/ employee. Generally, productivity can be interpreted as the ability to improve employee work outcomes in terms of the resources possessed by each individual. According to Jackson in (Agustin: 2014), productivity is interpreted as increasing work outcomes that are influenced by the ability of employees (input) and produce an item or service (output). Lexley and Yukl in Edyun (2012), state that work productivity of organization employee plays a very important role. The growth of organizations has very dependent on work productivity of their employees. An employee who performs certain types of work well, certainly give good results for organization.

### **2.3.4 Learning and growth:**

Measures the strength of internal capital including human capital, informational capital and organizational capital.(e.g. Employee motivation; training and progress; information systems; databases and networks; culture and leadership). Internal capital represents the infrastructure that drives performance and allows the firm to achieve the three dimensions above Kaplan and Norton (1996). It is related to the inspiring and motivating climate that enables innovation, Collaborator, satisfaction, change, and improvement. Training and development refers to educational activities within a

company created to enhance the knowledge and skills of employees while providing information and instruction on how to better perform specific tasks.

#### **2.3.4.1 Employee Training and Education**

Training is a short-term reactive process meant for operatives and process while development is designed continuous pro-active process meant for executives. In training employees' aim is to develop additional skills and in development, it is to develop a total personality. In training, the initiative is taken by the management with the objective of meeting the present need of an employee. In development initiative has taken by the individual with the objective to meet the future need of an employee. The benefits of training and development are increase job satisfaction and morale among employees; reduces employee turnover; increases employee motivation; increases efficiencies in processes, resulting in financial gain; increases capacity to adopt new technologies and methods; increases innovation in strategies and products(<https://explore.darwinbox.com>). Employee training and development refers to the continued efforts of a company to boost the performance Corporate Performance Management (CPM) Corporate Performance Management (CPM) refers to a tool used by corporations to formulate organizational strategies through prescribed methodologies of its employees. Companies aim to train and develop employees by using an array of educational methods and programs.

Although there are a few drawbacks in investing in employee training, the benefits from such programs outweigh them significantly. The benefits include addressing weaknesses; Improved performance of employees; Boosts company profile and reputation; fosters their creativity. When companies cannot able to invest on employee trainings and development, yes, you heard that right! Businesses that do not invest in employee training and development are always a step behind their competitors. Lack of employee development efforts of an employer creates dissatisfaction among workforce and fuel many early exits from an organization. As employing and retaining top talent has become bigger issues in talent management in past few years, employers

should wisely plan employee training assessment and skill development to avoid any possible risk!(<https://www.highspeedtraining.co.uk>).

## **2.4 Environmental protection performances**

The term environment has different definition and scope around the world, some countries put in a very limited way and others gives broaden, and holistic understanding (William 2010). This implied that each country has its own regulation on environment based on its context. Environmental sustainability includes safeguarding of species on the earth. Environmental sustainability is one of the main concepts in the TBL framework. If business companies will not respect the environmental dimension, our children will not be able to enjoy the same quality of life we are enjoying now. Corporations must pay attention to environmental changes and obey the new environmental laws with being careful to the consumption of natural resources. Corporations have to use the alternative energy sources in order to minimize the consumption of traditional sources of energy (for example oil, gas, coal, etc.), and it has to safe air and water sources, with disposing of toxic and solid waste in an environmental manner. All these factors maintain environmental sustainability (Pavlo Brin, & Mohammed Nassil Nehme, 2019).

Environmental variables associated with of natural resources consumption and degradation, gives potential influences to its viability. Some examples include:

- Air emission reduction (Nitrogen Oxide; Sulfur Oxide; and particulate matter);
- Green House Gas emission reduction (CO<sub>2</sub>);
- Protection of Natural Resources.

### **2.4.1 Air and dust emission reduction**

The cement industry contributes significantly to climate change. According to data from 2006, cement production contributed about 8% of anthropogenic CO<sub>2</sub> emissions, or 6% of total global emissions of greenhouse gases. Currently, it is considered that the production of one tone of cement results in the emission of approximately 0.65 to

0.95 tons of CO<sub>2</sub>, depending on the energy efficiency of the process, the fuels used, and the specific type of cement (the production of white cement has higher emissions).

Direct emissions from cement manufacturing process originate from two main sources(<http://tinyurl.com>):

- Approximately 50% of CO<sub>2</sub> released during the manufacture of cement is due to the Calcinations, in which the limestone (CaCO<sub>3</sub>) has transformed into lime (CaO) in the following reaction:  $\text{CaO} + \text{CO}_2 \leftarrow \text{CaCO}_3$ , releasing CO<sub>2</sub>. This process produces clinker, an intermediate product in the manufacturing process of the cement that is finally cooled and ground into cement.

- About 40% of the CO<sub>2</sub> emitted during cement production is the result of burning fuel to provide heat energy required for ignition to occur. Furnaces in which the reaction occurs get heated up to 1,450 ° C. The reaction requires 1,700 MJ / t, which cannot be decreased. Usually, the use of energy in the cement industry represents 30 to 50% of the production costs.

- 5% of CO<sub>2</sub> emissions are indirect because they are the result of the use of electricity to run the plant. According to the energy, source and the efficiency at which the mixture issued in local power, this figure can vary from less than 1% to over 10%.

- Another 5% of CO<sub>2</sub> emissions has emitted by the various needs arising from quarry mining and transport

Direct CO<sub>2</sub> emissions from the production of cement has attributed to: (1) Calcinations process - the process of transforming raw materials into clinker, which is the main component of cement; (2) Fuel combustion -fuels (oil, coal, petrol coal etc.) burn in the kilns and produce CO<sub>2</sub> because of the chemical reaction between carbon and oxygen. Indirect emissions of CO<sub>2</sub> has released during the generation of electricity required for the production of clinker and cement, as well as during the transportation of raw materials, fuel and final products (Hrvoje Mikulcicet, al, 2013).

There are several measures in the cement industry, which can reduce CO<sub>2</sub> emissions significantly. One of the measures is the reduction of clinker to cement ratio with different additives. Furthermore, replacing fossil fuels with alternative fuels may play a major role in the reduction of CO<sub>2</sub> emissions. The other advantage of the application of this measure is the reduction of energy costs of cement production, and even more significant is the advantage that this measure is also an environmentally friendly method of waste utilization. Improving the energy efficiency of the kiln process is also one of the possibilities for CO<sub>2</sub> emissions reduction. Finally, co-production of synthetic fuel is a measure that could combine renewable energy resources and cement manufacturing process and recycling the CO<sub>2</sub> from the flue gases lower CO<sub>2</sub> emissions notably (Hrvoje Mikulcicet, al, 2013).

Most of these measures have influenced largely by environmental policy and legal framework and integration of these measures will only be possible if the policy framework will foster the cost-effective deployment of the best available technology. In this study, the CO<sub>2</sub> emissions for each of the named measure has calculated according to the Intergovernmental Panel on Climate Change (IPCC) methodology (IPCC, 2000). This methodology is widely used for tracking and reporting of greenhouse gas emissions from the industrial facilities. For cement industry, it specifies that there are two different sources of CO<sub>2</sub> emissions: the combustion of fossil fuels, and the thermal decomposition of limestone, known as the calcinations process. The former refers to combustion CO<sub>2</sub> emissions, and the latter refers to process CO<sub>2</sub> emissions (Hrvoje Mikulcicet, al, 2013). The *IPCC Guidelines* provide a general approach to estimate CO<sub>2</sub> emissions from clinker production, in which the amount of clinker produced is multiplied by an emission factor. Thus the basic equation to estimate CO<sub>2</sub> emissions from clinker production is:

**EQUATION 1**

$$\text{Activity/Production Data} \bullet \text{CKD Corrections Factor} = \text{CO}_2 \text{ Emissions from Clinker}$$

Where CKD stands for Cement Kiln Dust.

Because masonry cement requires additional lime, the *IPCC Guidelines* provide an equation, based on masonry cement production parameters, to estimate CO<sub>2</sub> emissions resulting from the additional lime. The equation, and its components, is presented in

### BOX 1

#### IPCC METHODS

##### Cement Production Data

Cement, in contrast with Portland cement, requires additional lime. To account for this, the *IPCC Guidelines* provide an equation, based on cement production parameters, to estimate CO<sub>2</sub> emissions resulting from the additional lime. The equation is illustrated below.

##### EQUATION 2

$$\text{CO}_2 \text{ (tons) from CaO added to cement} \\ a * (\text{all cement production}) * ((1-1/(1+b))^c) * 0.785$$

Where:

a = fraction of all cement produced (e.g., 0.05-0.2)

b = fraction of weight added to cement by non-plasticizer additives such as lime, slag, and shale (e.g., 0.004, 0.006)

c = fraction of weight of non-plasticizer additives that is lime (e.g., 0.7-0.9)

a • (all cement production) = cement production

((1-1/(1+b)) • c) = fraction of lime in cement not attributable to clinker

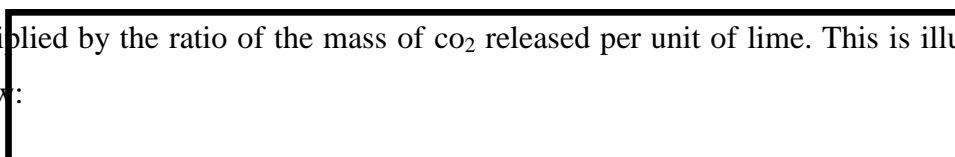
((1-1/(1+ b)) • c) • 0.785 = an emission factor of CO<sub>2</sub> from cement additives

#### 2.4.1.1 Emission factors

Estimating emissions generally involves two emission factors: an emission factor for clinker production and an emission factor for Cement Kiln Dust (CKD) production.

##### 2.4.1.1.1 Clinker emission factor

The clinker emission factor is the product of the fraction of lime in the clinker multiplied by the ratio of the mass of CO<sub>2</sub> released per unit of lime. This is illustrated below:



### EQUATION 3

$$\text{EF clinker} = \text{fraction CaO} \bullet (44.01 \text{ g/mole CO}_2 / 56.08 \text{ g/mole CaO})$$

or

### EQUATION 4

$$\text{EF clinker} = \text{fraction CaO} \bullet 0.785$$

The multiplication factor (0.785) is the molecular weight ratio of CO<sub>2</sub> to CaO in the raw material mineral calcite (CaCO<sub>3</sub>), from which most or all of the CaO in clinker is derived. CaO content can show variations by country of origin and facility.

The *IPCC Guidelines* recommends two possible methods for calculating the emission factor. The Tier 1 method uses the IPCC default value for the fraction of lime in clinker, which is 64.6 percent. This results in an emission factor of 0.507 tons of CO<sub>2</sub>/ton of clinker, as illustrated below:

### EQUATION 5

$$\text{EF clinker} = 0.646 \bullet 0.785 = 0.507$$

The Tier 2 method is to calculate the average lime concentration in clinker by collecting data on clinker production and lime fraction by type. The difference between the default value and a value based on collected data has expected to be small.

IPCC recommends using clinker data, rather than cement data, to estimate CO<sub>2</sub> emissions because CO<sub>2</sub> is emitted during clinker production (not cement production). If cement data are already available and clinker data are not available, the recommended method is to estimate the fraction of clinker in the cement and back-estimate clinker production.

CO<sub>2</sub> is also emitted during the calcinations of cement kiln dust (CKD) in the kiln. CKD is a by-product of the kiln process and a portion of the CKD has placed back in the kiln and incorporated into the clinker. The remaining portion is lost – placed in a



landfill or used for other purposes. The lost CKD represents additional CO<sub>2</sub> emissions not accounted for in the clinker emissions estimate. The recommended method to estimate the additional CO<sub>2</sub> emissions from the lost CKD is to multiply an emission factor by the amount of lost CKD. However, CKD production data are usually not available. The CO<sub>2</sub> from the lost CKD is generally equivalent to about 2-6 percent of the total CO<sub>2</sub> emitted from clinker production. If data are not available, it has recommended that countries select a percentage between 2-6 percent and multiply the percentage by the estimate of CO<sub>2</sub> emissions from clinker production. This yields an estimate of CO<sub>2</sub> from the lost, calcined CKD (Michael J. Gibbs, et, al. 2013).

There are several effective measures, which can apply in cement manufacturing processes to achieve CO<sub>2</sub> emissions reduction. Simultaneously these measures can reduce the local environmental impacts and improve the competitiveness of the cement industry. As the largest CO<sub>2</sub> emitter, the calcinations process is the best to start with. The only way to reduce CO<sub>2</sub> emissions from the calcinations process is to use alternative raw materials, which do not contain carbonates in their mineral structure.

However, till now no economically viable minerals from which the produced cement is comparable by quality to the current Portland-based cements, have been found (Gartner, 2004). Roskovic and Bjegovic(2005) studied the influence of the substitution of a part of clinker with mineral additions on the mechanical characteristics of cement and the reduction of CO<sub>2</sub> emissions. The study showed that by reducing clinker to cement ratio with various additives, the consumption of raw materials, thermal and electric energy, and the CO<sub>2</sub> emissions can be reduced notably. Due to high CO<sub>2</sub> content in the flue gases, the most effective way to reduce CO<sub>2</sub> emissions from the cement manufacturing process is to capture CO<sub>2</sub> from the flue gases and store it (Deja et al., 2010). Barker et al. (2009), based on a newly built cement plant in Scotland, United Kingdom, analyzed the technologies that could be used for CO<sub>2</sub> capture in cement plants, their costs and barriers to their use. The study concluded that the oxy-combustion in contrast to the post combustion is an economically better solution for CO<sub>2</sub> capture in cement plants, but still research and development is needed, in order to enable this technology to be deployed. In addition

to the previously mentioned Carbon capture and storage (CCS) technologies, Bosoagaet al. (2009) analyzed the use of amine scrubbing and the calcium looping technology, as potential CCS technologies in cement industry. The study showed that the benefit of the calcium looping technology is that the lime removed from the cycle could be used for the production of clinker, and therefore reduce the CO<sub>2</sub> emissions from the cement industry. Furthermore, by improving the energy efficiency of the clinker production process CO<sub>2</sub> emissions can also be reduced. The most energy efficient cement production technology, best available technology, today is the use of a dry rotary kiln together with a multi stage cyclone pre heater and a calciner (Mikulcic et al., 2013). In the study of Ke et al. (2012), on the case of China's cement industry, it was shown that the energy efficiency of the cement production process will be crucial for the reduction of CO<sub>2</sub> emissions and energy consumption. Following the fact that the use of the best available technology can reduce CO<sub>2</sub> emissions, Moya et al. (2011) analyzed the energy technology improvements that can contribute to the decrease of energy consumption and CO<sub>2</sub> emissions in the EU's cement industry. In the study of Valderrama et al. (2012), a life-cycle assessment methodology was used to compare the newly installed best available technology and the former clinker production line. The study showed that an environmental improvement has been achieved by using the best available technology for the clinker manufacturing, in a form of less fuel consumption. Furthermore, Mikulcic et al. (2012b), by using suitable numerical models (Mikulcic et al., 2012c), presented the potential of computational fluid dynamics (CFD) to support the design and optimization of cement calciners operating conditions, and to support the reduction of CO<sub>2</sub> emissions from the cement manufacturing process.

However, it was found that the substituting fossil fuels with alternative fuels may play a major role in the reduction of CO<sub>2</sub> emissions. Fodor and Klemes (2012) presented the use of waste as an alternative fuel and discussed the advantages and disadvantages of the current and the developing waste-to-energy technologies. The study showed how the different waste-to-energy technologies are being developed and analyses their potential for greenhouse gas (GHG) emissions reduction. Kaantee et al. (2004) analyzed the use of alternative fuels in the cement industry, providing useful data for

the optimization of the pyroprocessing process when alternative fuels are used. Mokrzycki et al. (2003) reported the advantages, both economic and environmental, of using alternative fuels in Polish cement plants. The study showed that the use of alternative fuels is an environmentally friendly method of waste utilization. Aranda-Uson et al. (2012) studied the use of sewage sludge as an alternative fuel in cement industry. The study showed that significant technical and environmental improvements in the cement production process can be achieved when the sewage sludge is used as an alternative fuel. Furthermore, Aranda-Uson et al. (2013) presented the use of alternative fuels and raw materials in the cement industry. The study showed that alternative fuels can decrease cement industry's environmental impact, and furthermore that it can lower the consumption of energy and material resources, and reduce the economic costs of cement production. Aside from the studies investigating the environmental potential of using alternative fuels in the cement industry, Mislej et al. (2012) studied both the combustion behavior and the environmental effect of using alternative fuels for heat generation in cement kilns. The study showed that there is a great potential, especially environmental, of using alternative fuels in cement production.

All of these studies showed that by optimizing existing cement production lines, using more efficient technologies, installing CCS technologies, using alternative fuels and by reducing the clinker to cement ratio, a reduction in CO<sub>2</sub> emissions could be achieved. However, none of these studies shows the potential of combining renewable energy resources and cement manufacturing process. The co-production of synthetic fuel, a CO<sub>2</sub> emission reduction measure considered in this study, is a method that could show that potential. In this way, CO<sub>2</sub> emissions related to fuel combustion could be avoided.

In this study Muger cement plant factory was selected as the case study. The paper analyses the existing pyroprocessing unit and its CO<sub>2</sub> emissions reduction potential. Three measures, which can be applied in the cement manufacturing processes, have been analyzed in order to identify their environmental effectiveness. The implementation of

these measures results in a significant decrease of CO<sub>2</sub> emissions in 2020, contributing to a more sustainable cement production.

#### **2.4.2 Natural resource management**

Natural resource management is an interdisciplinary field of study that considers the physical, biological, economic and social aspects of handling natural resources. It involves putting resources to their best use for human purposes in addition to preserving natural systems. Natural resource managers' duties include overseeing workers, analysing data, developing environmental plans and policies in accordance with state and federal laws and negotiating land and resource use contracts with landowners and governments. Within this field, there are various areas of concentration.

There are two types of natural resources: renewable and non-renewable. The former are inexhaustible, like solar radiation, or their renewal is relatively rapid, as is the case with biomass. Non-renewable resources are those that exist in nature in a limited way because their regeneration involves the passage of many years, such as minerals and fossil fuels oil, natural gas and coal. Human beings are depleting the planet's natural resources and standards of living will begin to decline by 2030 unless immediate action is taken. The World Wide Fund for Nature (WWF) warns that the current overexploitation of natural resources is generating an enormous deficit, as 20% more than can be regenerated is consumed each year and this percentage is growing steadily.

The uncontrolled consumption of natural resources has significant effects: The disappearance of habitats essential for flora and fauna and, therefore, the extinction of species. There are some 30 million different animal and plant species in the world, and of these, the International Union for Conservation of Nature (IUCN) says that, currently, more than 31,000 species are threatened with extinction. If we do not take care of the forests there will be fewer CO<sub>2</sub> sinks and therefore more air pollution. According to the World Health Organization (WHO), nine out of ten people worldwide breathe air with high levels of pollutants and seven million people die each year due air pollution. The future, as stated in the United Nations Agenda 2030 for Sustainable Development, poses a double challenge to human beings: conserving the

many forms and functions of nature and creating an equitable home for people on a finite planet. If we want to reverse this situation, we need, among other things, to: Conserve natural capital; Improve production systems; Consume more responsibly; Reorient financial flows (Place a value on nature and natural resources; Take responsibility for environmental and social costs; and Support and reward companies that promote conservation, sustainable resource management and innovation in their activities. Thus, if we continue at this rate, we would need 2.5 planets to supply ourselves in 2050, according to the WWF itself. In turn, this organization shows that the world's population of fish, birds, mammals, amphibians and reptiles declined by 58 % between 1970 and 2012 due to human activities and predicts that by 2020 this percentage will soar to 67%.

## **2.5 Social Performance**

Social sustainability deals with a non-market entities or social aspect of an activity that is deals with outside of market framework. Societies can influence the CSR activity of business through their right as a consumer, and business in turn can influence societies through practices of a high level of CSR activity. (Rogers et al2008).This third dimension of sustainability is becomes a more significant since in this globalized world, people needs to be participated in a Critical decisions that might concerns them either by themselves or by representative (External Agency).

Business must pay attention to its social affairs as well as paying attention to its financial affairs. Since societies differ from region to another, every corporation has to collect data from national authorities concerning social affairs, as unemployment rates, human rights, female labor force participation, health services, educational services provided by government, etc. after determining the community priorities, shareholders must take decisions to satisfy as much as possible the social needs. So far, a business to be stable over the long-term social activities of a business corporation must satisfy surrounding society needs as much as possible (Pavlo Brin, & Mohammed Nassil Nehme, 2019). Social variables refer to social dimensions of a

community or of life, and social capital. Some examples include occupational health & safety; Labor-Management relationship; work-related impacts on local community, and local community-factory relationship. Business models should design based on social needs and every organization hope to reach this potential market to make a profit, socially and environmentally sustainable. Otherwise, a company will fail to compete with those companies, which design their business model as a good CSR framework.

### **2.5.1 Occupational health and safety**

The objective of occupational safety and health shall be to maintain the safety and health of workers and enhance their productivity; to arrange, improve and keep suitable work place for the safety and health of workers, and to guarantee high level performance of company's based on social wellbeing. Any company have the responsibility to take necessary safety measures to ensure that the work place does not cause hazard to the health and safety of workers; and to provide workers with protective devices and materials and give them instructions on their utilization.

*Occupational health and safety* is concerned with addressing many types of workplace hazards, such as: Chemicals, Physical hazards, Biological agents, Psychological fallout, Ergonomic issues, and Accidents. Occupational health and safety standards are in place to mandate the removal, reduction, or replacement of job site hazards. OHS programs should also include material that helps minimize the effects of the hazards. Employers and company management are obliged to provide a safe working environment for all of their employees.

The top benefits of an occupational health and safety management system are improved health and safety performance; Reduced cost associated with accidents and incidents; Improved staff relations and morale; Improve business efficiency; Improved public image and PR; Lower insurance premiums; Easier access to finance; Increased regulatory compliance; Improved confidence; Boost corporate and social responsibility (<https://beakon.com.au/>). In opposite way, when a work environment is unsafe because of a lack of safety or health precautions and workers become affected, it can cause the morale of the entire staff to plummet. Low overall morale is a natural

consequence of poor health and safety in the workplace. Low morale can decrease productivity and increase employee turnover rates.

### **2.5.2 Labor-management relations**

The term “*labour-management relations*” refers to interactions between employees, as represented by labour unions, and their employers. Labour unions are organizations of employees in particular industries, companies, or groups of industries or companies, who join together in order to further workers’ individual interests. Labour-management partnerships have the potential to improve company operations, enhance worker satisfaction, and strengthen union legitimacy. Ultimately, the labour-management partnership strategy takes into account the fact that all parties – employees, unions, and employers alike – have an interest at stake in determining whether a company succeeds or fails. ([www.labor management initiatives.org](http://www.labor-management-initiatives.org)).

In the same way, when the relationship among the employees plays an important role in deciding the fate of the organization. Employees must respect each other and come to each other’s help whenever required and look forward towards achieving the organization’s targets. If the employees do not enjoy a healthy relationship among themselves, problems are bound to arise and ultimately their productivity decreases.

### **2.5.3 Work-related impacts on local community**

Producing cement has significant positive and negative impacts at a local level. On the positive side, the cement industry may create employment and business opportunities for local people, particularly in remote locations in developing countries where there are few other opportunities for economic development. Negative impacts include disturbance to the landscape, dust and noise and disruption to local biodiversity from quarrying limestone ([www.linkedin.com](http://www.linkedin.com)).

Mining activities can lead to health effects ranging from respiratory problems to mental disorders. Studies in Tanzania revealed that symptoms of heavy metal poisoning such as sensory disturbance, hyporeflexia, tremor, gingivitis, metallic taste, neuroasthenia and night blindness are common (Harada et al., 1999). In the last five years, studies on environmental impact of limestone mining and processing in Sagamu (Sagamu –

Ogun State, Nigeria) have revealed a declining kola nut output from the plantations within a few kilometers radius of the cement factory (Adekoya, 2003; Aigbedion, 2005). Exploitation and processing of minerals in a particular area creates cultural impacts, which involves the changes to norms, values, and beliefs of individuals that guide and rationalize the cognition of themselves and their society (Burdge and Vanclay, 1996).

#### **2.5.4 Community-factory relationship**

Community participation, public participation, or participatory planning has the terms, which has used interchangeably, but aims at involving people in the community to get the maximum benefit for the whole society. Generally, public participation seeks and facilitates the involvement of those potentially affected by or interested in a decision. The principle of public participation holds that those who has affected by a decision have a right to be involved in the decision-making process. Public participation implies that the public's contribution will influence the decision. The role of public participation in economic and human development was enshrined in the 1990 African Charter for Popular Participation in Development and Transformation ([inertiaengineering.com/](http://inertiaengineering.com/)).

The local community has made up of the people who live in the area where the business is located. Though not necessarily customers of the business, they are all neighbors to the business. They are concerned with the local environment, infrastructure, and the impact the business has on jobs and prosperity on the local area. Local communities have an interest in a business doing well because they want the following: firms to bring jobs to the area; good, safe environment to live in good transport and communication links; Local communities can influence how a business operates by: protesting and petitioning if unhappy at an organization's conduct.

#### **2.6 Current Practices of CSR in Ethiopia**

CSR has practiced in Ethiopia in traditional ways for a long time. There are traditional institutions that embedded social responsibility practices and serve as instruments for



socio-economic collaboration and cooperation among people. The most common examples of CSR in Ethiopia are: 'Idir', which provides financial support in times of loss of family member. 'Iqub', which supports members by providing a loan with zero interest rate. 'Zeker', which provides food for those in need by Christians. 'Sedeqa', which involves the provision of food for the poor by Muslims. 'Zekat', which entails the contribution of 10% of annual income for the poor by Muslims; 'Asrat', which is the same as Zekat practiced by Christians (Ayalew 2018). CSR is at its earliest stages in Ethiopia as in most sub-Saharan countries (Kassa 2018). As discussed in Robertson (2009), it is at a stage in which it is being pitched by the academics and the government, and has not been implemented as yet.

According to Kassa (2018), most CSR activities in Ethiopia are so only from a philanthropic angle. Ghrmay (2013) argues that this philanthropic culture is an extension from the extended family culture in Ethiopia, which grew, to business endeavors and practices. Robertson (2009) ties the philanthropic nature of CSR in Ethiopia to the various NGOs in the country. These NGOs are collaborating with the government and the private sector to improve the socio-economic conditions of the country by providing foreign aid and investment.

They are also addressing democracy and governance issues in the country. Therefore, it could have said that they have a significant stake in government initiatives, which they could use to lobby on the role of business in the society. Multinational companies usually undertake CSR in Ethiopia while participation of locally owned companies in CSR is low. However, Kassa (2018) suggests that it is difficult to say that companies in Ethiopia are averse towards CSR. Rather, he argues that the political framework is lacking to practice CSR in a sustainable manner. For instance, Atles (2018) found that there is no concerned government organ on CSR practices in the tourism industry. However, as cited in Nigatu (2018), Asfaw mentioned that the Ministry of Trade and Industry, which support from the World Bank, USAID and other development partners, is developing a CSR programme in order to instill a CSR culture in the national companies.

According to Kassa (2018), local companies usually prioritize economic aspects of their endeavors. Ethical practices towards social and environmental protection are seen as less ranked than economic returns to investment (Atles 2018; Amare 2019). As stated in Desjardins (1998), business should also consider their CSR while pursuing profits. However, as cited in Amare (2019), Nukpezah (2010) argued that business in developing countries forgo the future at the cost of present benefits. Andualem as cited in Nigatu (2018) identified lack of awareness about CSR by the business community, as the main reason for low participation in CSR. Potluri and Temesgen (2008) stated that competition by other businesses is a threat for them. This is due to the additional financial resources allocated for CSR activities, which could reduce their profitability compared to others. CSR has recently become the agenda of various companies, especially for the large ones (Tellez 2017). A few companies like Ethiopian Airlines undertake most CSR practices, Heineken, Diageo, BGI Ethiopia, MIDROC, Dangote Cement, Muger Cement, Sunshine Group, East Africa Holdings and some others of the same large scale. According to Nigatu (2018), most these companies have criticized for abandoning these activities. However, in recent years these companies have started establishing a foundation wing for their CSR activities (The Reporter Ethiopia 2016; Ethiopian Business review 2020; Forbes 2018). Generally, available empirical evidences on the status of corporate social responsibility (CSR) in Ethiopia indicates the lack of a well-developed culture of CSR and its integration into corporate.

CSR has implemented mostly by multinationals and large local enterprises. However, these are mostly inconsistent philanthropic activities, and not supported by sustainable CSR polices and strategies. There are also companies that have CSR polices but do not comply with their implementation. This is specifically evident in environmental management issues. Studies attribute the lack of strong CSR practice in Ethiopia to gaps in the necessary requirements. First, there has not been any visible government commitment in the form of national CSR policies and organized efforts to integrate them into its own socio-economic development efforts. Second, most business in Ethiopia have privately owned, and corporate governance is at a stage where it is only a center of academic discussions and not afforded much attention. Therefore, to

enhance the contribution of corporate social responsibility to national development, the government needs to have clear policies and strategies.

It is also crucial to increase public awareness and strengthen civil society's role in voicing society's needs and concerns, and their expectations from corporate in terms of social contribution.

## **CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY**

### **3.1. Research Design**

A descriptive type of research has applied in order to meet the general and specific objectives stipulated in this research, and to find the appropriate & justifiable answers for the research questions posed. This is because of the nature of the problem stated in this research paper that it is basically the assessment of the existing practices of the company based on the description of the actions and performances as far as CSR is concerned, which is the center of the study. In general, terms, descriptive studies collect data that describe the characteristics of a particular group of respondents.

### **3.2. Sample and Sampling Techniques**

In this research, non-probability sampling is used. Non-probability sampling is also known by different names such as deliberate sampling, purposive sampling and judgment sampling. In this type of sampling, the researcher selects items for the sample deliberately; his choice concerning the items remains supreme. In other words, under non-probability sampling the organizers of the inquiry purposively choose the particular units of the universe for constituting a sample on the basis that the small mass that they so select out of a huge one will be typical or representative of the whole. For this study purpose, Only Muger Cement Factory is considered.

### **3.3 Research Methodology**

The research employed qualitative research methods. In order to arrive on valuable conclusions and recommendations, secondary data have collected from related literatures, books, websites, and Factory's annual reports of 2010 to 2012 E.C. have reviewed and analyzed.

### **3.4. Types of Data and Tools of Data Collection**

#### **3.4.1. Types of Data**

Three years annual reports (2010-2012 E.C.) of the factory are used in this study to investigate to know the extent of CSR implementation of the factory. Company report

has regarded as an official public document through which the factory communicates with its stakeholders (Stanton and Stanton, 2002). Several empirical studies have used data from annual reports to showing that they are reliable sources of information. For example, business reports have been used to study CSR disclosure (Deegan and Rankin, 1996, Neu et al, 1998, Goh and Lim, 2004, Waller and Lanis, 2009) and firms performance Iullmann, 1985).

### **3.4.2. Tools of Data Collection**

Secondary data have collected from relevant literatures; books; internet; journals; and factory's annual reports for the period of 2010 to 2012 E.C. have reviewed.

### **3.5. Procedures of Data Collection**

The most recent annual reports have selected and collected soft copies of annual company reports from the factory. The researcher used economic, social, and environmental performances data of annual reports (2012-2012 E.C) for further analysis of the report.

### **3.6 Methods of Data Analysis**

Factory's three years (2010-2012 E.C.) annual reports have measured and analyzed according to balanced scorecard measurement tool and financial ration analysis methods. In 1992, Kaplan & Norton introduced the Balanced Scorecard (BSC) as an instrument for monitoring organizational performance from a wider angle than the traditional financial viewpoint. This approach has based on the assumption that capital investment is no longer the only determinant of firms' success, and that such factor as customer satisfaction, innovation ability, and adaptability had viewed more and more as essential elements of a firm's long-term success. Increasingly, the BSC turned into a "Valuable support for successful decision making". The BSC's perspectives are:

## **CHAPTER FOUR: RESULTS & DISCUSSION**

### **4.1 Introduction**

There are two sections under this part. The first part, presents the research finding results. In the second part, the results of the research data have analyzed and interpreted in ways that enable us to know the status of the factory's performance level in terms of financial; customer; internal process; and learning and growth perspectives.

### **4.2 Organizational Background**

According to Ministry of Industry, there are around 26 cement factories in Ethiopia (Abebe Demissew Gashahun, 2020). Mughher Cement Enterprise is a state owned plant constructed in 1984. Mughher Cement Enterprise's first production line had commissioned and officially inaugurated in 1984. The beginning capacity was 300,000 tons of clinker per annum, near Mughher River, located 90Km in Ade'a-Berga District. Now, the enterprise's capacity has growth to greater than 600,000 tons per annum of clinker production. The third line expansion project has commissioned in 2011. It is the largest cement producer in Ethiopia (ranked 5<sup>th</sup> according to current market share (Factory's annual report 2012-2012 E.C.) with the average production capacity of more than 895,000 tones and an 11.07% market share and has a total workforce of over 961. Now the factory has incorporated under the Chemical Industry Corporation. Its Head Office located in Addis Ababa and its quarrying sites spread across the country. Mughher Enterprise produces two main products OPC (Ordinary Portland cement) and PPC (Pozzolana Portland cement). It has believed that Portland cement clinker production is one of the major sources of CO<sub>2</sub> and other greenhouse gases within the contribution of 5 % of the annual global atmospheric CO<sub>2</sub> emission (MOI, 2016). Sulphate resistance cement has sometimes produced on demand. The firm produces about 60 million packaging sacs for its consumption in Addis Ababa branch.

Mugher also extracts and sells natural resource minerals such as gypsum, limestone, and silica to other manufacturing Companies and farms. Mugher uses an outdated production technology from Germany, which has high-energy consumption and dust emission. There were around 916 workers in Mugher cement factory. Out of the 916 workers, 76 (8.29%) were female workers.

**4.3 Results of findings**

For the sake of convenience, the 14 categories of the data analysis framework presented in chapter three has summarized into three research themes (economic, social, and environmental dimensions)

**4.3.1 Balanced Scorecard results**

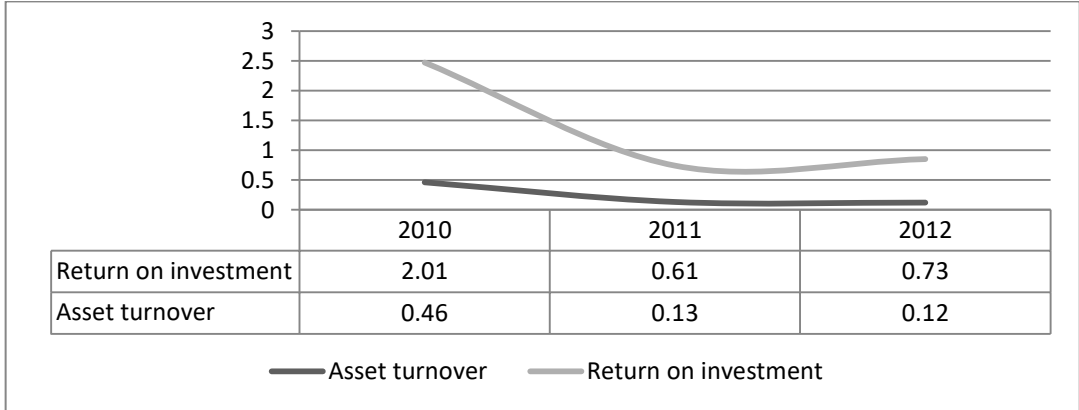
**4.3.1.1 Financial Perspectives**

Under this perspective profitability in relation to investment and sales, net sales growth rate, amount of invested to social responsibility purpose and the cost minimization rate have presented.

**4.3.1.1.1 Profitability of the factory**

**4.3.1.1.1.1 Profitability in relation to investment**

**Graph 1: Profitability- in relation to investment (%).**

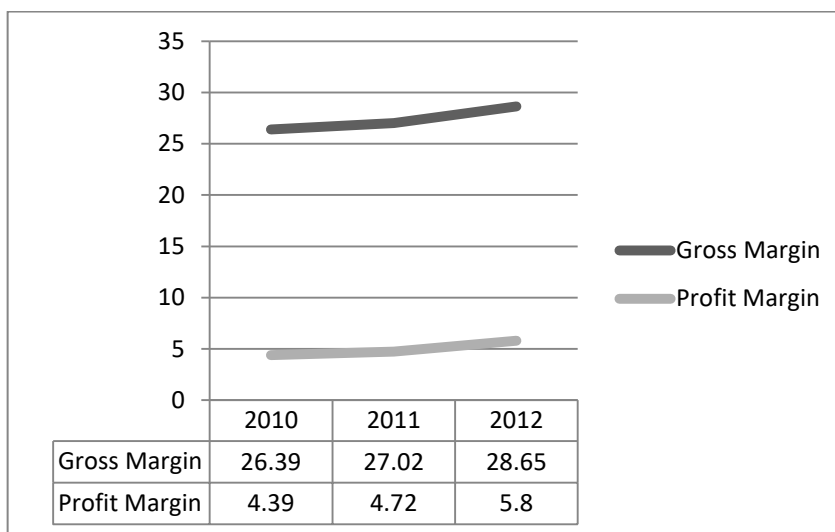


In regards to Graph 1 above, the amount of asset turnover (net sales/total asset) has the results of 0.46%, 0.13%, and 0.12% in 2010, 2011, and 2012 years respectively.

In regards to return on investment (gross income/total asset), the results show that 2.01%, 0.61%, and 0.73% in 2010, 2011, and 2012 years respectively.

#### 4.3.1.1.2 Profitability in relation to sales

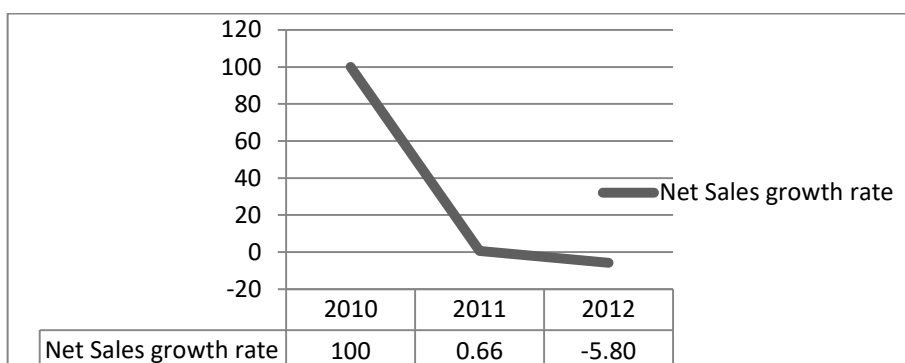
**Graph 2: Profitability- in relation to sale (%).**



According to Graph 2 above, the gross margin (gross profit/net sale) is 26.39%, 27.02%, and 28.65%. Profit margin (gross profit/sale) is 4.39%, 4.72%, and 5.8% in 2010, 2011, and 2012 years respectively.

#### 4.3.1.1.2 The Factory's Net Sales Growth Rate

**Graph 3: Net Sales growth (%)**

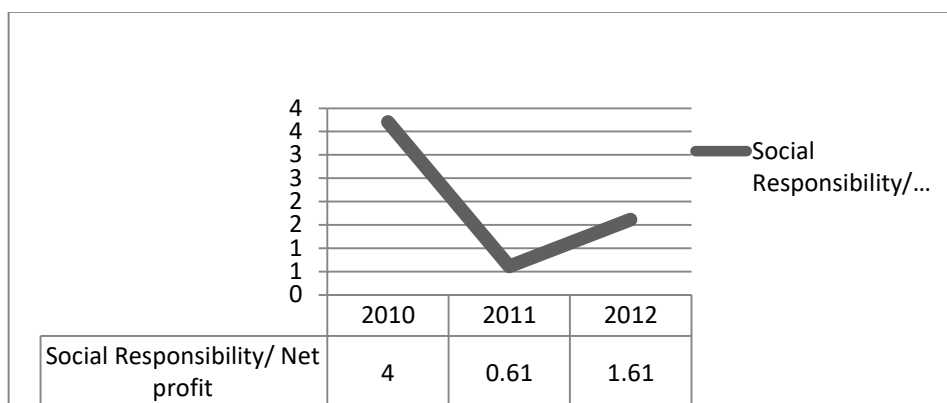


Graph 3 above shows that, the amount of net sales growth rate has the results of 0.66%, and -5.80% in compare with the baseline year (2010 year) in 2011 and 2012 years respectively.



### 4.3.1.1.3 The Factory's investment on social responsibility activities

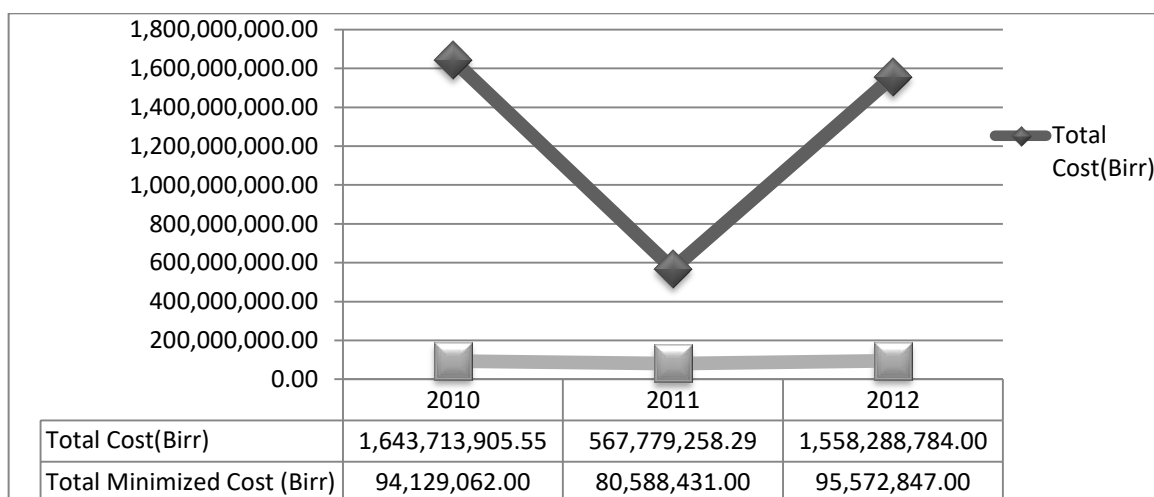
**Graph 4: Amount of Social Responsibility investment/Net Profit**



Graph 4 above, the amount of investment for social responsibility purpose from annual net profit has shown that 4%, 0.61%, and 1.61% in 2010, 2011, and 2012 years respectively.

### 4.3.1.1.4 Cost minimization status of the factory

**Graph 5: Cost Minimized per Unit of production**



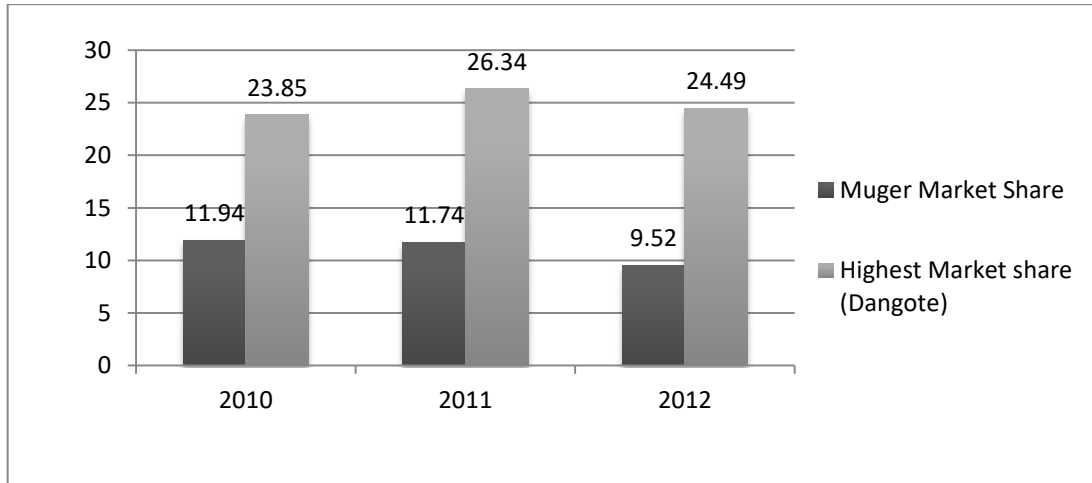
Graph 5: Cost minimization achievement of the factory (Source: annual reports of Muger Cement factory).

As we understand from Graph 5 above, the amount of Total cost of the factory is 1,643,713.905.55; 567,779,258.29; and 1,558,288,784.00 birr in 2010, 2011, and 2012 years. In the same years, the total minimized cost was 94,129,062.00; 80,588,431.00; and 95,572,847.00 birr respectively.

### 4.3.1.2 Customer Perspectives

#### 4.3.1.2.1 Market share growth rate

Under this perspective, the researcher wants to see only the status of the factory's market share in compare with the highest and the lowest industry market share. The detail has summarized under in Graph 6 below.



Graph 6: Market share growth rate (Source: Survey data from Factory's three years (2010-2012 E.C. annual Reports).

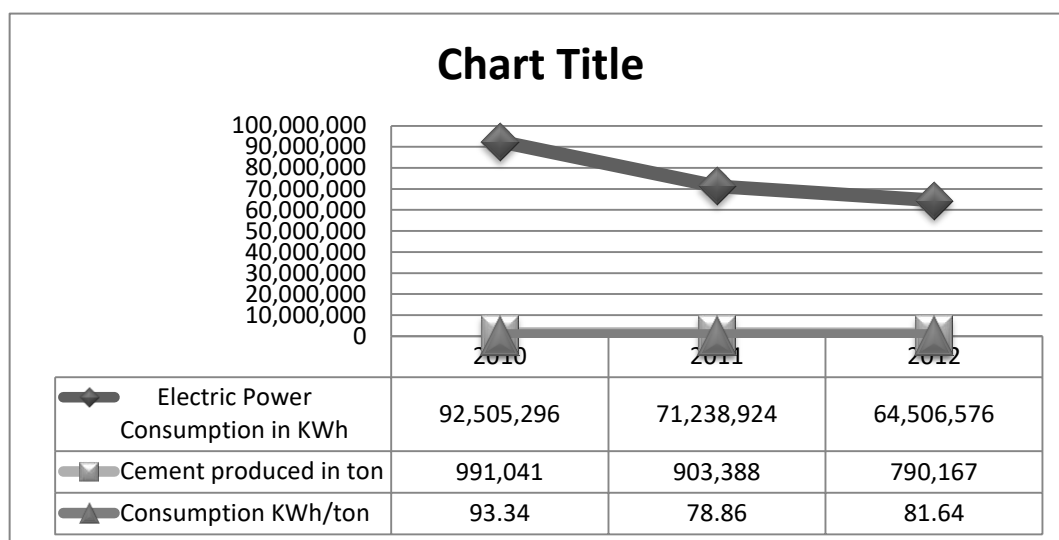
According to Graph 6 shows, the factory's market share results was 11.94%, 11.74% and 9.52%. However, the status of the highest market share position in the industry (Dangote Cement factory) was 23.85%, 26.34%, and 24.49% in 2010, 2011, and 2012 consecutive years.

#### 4.3.1.3 Internal process perspectives

Under this perspective, the researcher chooses only to analyze how the factory is sensitive in energy and water management, increasing labor productivity.

### 4.3.1.3.1 Energy Management

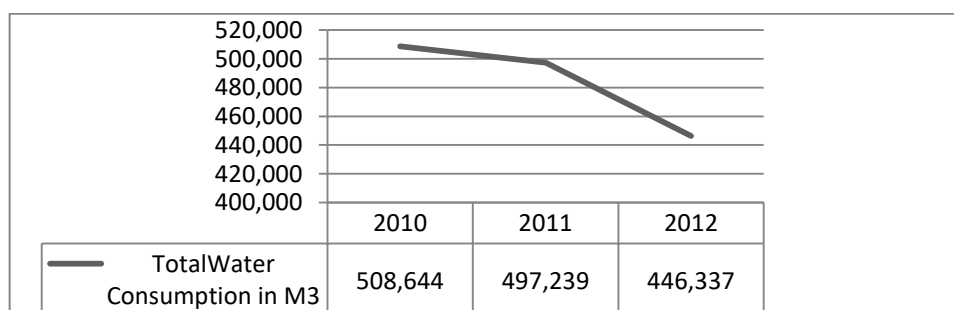
The factory's energy consumption data has summarized under Graph 7 below.



Graph 7: Energy management (Source: Survey data from Factory's three years (2010-2012 E.C. annual Reports)).

The electric power consumption of the factory is 92,505,296 KWH, 71,238,924 KWH, 64,506,576 KWH in 2010, 2011, and 2012 years respectively (Graph 7). In the same way, the amount of cement produced in ton was 991,041; 903,388; and 790,167 tons in 2010, 2011, and 2012 years respectively. However, the factory's average energy consumption rate (KWH per ton of cement production) shows that, 93.34KWH/ton of cement; 78.86 KWH/ton of cement; and 81.64 KWH/ton of cement in 2010, 2011, and 2012 years respectively.

### 4.3.1.3.2 Water Management

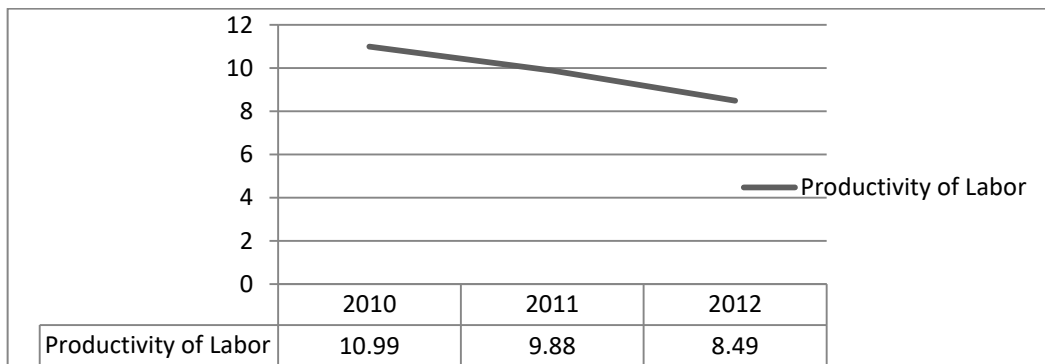


Graph 8: Water Management (Source: Survey data from Factory's three years 2010-2012 E.C. annual Reports).

As Graph 8, the amount of water consumption results show that, 508,644 m<sup>3</sup>, 497,239 m<sup>3</sup>, and 446,337 m<sup>3</sup> in 2010, 2011, and 2012 years respectively.

#### 4.3.1.3.3 Labor productivity

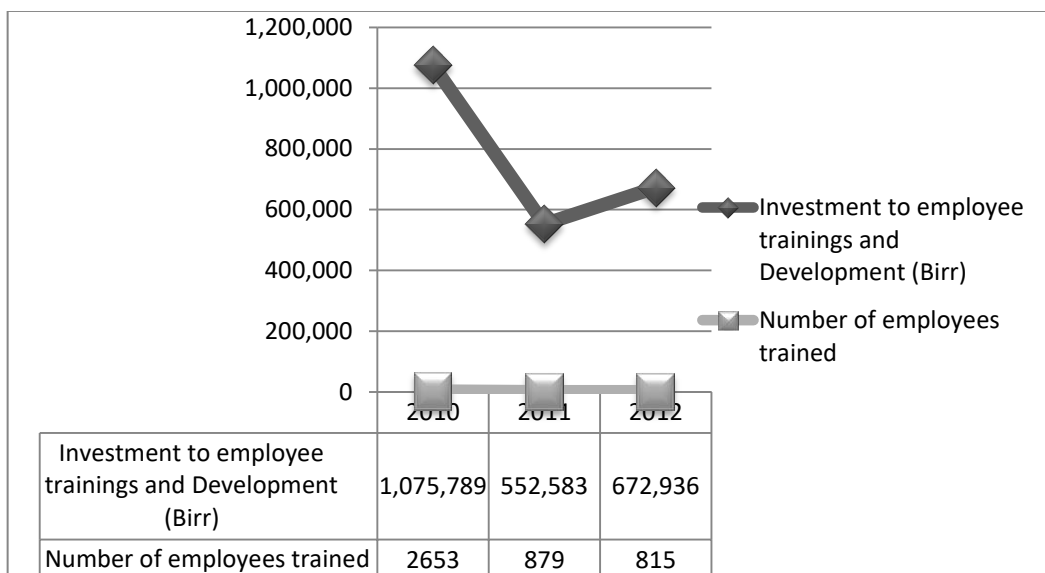
Labor productivity shows that the ratio of total sales to employees salary & wages benefits. The data has summarized in Graph 9 below. The productivity of labor is 10.99, 9.88, and 8.49 in 2010, 2011, and 2012-years respectively.



Graph 9: Labor productivity (Source: Survey data from Factory's three years 2010-2012 E.C. annual reports).

#### 4.3.1.4. Learning and Growth

##### 4.3.1.4.1 Investment in Employee Training and education



Graph 10: Investment in employee training and education

Source: Survey data from Factory's three years (2010-2012 E.C.) annual Reports.

As we understand from Graph 10, the amount of investment in employee training and education has decreased significantly from 1,075,789.00, 552,583.00, and 672,936.00 Birr in 2010, 2011, and 2012 year respectively. In regards number of employees trained, 2653, 879, and 815 employees are trained in 2010, 2011, and 2012 years.

#### **4.3.2 Environmental protection performances**

Under this dimension, environmental performance indicators (carbon dioxide emission reduction, and natural resource protection) have assessed. Responses given to these questions have summarized below in Table below.

##### **4.3.2.1 Source and amount of Carbon dioxide emission from Muger Cement Factory**

Table 1: Factory's source of CO<sub>2</sub> emission

S.N	Sources of CO2	Unit	Year and amount of produced/used		
			2010	2011	2012
1	Clinker production	ton	837,077	626,469	596,972
2	Fossil Fuel Combustion	Liter	1,268,055	894,342	808,099
3	Use of Electricity	KWH	3,946,649	2,897,386	3,078,511
4	Quarry Mining & Transport	ton	1,740,593	1,377,540	1,273,013
5	Cement produced	Ton	991,041	903,388	790,167

Table 2: Emission Factor and contribution of each source of CO<sub>2</sub> emission

S. N	Sources of CO <sub>2</sub>	CO <sub>2</sub> emission%	Emission Calculation Factor	CO <sub>2</sub> emission amount per year in ton			
				2010	2011	2012	%
1	Clinker production	50	0.507* ton of Clinker	424,398 (6%)	317,620 (6.92%)	302,665 (6.80%)	35.43
2	Fossil Fuel Combustion	40	Liter of used fuel	507,222 (42%)	357,737 (40.24%)	323,240 (38.32%)	40.30
3	Use of Electricity	5	KWh of electricity used	197,332 (16%)	144,869 (16.29%)	153,926 (18.25%)	16.83
4	Quarry Mining & Transport	5	Ton of material transported	87,030 (7%)	68,877 (7.75%)	63,651 (7.55%)	7.45
	Total	100		1,215,982 (41.24%)	889,103 (30.15%)	843,481 (28.61%)	100
5	Cement Kiln Dust	2-6% of CO <sub>2</sub> emission from Clinker		8488-25464 ton	6352-19057 ton	6053-18160 ton	
6	Clinker: Cement	Ratio		84	69	76	77
7	Additives & Fillers	Ratio		16	31	24	23

According to Table 2 above, the amount of CO<sub>2</sub> emission comes in order to their high emission contribution are comes from fossil fuel combustion (40.3%), clinker production (35.43%), use of electricity to run the plant (16.83%), and the least amount of CO<sub>2</sub> is comes from quarry mining and transportation (7.45%).

#### 4.3.2.2 Natural Resource management Practices of Muger Cement factory

The Factory prepares different purpose tree seedlings and coffee plants. Every year the factory prepare seedlings on its own nursery sites and plants trees on its sandstone protected forest, Mokoda-Birratte forest, and Tatek Cement Plant sites. Out of planting trees on its own sites, the factory distributes different purpose trees and

coffee seedlings to seven-neighbor kebele's freely. Within the three reporting years, the factory plants 65,413 trees on its sandstone quarry and mokoda-birratte forest sites; and Tatek cement plant. 384,427 different trees and 49,489 coffee seedlings have distributed freely to seven-neighboring kebele farmers. The factory paid 1,363,639.00 birr for the purpose of nursery site management. These, Nursery site management create temporary job opportunity for 408 local peoples within the study years (Factory 2010-2012 E.C. annual reports).

### **4.3.3: Social performance**

#### **4.3.3.1 Occupational Health and Safety**

According to the three-year factory reports, shows that, the factory tries to undertaken different employee health and safety measures based on national labor proclamation and labor union agreements. Safety shoes, wearing, and materials have provided to concerned workers, and close monitoring and supervision have undertaken to approve the status of safety materials utilization and implementation of safety rules and measures during working hour in every day. Based on the labor union agreement, the factory paid annually more than 5,318,413.50 birr to provide Milk and food grants for its employees. The factory also provided competent health services through its own Health Posts and Clinics founded in Muger, Addis Ababa, Tatek and Derba plant sites by its own competent health professionals to workers and their families. Out of these own competent services, the factory also tried to arrange alliances and agreements with competent health institutions like laboratory, Hospital, Teeth and eye treatment, Kenema pharmacy services on credit bases to its workers including their families.

In addition to health and safety services, the factory provided transport services to its workers from home to job and take them back again to their home daily. According to these, the factory paid annually 799,266.40 birr to give transport services to its Addis Ababa and Tatek cement plant workers (The factory's 2010-2012 E.C. annual report).

#### **4.3.3.2 Labor-Management relationship**

Labor union is the good bridge of labor-management relationship in the factory. The factory's management has good relation with labor union leaders and the employee rights and benefits are kept based on labor union rule of memorandum. All employees are participated and raise their issues on quarterly regular meetings to the factory's top level managers and leaders. The top level managers also considers the issues raised from employees and tries to answer or take necessary corrective measures as much as possible in terms of budget and time constraints. The factory has a formal complaints and disputes raising and handling systems and structures in the factory.

#### **4.3.3.3 Work-related impacts on local community**

The factory has a consultation program with its neighboring community to consult with them and to hear from them what their complaints, demands, are and to identify the kinds of work-related impacts faced on them. As the factory reports assured that, local community rose always about dust emission and its consequences on human and animal health, impacts occurred on their grassland, plants and crops. The factory also form a committee to identify what kinds of mitigation strategies should undertake in short and long term period to minimize these problems to the meaningful level.

#### **4.3.3.4 Local community-factory relationship**

The factory has community-factory relationship stage to create good neighborhood sense with its neighboring kebeles and concerned District Offices. The factory attends meeting with five (Rejji-Mokoda, Biyyo-Wegiddi, Chanco-Birratte, Tuli-Dase, and Muger Town Administration) neighboring kebele's leaders, Youth and Women representatives, Elders, community leaders, and concerned District Offices. Most of the times they meet on quarterly and sometimes on monthly bases to consult with them on the issues of surrounding peace and security, on how to able protect protected forest land of the factory through local community and concerned district offices active participation, and to identify the development demands of neighboring communities.



## **4.4 Discussion**

### **4.4.1 Balanced Scorecard analysis results**

#### **4.4.1.1 Economic dimensions of the factory:**

Under this topic, the *profitability* status of the factory in relation to investment and sales; Cost minimization status; net sales growth and the amount of investment for the purpose of Social Responsibility issues have discussed.

##### **4.4.1.1.1 Financial Profitability**

Under this title, the financial ratio analysis results of Muger Cement Factory profitability ratio in relation to sales (in terms of profit margin, and gross margin); and profitability in relation to investment (in terms of asset turnover; and return on investment) discussed below. Not only have this, the positions of net sales growth; cost minimization level, and the extent of social responsibility budget allocation of a company have discussed in details.

##### **4.4.1.1.1.1 Profitability ratios in relation to Investment**

###### **A) Asset Turnover ratio**

According to the research result indicates, the factory's asset turnover achievable results were 0.46%; 0.13%; and 0.12%. Asset turnover ratio result is accepted when it becomes from 1 to 2 and the factory cannot able to achieve even the minimum level of accepted ratio. This shows that, as the factory cannot able to use its assets efficiently in one-way and most likely, as there is a management or production problems are existed in the factory.

###### **B) Return on investment ratio**

As the research result shows that, the results show that 2.01%, 0.61%, and 0.73% in within the study years. As the factory's reports, return on investment ratio results has acceptance when it exceeds the ratio of 15%. The factory cannot achieve the needed

ratios target within the study years as we can see from its achievement reports. This implies that, as the factory unable to do things in effective and efficient way in converting its investments to generate the needed amount of profits.

#### **4.4.1.1.1. 2 Profitability ratios in relation to Sales**

##### **A) Profit margin ratio**

According to research result, the factory's three years (2010-2012 years E.C.) profit margin results shows 4.39%, 4.72%, and 5.80%. According to factory's report, the satisfactory level of profit margin ratio is when it falls between the ratios of 15%-25%. However, the factory's achievement is very far even from the minimum accepted ratio of 15% throughout the study years. This implies that, as the factory loose strong ability to overcome the adverse conditions within the study years due to its inefficient operations.

##### **B) Gross margin ratio**

According to research result, the factory's three years (2010-2012 years E.C.) gross margins achievements were 26.39%, 27.02%, and 28.65%. According to the factory's report, the satisfactory achievement of gross margin ratio should falls between the ratio of 35% to 50%. However, as we can understand from the research result, the three years achievement results are out of the accepted ration. This means also, as the factory is under-pricing, cannot keeps overhead costs in control and as its financial health is not on good conditions.

##### **4.4.1.1.1.3 Net sales growth rate:**

According to this research finding, the factory's net sales growth rate was 0.66% in 2011 year, and -5.80% falls below zero in 2012 year in comparatively with the baseline year of 2010, which has considered as 100%. It measures the performance abilities of sales team to increase revenue. It is essential parameter for factory's survival and sustainable financial growth. Offering price discount and allowances can

affect the factory's net sales growth rate significantly. As we understand from the research result, the factory's sales team performance is inefficient; offers high allowances and price discounts to become stay in the competitive market. Due to these shortcomings, the factory's sovereignty and its financial growth continuity are unreliable when the factory unable to take urgent necessary solutions.

#### **4.4.1.1.1.4 Allocated budget for the social responsibility activities.**

There is no regulations that can determines the amount of budget allocated be business companies for the social responsibility purposes in Ethiopia. Because of this, we cannot crises the amount of money allocated for this purpose, and the companies have full right to increase or decrease the amount based on their interest and financial strengths

Muger cement factory invests a4%, 0.61%, and 1.61% of money fromits net profit during the study years. As the researcher understand from the factory's annual report review, there is not strict rules about setting the CSR Budget ceiling; and there is no CSR plan prepared in the factory. The factory's initiative responses was based on only when the local community raised complaints on work-related hazards; or when it demand infrastructure development; or when the government and its organs asks for financial and in kinds aids only.

#### **4.4.1.1.1.5 Cost Minimization status of the factory**

As we understand from the research result, the factory incurred a total cost of Birr1,643,713.905.55; 567,779,258.29; and 1,558,288,784.00 in 2010, 2011, and 2012 years. In the same years, it also minimized its cost by Birr 94,129,062.00 (by 5.73%); 80,588,431.00 (by 14.19%); and 95,572,847.00 (by 6.13%) respectively. The factory records the highest cost discount rate in 2011 and least in 2010 year respectively.

#### **4.4.1.1.2 Customer Perspective**

##### **4.4.1.1.2.1 Factory's market share status**

According to research report shows, the factory's market share results were 11.94%, 11.74% and 9.52%. However, the status of the highest market share position in the industry (Dangote Cement factory) was 23.85%, 26.34%, and 24.49% in the same years. The achievement level of the factory becomes decreasing from year to year, and still cannot to reach on Dangote's half market share position status. This implies that, as the factory's product is unable to meets the customer requirements and expectations in terms quality, price, and by after sales services like Dangote to succeed in the segment.

#### **4.4.1.1.3 Internal Process Perspectives**

##### **4.4.1.1.3.1 Energy management.**

According to this research finding, the factory's electrical energy consumption falls between 78-93 KWh per ton of cement during study years. According to different research results, the Ethiopian cement factories energy consumption falls between 90-130 KWh per ton of production. Based on this country's average, we can consider the factory as the best achiever in terms of its energy consumption status in the country.

##### **4.4.1.1.3.2 Water management.**

As we understand from this research report, the factory becoming decreasing its water consumption from 508,644 m<sup>3</sup> to 446,337m<sup>3</sup> (decreasing by 12.25% on average) during the study years. This indicates as the factory applied ethical and responsible dissipation controlling measures in sustainable manner.

##### **4.4.1.1.3.3 Labour productivity.**

As we understand from the research result, the productivity of employee's (ratio of total sales in birr to employee's salary and benefits) was fallen from 10.99 to 8.49

(decreasing value ranges from 7.49 to 8.88%). The existence of inefficiency in labour productivity may adversely affect the level of factory's outputs at a significant level if it is impossible to produce productive labour force consistently.

#### **4.4.1.1.4 Learning and Growth perspective**

##### **4.4.1.1.4.1 Investment in employee training and education.**

According to this study result shows, 1,075,789 birr (1.43% of net profit); 552,583 birr (0.68% of net profit); and 672,936 birr (0.71% of net profit) during the study years. This amount has a 0.94% contribution from the company's annual net profit on average. When we consider the number of employees who have participated in training and education opportunities, the number of trainees decreased from 2585 (in 2010 year) to 879 employees (decreased by 66%) in 2012 year. We can consider as the factory gives least attention to invest on its employees skill and knowledge building, and may we can concluded as the labour productivity was declined due to given least attention to factory's employee learning and growth opportunities.

the study times. This implies that, as the factory given least value in building employee capacity and make high investment on building their capabilities sustainably.

#### **4.4.2 Environmental protection Dimensions:**

Under this dimension, air and carbon dioxide emission reduction; and natural resource management activity results have discussed. Three criteria air pollutants have released to the air during cement manufacturing, which includes particulate matter (PM), nitrogen oxides (NOX) and sulfur dioxide (SO<sub>2</sub>) which can be categorized into two headings: Particulates and Gaseous pollutants. Particulate air pollution is a complex mixture of small and large particles of varying origin and chemical composition.

#### **4.4.2.1 Source and amount of Carbon dioxide emission by sources**

As the study, report shows, Carbon dioxide emissions are comes from four cement production processes. Fossil fuel combustion contributes 40.3% of carbon dioxide (International result was 40%) as a big source. Next to fuel combustion, the clinker production process (calcination process) contributes 35.43% of carbon dioxide (International result 50%). Use of electricity in running the plant activities has a share of 16.83% (International result 5%), and finally, quarry mining and transport activities has a share of 7.45% (International result 5%). As we understand from this report, the major factory's carbon dioxide emission comes from fossil fuel combustion and calcination process. The rate of emission comes from the use of electricity and quarry mining and transportation activities have the biggest contribution than from what is known internationally.

#### **4.4.2.2 The status of natural Resource management practices.**

The factory grown trees that can be used to different purposes on its own nursery sites in addition coffee seedlings. This activity creates temporary job opportunities for 408 local people. Most of tree and total of coffee seedlings have distributed to neighboring rural and town kebeles on free bases every year by the factory. Some amount of tree seedlings have planted by the factory in its own quarry site protected forest land areas and at Muger and Tatek cement plants.

#### **4.4.3 Social Dimensions:**

Under this dimension, occupational health and safety; labor-management relationship; work-related impacts on local community; and local community-factory relationship have discussed.

##### **4.4.3.1 Occupational health and safety.**

According to labour proclamation and labour union agreements, the factory tries to fulfil the objectives and health and safety requirements to the satisfactory level.

#### **4.4.3.2 Labour-Management relations.**

Labour union and management has collective bargaining in common. Both parties are governed by this rule. Labour union leaders and top level management works together for the purpose of common goals. There is a good relationship between both parties.

#### **4.4.3.3 Work-related effects on local community.**

A local community raised complains on the factory as it tries to minimize affects caused due to dust emission of the factory. According to this research shows the annual emissions amount of cement kiln dust equals to 6053-25464 tons. Dust affects human and animal health, grassland, crops, and natural environments.

#### **4.4.3.4 Local community-factory relationship**

The factory has regular meeting programs with five rural neighboring kebeles and concerned District Offices. Regular meeting program has scheduled quarterly and sometimes it has held monthly. Kebele leaders, youth and women representatives, elders and community leaders; and concerned district offices have participated in this discussion program. Most of the time they have discussed on common agendas like peace and security, on community and district offices intervention to protect factory's protected forest land areas from unlawful destructions, on development questions of local communities and other necessary current issues.

The factory provides financial and machinery aid to support local community's development works when they demand support from the factory without any payment. The factory involves mainly on school, and health institutions construction, road construction and maintenance, bridge construction, drinking water projects construction and its supply, electric power supply, provide Health and ambulance services by the price of very least than any government health institutions, aid educational materials for poor family students and so on. In addition to these activities, the factory distributes tree and coffee seedlings to surrounding kebeles without any payment every year, and creates temporary job opportunities to local community in its own nursery sites.

## **CHAPTER FIVE: CONCLUSIONS & RECOMMENDATIONS**

### **5.1. Conclusions**

The result of the descriptive as well as BSC analysis on CSR implementation of the Muger Cement Factory has summarized. Based on the findings the following conclusions have forwarded.

#### **Regards the results gained from BSC analysis.**

- In regards to factory's profitability ratio analysis, its profitability has ineffective and inefficient results in all dimensions. The factory must give enough attention to avoid or minimize those basic root causes for its inefficiency.
- In regards to customer perspective, the factory's market share position is under the industry average. The factory must take possible actions to increase its market share by avoiding its weakness.
- In regards to internal processes, the factory achieves the effective results in reducing its energy and water consumption levels. However, its labor productivity is still low and it needs higher consideration to improve labor productivity; and the investment amount in social responsibility needs sustainability to support local community's development programs.
- In regards to learning and development perspective, the factory allocates least amount of budget for the purpose of employee training and development. Its coverage also narrows in terms of number and job categories. This also needs big attention from the factory by considering its negative consequences on survival and competitiveness of the company.



❖ **Regards environmental dimensions:**

- Fossil fuel combustion and calcinations processes have the major sources of carbon dioxide emission sources in the factory. Use of electric power and quarry mining and transportation processes also contributes more carbon dioxide amount than the amount of emissions known internationally. As the researcher reviews the annual reports of the factory, there are no existed undertaken activities by the factory to minimize the amount of carbon dioxide emission. The factory should search alternative substitutions that can help to minimize the amount of carbon dioxide emission.

❖ **Regards Social dimensions:**

- The factory have good occupational health and safety measures; good labor-management relations; and satisfactory community relationship. But the problems and complaints related with dust emission to the surrounding environment has need enough consideration from the factory.

## **5.2. Recommendations**

Based on the results of the study, the following recommendations have forwarded:

❖ **In Regards to BSC analysis results.**

- The profitability ratio analyses of the factory results show inefficient operational performances throughout the study times. The factory should give attention to reduce those factors that can have adverse effects on its profitability to the maximum level.
- Sales growth rate is also has inefficient results. The factory also should give higher attention to its customer requirements and expectations to succeed in the segment.
- The factory begins to undertake cost minimization initiatives. However, it has to take additional strong initiatives by identifying the most costly activities through scientific researches and committed to apply its recommendations.

- The factory's market share growth has stopped at the same position. To factory should plan and implement enabling initiatives to increase its market share position.
- The factory's labor productivity shows a weak result. The labor productivity has many implications on employee satisfaction and company's competitiveness and the factory must consider this issue at reasonable level.
- The factory's social responsibility investment has not invested in planned manner. It has implemented to handle community complaints; to respond for their infrastructure demands; and to aid government organs requisitions. The factory should give big attention to invest its social responsibility budget responsibly in planned, organized, and sustainable way.
- The factory's investment in employee trainings and development and the scope of training and development opportunities in terms of participants are narrow. By understanding its importance, the factory should give enough attention to increase the amount of its investment and number of participants.

❖ **In Regards to Environmental Dimensions:**

- The factory's sources of CO<sub>2</sub> emission have identified by this research. The factory has to try to substitute them by alternative renewable and waste materials that can minimize the amount of carbon dioxide emission from the surrounding environment.

❖ **Regarding to Social Dimensions:**

- The application of dust emission controlling mechanisms needs attention.

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