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St. Mary's University College

SCHOOL OF GRADUATE STUDIES

MBA Thesis

**OPPORTUNITIES AND CHALLENGES OF CEMENT
MARKETING IN ETHIOPIA**

BY

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FEBRUARY 2013

Addis Ababa

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(ID. No SGS /0083/2003)**

MBA Thesis

**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
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FEBRUARY 2013

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ST.MARY'S UNIVERSITY COLLEGE
SCHOOL OF GRADUATE STUDIES
FACULTY OF BUSINESS

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DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Ass. Professor Mesfin Lemma. All sources of material used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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TABLE OF CONTENTS

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DECLARATION

APPROVAL SHEET

TABLE OF CONTENTS-----	I
ACKNOWLEDGEMENTS-----	III
ACRONYMS-----	IV
LIST OF TABLES-----	V
ABSTRACT-----	VI

CHAPTER 1: INTRODUCTION -----1

1.1 Background -----	1
1.2 Statement of the Problem -----	2
1.3 Research Question-----	3
1.4 Research Objective-----	3
1.5 Significant of the Study-----	3
1.6 Scope of the Study-----	4
1.7 Organization of the paper-----	4

CHAPTER 2: REVIEW OF RELATED LITERATURE-----5

2.1 Conceptual frame work Industry Analysis -----	5
2.2 Historical development of the cement industry in Ethiopia -----	8
2.3 Overview of global & regional cement market -----	9
2.4 Challenges and opportunity of cement Business – Global overview-----	12
2.5 Overview of cement industry in Ethiopia -----	16

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY -----18

3.1 Research Design-----	18
3.2 Sample and Sampling Techniques-----	18
3.3 Source and Tools of Data Collection -----	19
3.4 Procedure of Data Collection -----	20
3.5 Method of data Analysis-----	20

CHAPTER 4: RESULTS AND DISCUSSION -----	21
4.1 Types and features of Cement -----	21
4.2. Market Situation-----	22
4.3 Economic, legal & socio cultural issues-----	34
CHAPTER 5: Summary, Conclusions and Recommendations -----	44
5.1 Summary of Findings-----	44
5.2 Conclusions -----	46
5.3 Recommendations -----	46
REFERENCE -----	49
APPENDIX-- -----	51

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Acronyms

OPC: Ordinary Portland Cement

PPC: Portland Pozolana Cement

MW: Mega Watt

NGOs: Non Governmental Organizations

CIF: Cost, Insurance and Freight

MIGA: Multi-lateral Guaranty Agency

EEPCO: Ethiopian Electric Power Corporation

EIA: Environmental Impact Assessment

GTP: Growth and Transformation Plan

FDRE: Federal Democratic Republic of Ethiopia

GDP: Gross Domestic Product

NBE: National Bank of Ethiopia

SWOT: Strengths, Weaknesses, Opportunities and Threats

PEST: Political/legal, Economic, Socio-cultural and Technological factors

MT: Metric ton

TSP: Total Suspended Particulars

MOFED: Ministry of Finance and Economic Development

IMF: International Monetary Fund

HS: Harmonic System

LIST OF TABLES

Table 1: Global cement production -----	10
Table 2: East African cement production & per capital consumption-----	11
Table 3: Production Capacity of Cement Plant -----	23
Table 4: Cement request submitted to Mughher Cement Factory-----	26
Table 5: Production capacity of Expansion Cement Projects-----	29
Table 6: Licensed Cement plants under Implementation-----	29
Table 7: Total Quantity of Imported Cement -----	31
Table 8: Installed & generation capacity of existing power plants of Ethiopia.-----	36
Table 9: Power plants under construction & study-----	36

Abstract

The study is intended to examine the Ethiopian cement industry, identified the challenges facing the cement industry in Ethiopia and opportunities for development of the sector and forward recommendations for improvement. In light of the above general objective, descriptive survey method has been adopted wherein both primary and secondary data have been gathered. Primary data was gathered through interviews held with 10 officials of systematically selected 3 cement producers and 6 institutional buyers and housing agency and the Ministry of Construction and Urban development. The sample size of 3 cement producers from the total population of 11 is found to be sufficient for the purpose of the study. On the other hand the annual Statistical Abstract of the FDRE, Surveys, related researches and other resources from the Ministry of Construction and Urban Development and Ministry of Industry of the FDRE as well as different bulletins, statistical reports and reference books has been consulted for secondary data. Then the data has been analysed and interpreted through statistical measures such as averages, percentages and trends.

The study found out that the cement market in Ethiopia has been growing since the liberalization of the economy owing to the growth of the country's economy and the development of the construction sector that boost demand for cement. The sector is characterized by good capacity utilization of cement plants, currently above 60% as compared to other parts of Africa and emergence of new players attracted by the huge supply shortfall, which is estimated at more than two million tonnes per year. Government policies and strategies favourable to the development of the sector include the policy of protecting local cement producers from foreign suppliers, the five years Growth and Transformation plan (GTP) and wide range of incentives provided for investors like income tax holidays and remittance of fund. The Government's commitment towards developing the country's power generating capacity are also identified as prospects to further assured the sector's potential for growth.

The study also identified challenges for the cement sector in Ethiopia such as lengthy procedures at government offices, poor coordination among government agencies offices that in sum have adverse effects on big investors, especially foreign ones. Other challenges identified include dependence on electric power and limited use of coal as source of energy mainly due to its fluctuating price; lack of rail way facility for transportation of cement; absence of clear

regulations and mandatory standards for environmental protection; investors' limited access to bank finance mainly due to frequent freezes in lending capacity of banks. In order to mitigate these challenges the study forwarded some recommendations for the government, which include among others: incentives for investment in coal mining to encourage local production of coal; construction of railways; and improving the lengthy and bureaucratic procedures in government offices and devising a mechanism to improve bank financing to investors. Government and business community should also enact regulations and mandatory standards pertaining to environmental protection and create awareness among the business community. The study also forwarded recommendations for cement producers and investors such as improving operational efficiency to cut costs of energy costs and enhance health and safety of workers; enhance the market potential in reaching rural population through introducing cement made houses and distribute cement at a reasonable price.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Cement is by far the most important construction material. In Ethiopia, it accounts for about 90% of the gross value of production of non-metallic building materials and is a pioneer modern manufacturing industry whose origin dates back to nineteen thirties. (Ncscannual report, 2006)

There is sufficient literature to affirm that economic growth and cement conception are directly proportional. Generally the demand for cement emanates, among others, from demand for infrastructural development, housing and constructions of manufacturing plants and dams.

Currently Ethiopia is implementing the 5 years Growth and Transformation plan (GTP) that aims to bring a rapid and sustainable economic development of the Country. Among the areas covered in the plan are infrastructure and housing development that are triggering huge demand for construction materials the most critical one being cement. The government plans, to increase the cement production to 27 million tons of cement annually to meet Ethiopia's cement needs by the end of the Growth and Transformation Plan in 2015 (FDRE GTP, 2010). The plan also includes upgrading two existing cement plants and construction of eight new factories by 2015. In line with the plan and government support, the construction sector as a whole is undergoing significant development for the past few years. Now we have 11 facilities that produce cement in Ethiopia of which seven are local, one joint venture (between local and foreign firms) and the rest are foreign based companies. However, even with this remarkable development of cement facilities, the demand for the cement, including huge tons of cement needed for the Grand Renaissance Dam and other infrastructure development projects, is expected to be significantly higher than the production capacity of existing facilities. Hence, in line with this huge untapped demand new players are emerging in the sector.

Although cement production is largely seen as highly profitable, there are also challenges faced by the Ethiopian Cement industry such as higher raw material prices

specially the price of Furness oil, coal, and gypsum. Whenever there is a lacklustre demand, capacity utilisation in the Ethiopian Cement industry goes down impacting profitability of the firms. Therefore effective marketing for a commodity like cement would ultimately help in scaling up capacity utilisation, increasing dispatches and increasing realization. The sector is also characterized by the high price of cement and limited supply, the situation largely affecting constructions across the country.

In light of the above, the research examined the Ethiopian cement industry vis-à-vis the country's 5 years growth and Transformation plan and identify the challenges and opportunities for investors.

1.2 Statement of the problem

The Industry sector contributes 13 percent of Ethiopia's GDP of which 6 percent comes from the construction sub sector, which has a reciprocal relationship with both agriculture and industry sectors (NBE, 2011). This is among the factors that contributed to the robust economic growth that has been registered in Ethiopia.

The number of local contractors has now increased and few of them have gained greater capacity to execute huge projects. Many of local consultancy firms are currently engaged in construction and road projects alone implying their ever-growing role in the sector. The five-year Growth and Transformation Plan also envisages building sugar factories, fertilizer plants as well as constructing over 70 thousand kms of road. The government is also working on various projects including the Renaissance Dam to address the power needs of the industries (FDRE-GTP, 2010).

These construction works planned to be carried out during the GTP period require about 40 million tons of cement (Ministry of Construction and Urban works). Although efforts are underway to enhance local production of cement and other inputs, there are signs that the supply is still lagging behind demand. Facts such as shortage of cement in the market and unstable price are some of the indicators that show mismatch between demand and supply of cement. In light of the above, the study aims at identifying the challenges facing the cement industry in Ethiopia and opportunities for development of the sector.

The study is intended to fulfil part of the requirements of the award of MBA. On top this, the fact that the sector, has not been well researched have influenced the researcher's decision to select the issue as a research idea.

1.3 Research Question

The study focuses on thorough problem analysis and providing practical recommendations to for 'real world' business problems. In so doing, the research has tried to answer the following questions:

1. How does the demand and supply of cement in Ethiopia look like?
2. What are the problems (challenges) and threats for cement producers, policy makers and investors in the Ethiopian cement industry?
3. What policy and legal constraints and enables exist in Ethiopia that affect cement marketing;
4. What are the opportunities for cement industry in Ethiopia?

1.4 Research Objectives:

The study is intended to analyze the different aspects of the cement industry and identify problems and opportunities in the sector. In light of this, the study has the following objectives.

- To describe the cement market in Ethiopia in the light of different aspects (marketing conditions, government policies and the like),
- To identify opportunities for development of cement industry in the country,
- To identify anticipated challenges of the cement industry in Ethiopia.
- To forward recommendations for mitigating challenges and to capitalize on opportunities.

1.5 Significance of the study

Cement is at the heart of the construction industry that has significant contribution to national GDP and provides living for millions of Ethiopians. Hence, the study, by shading light on problems and bottlenecks hindering the sector as well as forwarding

recommendations undoubtedly benefits policy makers in their effort towards matching demand with supply.

Findings of the research also help cement companies (both public and private) and investors understand the cement market in Ethiopia and adopt recommendations in making sound marketing and investment decisions. Besides, findings of the study can be used by students, both at undergraduate as well as postgraduate level, as a reference material for further study or just for academic purpose. Finally, since the area is not well researched so far, the study could motivate other writers interested in the area to conduct in-depth study.

1.6 Scope of the study

This study presents analysis of the Ethiopian cement market by considering local production and import of cement based on secondary data. The study identified opportunity and challenges for Ethiopian cement market and provided recommendations for development of the sector. However, given the limited time and resources at the researcher's disposal, primary data has been limited to randomly selected institutional buyers primarily real estate developers and contractors.

Hence in light of the above the findings of the study tried to shed light on key issues in the sector.

1.7 Organization of the paper

The study is organized in five chapters. The first chapter introduces the study and provides information on background of the study, statement of the Problem, the research question, objectives of the study, significance of the study, scope of the study and finally highlights on organization of the study. Chapter two presents review of related literature. The research design and methodology followed in carrying out the study is discussed in chapter three. Chapter four focuses on presentation of collected primary and secondary sources and discussion. Finally, Chapter five concludes the study with summary of major findings and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework- Industry Analysis

There are many approaches to analyze individual businesses vis-à-vis the sector or industry in which they operate, the most widely used being Porter's five forces Model and SWOT Analysis. Irrespective of the differences among the various approaches, industry analysis starts with identifying and defining the industry to be assessed, classify the market structure of the industry, and characterize relationships between links in the vertical supply chain and evaluate the future profitability potential of the industry. The most widely used approach is analysing industries in light of general market conditions faced by an industry. The general market conditions are often important factors in the choice of conduct by firms and for the ability of firms to generate profits and meet expected performance goals. According to Kotler (2006), identifying relevant general market conditions requires an analysis of:

- Supply and demand conditions that define the market.
- The overall market environment. Environmental factors are often identified with a PEST methodology. The PEST acronym stands for Political/Legal, Economic, Socio-cultural, and Technological factors.

In the following paragraphs we will briefly discuss this approach of identifying general market conditions and how it is used to assess the profitability potential of an industry.

2.1.1 Supply and Demand Conditions

The factors driving the supply and demand for products of an industry are determined by determinate of demand and determinants of supply. These factors determine the defining characteristics, position and slope of supply and demand curves in an economist's representation of a market.

The interaction of supply and demand determines production levels and product price in the market. In a perfectly competitive market, equilibrium price and output in a market are determined where quantity supplied equals quantity demanded. Determination of output and price in other market structures is a bit more complex. This analysis of supply and demand conditions are closely related to two aspects of Porter's Five Forces. The determinants of demand parallel Porter's analysis of buyer bargaining power and the determinants of supply are important factors in studying the intensity of rivalry between existing industry competitors.

2.1.2 External Forces (PEST)

In addition to market forces within the industry, it is critical to monitor external forces that may impact the industry on an ongoing basis. A manager may have a very good understanding of what is happening within an industry, and yet be blindsided by external events that change the nature of competition and revenue within an industry. A marketing framework commonly used to examine these factors that impact industries are referred to as PEST. PEST is an acronym for the political/legal, economic, socio-cultural, and technological factors that shape the environment of an industry or a business. The following paragraphs will discuss these factors (Kotler, 2006).

a) Political/Legal

An industry must remain abreast of political forces that may influence the viability and profitability of the overall industry, as well as specific firms. Political and legal issues that have impacted businesses and industries over the past decade include: environmental legislation, regulation of the Internet, antitrust rulings, to name a few. A business must continually monitor the stability of governments, understand differences in governmental practices, know the rules in terms of importing and exporting goods, and be knowledgeable about the laws that impact the industry and the business in each country. These factors can impact the structure and profitability of the business and industry in each country. Sources of information that can be used to monitor this factor include: government agency web sites and publications, embassies, lawyers and legal journals, and, of course, newspapers.

b) Economic

The economy can have a serious impact on sales and profitability within an industry and firm. Unemployment rates, the value of the local as well as foreign currencies, inflations, growth, and productivity are factors that impact the health of the economy and consumer confidence. These factors provide indicators to potential concerns on recession and inflation. The economy may lead to reduced spending by consumers that have a rebound effect throughout companies and industries. A firm must monitor these factors to forecast sales and profits appropriately and devise appropriate strategies to ride out an unfavourable economic environment. Firms may even be able to take advantage of an economic downturn to gain share and customers from competitors. Potential sources of information to evaluate the current and projected state of the economy include Stock Exchanges and Journal, and analyst reports.

c) Socio-cultural

Trends may occur within the social and/or cultural structure of a society. Examples in the past decade include the increase in working women, the health and fitness trend, and the growth in discretionary spending by youths. These trends can have a serious impact on entire industries, as well as individual companies. A business must monitor these trends to make sure that its product will continue to meet the needs of the consumers it serves. New attributes may emerge and the importance of existing attributes may change as a result of changes in society. Similarly, as the business enters new markets or countries, expectations may be very different based on the social structure and societal expectations of the specific culture or cultures. Sources of information on these trends include newspapers and magazines, television and other mass communication media, and specific monitoring publications.

d) Technology

In the past century, the world has seen a technological revolution. Today, we can travel faster, receive communications instantly, and produce more per capita. As a result of this change, many industries have emerged (e.g., cellular phones and dot-coms) and many industries have all but disappeared (e.g., typewriters). Business that have survived have succeeded in staying ahead (or only slightly behind) the technological advances. These businesses have taken advantage of the emerging technology in other industries to improve

their product and/or service. These firms are always looking for technology that will help serve customers better and/or cheaper. In that way, technology may provide a competitive advantage. Sources of information on technology include journals in potential areas such as computers, scientific journals, and other newspapers and magazines.

Therefore in light of the above, the critical element in environmental scanning is to continually monitor the media relevant to customers, an industry, market(s), and overall technological development. As changes occur for elements within PEST, a company (and industry) must ask:

- Is this likely to grow and continue in acceptance?
- Is it likely to influence my industry?
- How can I use it to differentiate my product or service? Or should I offer a new product or service?
- How can I use it to gain a competitive advantage?

2.2 Historical Development of the Cement Industry in Ethiopia

The origin of cement production in Ethiopia dates back to the nineteen thirties and this makes the industry a pioneer modern manufacturing industry in the country. The country's first cement plant was established in Dire Dawa by Italians in 1936. The factory formerly known as Dire dawa Cement and Lime Factory had a capacity of 120 tonnes of clinker per day. The factory, currently known as National Cement Co, is co-owned by the Federal government and Ethiopian investor has the capacity of producing 36,000 tonnes per day. Just before the Second World War, the second cement with daily production capacity of 45 tonnes of clinker was built in the city of Massawa (now part of Eritrea). This factory was later dismantled in the early nineteen forties. (Ministry of trade and industry 2011/12)

With the demand for cement increasing, the government responded by building the Addis Ababa and Massawa cement factories in 1964 and 1965 respectively. Each of these two plants had annual production capacity of 70,000 tonnes of clinker. Later, the construction Muger Cement Factory in 1984 added significant increase in to the country's cement production. Initially Muger cement factory had annual capacity of 300,000 tonnes

of cement, which was doubled to 600,000 tonnes later in 1990. Currently the enterprise is producing 900,000 tons of cement per annum. In 1999 the Addis Ababa Cement Enterprise and Muger Cement Factory were merged to form the current Muger Cement Enterprise. The third phase of expansion, with an investment outlay of 1.3 billion Birr, further increased the enterprise's total production capacity to 2.2 million tons per year. (Ministry of trade and industry 2011/12)

Another recent entrant into the sector is Messebo Building Materials Production plc which was established in 2000 and is producing 900,000 tons of cement per year. Currently, Messebo is undergoing construction of additional line with production capacity of 1,416,000 tons of cement per year is under way. This expansion project will increase the company's annual production capacity to 2.3 million tons per year. (Ministry of trade and industry 2011/12)

Lastly similar factories smaller in sizes have recently joined the industry and started operation. These include National Cement S.C, Abyssinia plc, Jema cement PLC, Capital cement, Derba Midroc and others.

Moreover, there are many new companies already in the implementation and pre implementation stages.

2.3 Overview of global and regional Cement Market

While it is interesting to look at today's facts and figures on world cement production and consumption, analysts and consultants are now looking very much to what is likely to happen between now and 2015. Global demand for cement is forecasted to grow 4.7 percent annually to 3.8 billion metric tons in 2015. China, by far the largest market for cement in the world, is expected to register the biggest gains in terms of the total sales of cement. Developing countries in Asia/Pacific region and Eastern Europe, as well as a number of nations in Africa, the Middle East and Latin America, will also record above-average cement market gains, fuelled by a robust construction outlook. Vietnam, Thailand, Ukraine, Turkey and Indonesia are expected to record some of the strongest increases in percentage terms. According to the World Bank's forecast of global cement market, market advances will be less robust in the developed world (the USA, Japan and Western Europe),

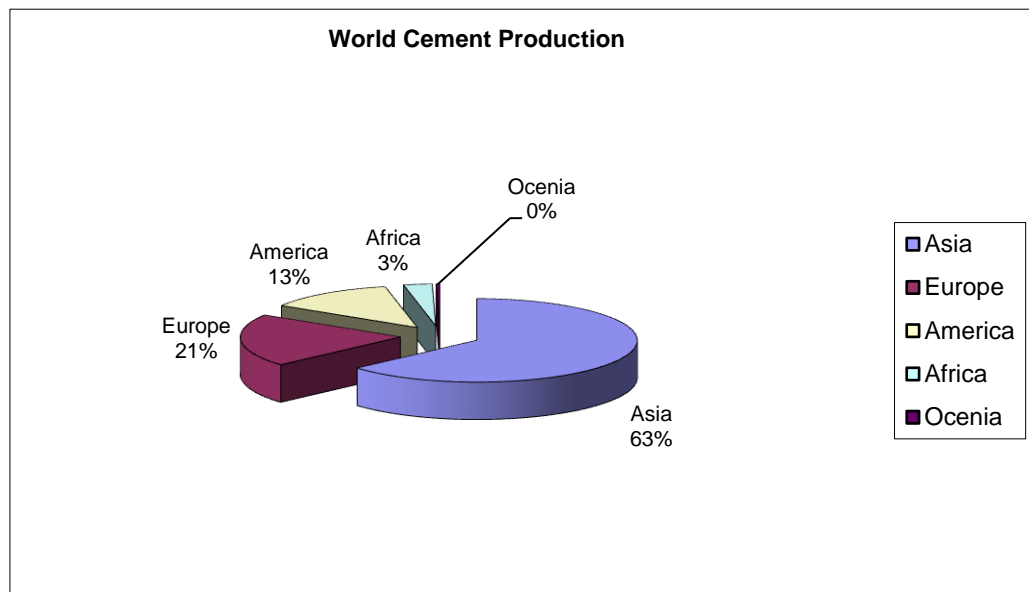
with maintenance and repair construction will be accounting for much of the growth in cement demand through 2015 (World Bank, 2009).

As can be seen from table below and the associated chart, world cement production in 2010 was 3,590 million tonnes. Out of Asia's share, 53 % of total production constitutes cement produced by China, whose total production reached 876 million tons in 2010 (American Cement Association, 2011). In this part of the world, modern infrastructure systems are highly required to improve the quality and buildings of housing. In general given the positive trends in cement marketing in emerging markets, cement consumption in the longer term will grow more rapidly in the emerging markets than in the developed countries.

Table 1:Global cement production

Region	Annual Cement Production (In Million tons)
Asia	1,641.9
Europe	1,529.6
America	335.1
Africa	74.4
Oceania	9
World Total	3,590

Source: American Cement Association Publication, 2011



Source: Sinoma International Engineering Co. Ltd,(world Bank 2009)

Coming to the East African region, Kenya and Ethiopia lead the region in terms of local production in 2011 while Djibouti and the Sudan had better per capita consumption with 83 kg and 52 kg respectively. Ethiopia was fifth with 20 kg exceeding only Somalia (American Cement Association, 2011. Compared to the global average of 340 kg and the Sub Saharan average of 70kg estimated for the same period, the region’s per capita cement consumption in general and that of Ethiopia’s in particular has been among the lowest in the world. Considering relatively high capacity utilization of cement plants in the country, the low per capita consumption can be attributed to the short fall in supply. This implies that the cement sector in the region specifically in Ethiopia has huge potential for growth.

Table 2: East African Cement production and Per Capita Consumption

Country	Total Population (in millions)	Urbanization Rate (in %)	Per Capita Cement Consumption (in Kg)	Domestic Production (Million tons)	Import (million Tons)
Ethiopia	77	15	20	1.7	
Djibouti	0.75	81	83	0	1.0
Kenya	30	25	37	1.8	
Tanzania	32	22	39	1.3	0.05
Somalia	11	25	11	0	0.10
Sudan	30	3	52	0.28	1.27
Total (Average)	180.75		36.5	5.18	1.42

Source: American Cement Association Publication, 2011

2.4 Challenges and opportunities of Cement Business- Global overview

Until 2007, the cement market in Sub-Saharan Africa was dominated by the world's top three cement manufacturers, namely: Lafarge (France), Heidelberg Cement (Germany) and Holcim (Switzerland) with respectively 15, 11 and 7 cement facilities in the continent (The World Bank, 2009). However, starting from 2007 these foreign companies have sold their facilities in the continent to indigenous cement manufacturers who entered the market in anticipation of huge demand driven by the infrastructure and housing sectors. Companies like Dangote Group and Damnaz of Nigeria and AfriSam of Tanzania are among the indigenous cement manufacturers.

Little empirical evidence is available on the Ethiopian cement industry. In fact recent empirical data on the cement market in Africa as well as across the world is not publicly available. However, quite many researches show that as the cement businesses across the world share common challenges and opportunities. Research conducted on cement business in Sub-Saharan Africa, China and India is examples for this assertion.

According to the World Bank study on the cement business in Sub-Saharan Africa (World Bank, 2009), the cement sector in Sub-Saharan Africa is characterized by low capacity utilization, low per capita cement consumption and low energy performance. The study indicated that capacity utilization of cement sector in Sub-Saharan Africa in 2009 was 54%. The figure is well below the 94% capacity utilization in South Africa alone. Excluding South Africa, the region's installed cement capacity in 2009 was 41.6 Mtp while it was 45 million tonnes in 2004 (USGS, 2009). Production capacity of cement plants in the region (including South Africa) stood at 56.3 Mtp. Region wise Eastern Africa achieved the highest capacity utilization rate (76%) while Central Africa had the lowest rate of 46%.

The study also indicated that the per capita cement consumption in Sub-Saharan Africa is the lowest the world. At the end of 2009, the regions per capita cement consumption was 70 kg, while the world average during same period was 340 kg (The World Bank, 2009). Based on the Global Cement Report (2009), the total consumption of cement in Sub-Saharan Africa during 2009 was 60.6 Mt.

As regards energy, the study found out that the energy performance of cement manufacturing plants in Africa is low with electrical energy consumption in some plants in Eastern Africa varied between 105 and 140 kWh/tonne of cement.

The cement market in Sub-Saharan Africa has been growing at a rate faster than the global average. In 2006, the market growth for the region or was estimated at 9.4% while the global average growth rate stood at 8.6 percent (World Bank, 2009). Hence the increasing demand for cement, the low capacity utilization and the limited production capacity have resulted in the dependency of the continent as a whole and the Sub-Saharan Africa in particular on imported cement.

These challenges of the sector in Sub-Saharan Africa are also prevalent in countries like India and China. For example, Sameer Pushp (2009) found out that despite high cement demand in India, per capita cement consumption is very low; only 156 kg compared to the world average of 396 kg during the same year. On the other hand, Anil Pillai and Shanthi Venkatesh (2012), argue that the pressing challenge for the Indian cement industry is to set up a distribution network in line with the objectives of each Company. As Cement Plants in India are located close to Limestone deposits, distributing Cement from the Plants to various areas is a challenge, they argue. The normal modes of transport in India are Railways, Sea and Road. So, companies either directly dispatches cement to the customer or through dealers. Cement Plants normally are situated far off from project locations and customer's premises. This could delay supply of cement to customers and hence result in high inventory costs.

Power supply including coal has also been a constant challenge for the Indian Cement sector (Pillai and Venkatesh, 2012). According to these researchers; coal which is normally imported from other countries due to its high calorific value is dependent on rupee depreciation. The rising cost of energy transportation and persistent raw material pressures have been playing a heavy strain on the cement and construction industry. As a result, Indian Companies have to not only explore alternate sources of energy and materials but also strive to enhance operational efficiency (Sameer Pushp 2009).

Another challenge for Indian cement sector has to do with accreditation. Pillai and Venkatesh, (2012) found out that laboratories with necessary accreditation to test cement

are few and hence quality of cement is often deduced from the behaviour of concrete alone without considering other factors that influence the quality of concrete. According to the researchers, factors such as quality of other constituent materials, workmanship, and after maintenance of concrete should be considered in determining cement quality.

On the other hand, the potential for growth of the sector in India remains intact. What is needed to spend invest adequately in developing human resources to capacitate them to address the professional needs of construction industry like application of advanced technologies and construction practices, project management construction, litigation, insurance and finance, etc. The state-of-art manufacturing technologies that Indian cement plants has largely adopted can be taken as opportunities to further drive the sector to success (Sameer Pushp,2009). Manufacturing technologies, systems for cogeneration of power and technologies for low carbon emission are the major areas where Indian Cement industry is doing well.

Although the Chinese cement sector faces the above challenges; imbalanced population structure; environmental pollution; reliance on coal; financial limitation; water shortages; political unrest and growing income disparity remain long-term challenges to the continued growth of the sector (Soule, Logan and Stewart (2002).

The researchers mentioned Chinese cement plants are highly dependent on coal as source of energy and go on to argue that China would save approximately 15 million tons of coal each year if it resorts to alternative energy sources. So improving energy efficiency is suggested as it cuts energy costs, improves local environmental quality, and reduces greenhouse gas emissions.

Environmental problems are also challenging Chinese cement industry. Ambient air levels of total suspended particulates (TSP) and sulphur dioxide (SO₂) in Chinese cities are among the highest in the world resulting in health problems such as respiratory illness as well as other environmental problems including contamination of local water sources, mercury emissions, excessive noise, erosion surrounding limestone quarries, and nitrogen oxide emissions. Enforcement of laws is not uniform in China. Provincial level environmental protection agencies are responsible for enforcing emission limits and they can direct capital toward polluters to upgrade their equipment. However, production and profit

often supersede enforcement. As a result, environmental regulations tend to be strictly enforced when foreign companies are involved. The researchers suggested increasing the efficiency of cement kilns as a way to reduce carbon dioxide emissions in China. In summary, environmental issues will become increasingly important as China's economy continues to expand and enforcement of environmental regulations will become stricter in major urban areas, especially Beijing.

However, China's cement industry (producing more than one third of global output) is relatively insulated from a global competition (Soule, Logan and Stewart, 2002). Therefore this coupled with measures being taken by the Chinese cement industry to improve product quality, management practices and profitability and opening up of the sector to participation by international players; are the major opportunities for growth of the sector.

Soule, Logan and Stewart, (2002) pointed out what they believed to be prospects for the Chinese cement sector. First, they mentioned that government spending on infrastructure development and improvement will benefit the cement industry. As the lion share of investment will go to infrastructure development, environmental protection, technology upgrading, innovation, and education; they will positively affect the cement industry. It is important to mention here that the 10% increase in total government investment in fixed assets in 2001 coupled with foreign investment has played key role in growth of Chinese cement industry during the last decade.

They also mentioned preferential policies that the Chinese government has enacted to steer investment in cement transport infrastructure as enabling factors as a result of which players in the sector may find promising opportunities. As China will continue the move away from enterprise-provided housing to a privatized housing market, housing demand from low and middle income Chinese will be stimulated. Reforms enacted by the Chinese government as cited by the above researchers as positive drivers include:

- Banning barriers to local protectionism,
- Commercializing the residential housing sector,
- Providing more discipline to bank lending and cleaning up existing bad loans,
- Enforcing existing legislation more thoroughly and enacting new laws,

- Allowing state-owned enterprises to reform without interference from local governments, and
- Demanding greater transparency and accountability in both government and financial sectors.

2.5 Overview of Cement industry in Ethiopia

Ethiopia one of the fastest-growing economies in Africa and it managed to register double digit economic growth between the years 2005 and 2010 (FDRE MOFED, 2011). During this period, agriculture, industry and services sectors have registered annual growth rate of 8.4, 10 and 14.6 per cent, respectively. The share of these sectors to GDP during the 2009-10 fiscal reached 41.6, 12.9 and 45.5 per cent, respectively.

This assertion of achievement by the government is shared by the World Bank and the International Monetary Fund (IMF) at least for the achievements during the last few years. The World Bank (2010) indicated that Ethiopia was the second-fastest growing economy in sub-Saharan Africa (after the Republic of Congo) in the year 2010. Further to the achievements so far, the government is optimistic about achieving double-digit economic growth during the coming years, which could be attributable to the favourable economic conditions nurtured by workable policies and strategies.

The Growth and Transformation Plan (GTP) which the government embarked three years ago is at the centre of the government's strategy to further improve the pace of economic development.

With this general trend of economic growth, the cement sector has also made significant improvement in terms of increased supply that reduced the country's dependence on imported cement. The cement sector is benefiting from the government's Growth and Transformation Plan which is significantly boosting demand for cement. The ever-expanding construction sector has been the primary driver of cement demand. Other major driving forces include the faster economic growth, population growth of 2.6 per cent per annum and higher urbanisation rates.

The housing sector has been the principal driver of the growth in cement demand. Constructions and housing development programmes being undertaken by the Addis Ababa

City Administration and other city administrations; industrial and infrastructure development projects as well as constructions by real estate developers have played significant role in building up of demand. The plans to extend the country's road network (currently 50,000 km) to over 130,000 km over the next five years and to construct 5000 km of railway are indicators of the attention given to the construction sector. Another priority sector for the government of Ethiopia is power generation, which the government wants increase power generation from its current level of 2,000 MW to 10,000 MW within in the next 5 years and then to 20,000 MW in 10 years time. As part of this strategy, the government has recently launched the multibillion-dollar Dam, named Great Renaissance Dam. With the capacity of generating 6,000 MW of electric power, the dam is believed to satisfy the country's power need while excess power will be exported to neighbouring countries. With massive constructions required in till its completion (due for 2017), the dam along with construction of other dams envisaged by the government, is expected to significantly enhance the demand for cement.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The research approach is based on descriptive study, which was carried out as described hereunder.

3.1 Research Design

The focus of this study is to describe opportunities and challenges for cement marketing in Ethiopia. Therefore, descriptive survey method is adopted. Moreover, the study design provides quantitative and numeric descriptions of trends, attitudes, or opinions of the total population by studying a sample of that population. Qualitative approach is also used to supplement or to get in depth understanding of the sector.

3.2 Sample and Sampling Techniques

Currently there are about 11 cement producers in Ethiopia including those in the pipeline to join the sector. Of these, 3 (25%) cement factories are covered in the study.

As regards to cement buyers, the Addis Ababa City Administration Housing Agency and other government projects have been examined. Besides two contractors, three real estate developers and the Ministry of Construction and Urban Development have been consulted for primary data. The researcher considered that secondary data is the main source of information to acquire comprehensive data.

In total three officials from the three samples cement producers (one from each producer) and seven officials from institutional buyers (one each from the Addis Ababa City Administration Housing Agency, the Ministry of Construction and Urban Development, as well as the two contractors and the three real estate developers) have been interviewed. The sample size of three cement producers from the total population of eleven is found to be sufficient for the purpose of the study.

Random sampling technique has been applied in sample selection. Hence sample real estate developers and contractors were selected randomly based on location and volume of purchase; current as well as anticipated. On the other hand, sample cement producers were selected based on size, production capacity and market knowledge. The objective is to have

representative sample population covering both producers who have been in the business for many years and those recently joined the sector.

In planning a research work involving human participants, it is important to consider the Ethical guidelines designed to protect the participants (Best and Kahn, 1999). Hence, in this study a particular consideration was given to Ethical principles. All subjects interviewed and consulted for information were seeking for their willingness to participate in the research. Before interview sessions, they were informed that their name and their specific position will be kept in strict confidentiality. Thus, as much as possible effort was made for considering ethical issues in conducting this research.

3.3 Source and Tools of Data Collection

The study is primarily based on secondary data analysis while primary data from cement producers and buyers was used to incorporate respondents' perceptions and substantiate the findings.

3.3.1 Primary data

Primary data for the research have been gathered through site visits of cement plants and in-person and telephone interviews with key officials from cement producers and institutional buyers.

Overall, three cement producing facilities on suppliers side and seven from buyer side; three real estate developers, two contractors and two industry association (government agencies), have been visited and a total of ten key officials therein have been interviewed. Getting information from seven existing buyers was found to be important because they helped the interviewer in knowing what they like and dislike about the product offered by the companies.

3.3.2 Secondary data

Secondary data from the following sources was also used.

- The annual Statistical Abstract (report) of the FDRE, Central Statistical Agency;

- Surveys, researches and other resources from the Ministry of Construction and Urban Development and Ministry of Industry of the FDRE;
- Relevant bulletins, statistical reports and reference books.

3.4 Procedures of Data Collection:

In order to collect primary data interviews were conducted by the researcher at the interviewee's work place and all interviews were conducted in-person. The interviews covered issues that took approximately one hour per interviewee. Second round interviews were held to clarify issues and further investigate critical points.

3.5 Method of Data Analysis

The data gathered in the manner described above has been analysed through statistical measures such as averages, percentages and trends. Data interpretation is supported by tables, diagrams and graphs. Furthermore, descriptive analysis is employed for qualitative data. In the study thorough examination of the research problem and issues related was practiced.

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter deals with prospects and challenges of cement industry in Ethiopia. Hence the data gathered through review of pertinent secondary sources, site visits and interviews are summarized in tables and then discussed. The chapter starts with highlights on the types and features of cement and then goes on to discussing prospects and challenges of the industry in light of market conditions, economic, legal and socio-economic issues that have impact on the cement market in Ethiopia.

4.1 Types and features of cement

Cement is a fine product used to bind a substance which sets and hardens other materials together. Cement” means to “chemically combine” where water is the trigger that gets the chemical reaction going (i.e. hydration). If an organo cement recipe contains more organic material than mineral material then the “cement” will be rubbery and flexible. If it contains more mineral material then the “cement” will be less rubbery and less flexible but will exhibit greater compression strength. (NCSC report 2012)

Cement is one of the backbones for the development of an economy serving as a basic raw material for the development of infrastructures, construction of small, medium and large-scale industries, construction of residential and non-residential buildings and others.

Numerous types of cement are currently produced worldwide to meet a range of requirements and needs. The types of cement are differentiated based on the composition of ingredients (raw materials) used and other factors. The following major types of cement are being produced across the world.

- Ordinary Portland Cement;
- Portland Pozzolana Cement;
- Moderate Heat Portland Cement;
- Rapid Hardening Cement;
- Low Heat Portland Cement;
- Sulphate Resisting Cement; and
- White Cement.

In Ethiopia only Ordinary Portland Cement (OPC) and Portland Pozzolana Cement are being produced. Portland cement is the generic term for the type of cement used in virtually all concrete work. (Ministry of trade and industry 2011/ 2012)

Based on interview with cement producers the inputs required in cement production include limestone, clay, pumice and gypsum. These four inputs contain four important and essential elements called calcium, silicon, aluminium and iron. Generally the production process follows the following steps:

- Individual raw materials are crushed with the required size typically 50 mm.
- Then the raw materials are roughly blended in a pre- homogenisation pile.
- The raw materials are next ground together in a raw mill on which controlled proportions of each material are delivered onto the belt by weigh feeders which produce the raw mix.
- The raw mix undergoes clinkering using a high temperature, 1450 – 1500 degree centigrade, in a kiln that drives off carbon dioxide and fuses the mixture.
- The last step involves adding gypsum to the cooled clinker and grinding the resulting mixture to produce cement and it conveyed by belt to a silo for storage. Then after, distribution to the users as per their demand in bags or in bulk can be made.

4.2 Market situation

4.2.1 The Ethiopian Cement Market

4.2.1.1 Total Domestic Production Capacity

At present, the Ethiopian cement market is being supplied by eleven cement-producing companies. However, the demand for cement in Ethiopia at present has failed to be met by the production of these existing plants. As a result, the market for cement exhibits a serious supply shortage, which has significantly stifled the construction industry. (Ministry of trade and industry 2011/2012)

On the other hand, due to the increased unsatisfied demand for cement in the country, the existing factories are forced to work year round in three shifts at the risk of shortening their useful life. However, cement factories should normally have a down time for annual maintenance for their smooth operation. The table below summarizes production and current capacities of the existing cement factories in the country by type of cement.

Table 3: Production capacity of cement plants (2011/12)

NO	Plant Name	Attainable Capacity in ton	Produced amount in ton
1	Mugher Cement	900,000	540,000
2	Messebo Cement	900,000	540,000
3	National Cement	150,000	90,000
4	Jemma Cement	15,000	9,000
5	Abyssinia Cement	90,000	54,000
6	Redfox cement	100,000	60,000
7	Huanshang cement	435,000	261,000
8	Zongshan cement	250,000	150,000
9	MidrocDejen	90,000	54,000
10	Debresina cement	90,000	54,000
11	Hwaiu	150,000	90,000
	Total	3,170,000	1,902,000

Source: Ministry of Trade and Industry(2011/12)

As shown in the above table, the existing cement plants in Ethiopia have a total designed capacity of 3.1 million tons of cement while produced capacity stood at about 1.9 million tonnes per year. Due to internal and external limitations the factories do not produce at their attainable capacity.

4.2.1.2 Demand for Cement

The demand for cement is directly correlated with economic development, urbanization, growth of the construction industry, environmental issues, population size, per capita income of the population, etc. There are glaring signs that the policy changes, the consequent and evident economic growth and increase in per capita income of the population have resulted in intensive construction activities of all types. The level of development also demand the construction of modern housing to be utilized for residences, offices, recreation sites, large dams, hydroelectric power stations, roads, and others infrastructural facilities by the public, domestic and foreign investors in all economic sectors of the country. (Ministry of Trade and Industry, 2011/12).

All the above-mentioned factors opened up the road for the growth of the construction sector. This has in turn substantially increased the demand for cement in the country especially since the on-set of the economic liberalization program. Based on the result of interviews with cement producers this is clearly seen by the long waiting registration list (about three months and even more), long queue in the cement outlets and price increase by cement factories themselves and particularly by retailers (not less than 100%) in all over the country. This is one of the major constraints of the construction industry as it leads to delays in completion of various construction deeds.

Cement consumption is directly related to the economic development of a nation and vice versa. It is also clear that per capita cement consumption in Ethiopia is one of the lowest in the world. This is because of the low level of economic development, shortage of cement and consequent price hike. The per capita consumption of cement in Ethiopia as of 2011 was 22.32 kg, computed by taking total population of 77.15 million (as of 2006) and 2.6% annual growth rate (World Bank, 2011).

Not only Ethiopia exhibited low level of cement consumption, but also cement consumption in the country for the last 30 years show considerable fluctuations owing to

different reasons. The first trend exhibited from 1964/65 to early 1970's showed a sharp increase of cement consumption. This was believed to be due to a relatively intense building and construction activities to expedite the realization of the pre intended plans. The second trend pattern, which was extended over an equivalent period of time demonstrated a levelling off in cement consumption followed by a third and a very steep declining consumption pattern accounted for the nationwide economic crises, the draught, political upheaval, etc which paralyzed the economic growth.(Ministry of trade and industry 2011/2012)

The fourth and last trend starting from the late 1989/90 onwards showed a positive trend reaching its peak in the year 2001/02 owing to the different development programs and activities directly related to the requirement of the growth of the construction industry.(Ministry of trade and industry 2011/2012)

Now a days, the construction sector, one of the most rapidly-expanding sectors in Ethiopia, is steering cement demand together with the fast-expanding economy, population growth of 2.6 per cent per annum and higher urbanization rates. As such, the housing sector has acted as the principal driver of cement demand growth to meet growing housing needs. For example, major cities – especially the capital Addis Ababa – have been undertaking massive construction and housing development programs, and these are set to continue for the next 5-10 years. In terms of the private sector, real estate developers have also played a part in raising consumption levels. (Ministry of trade and industry 2011/2012)

Aside from housing, the industrial and infrastructure sectors have emerged as key stimuli for cement consumption. Construction, rehabilitation and the upgrade of Ethiopia's roads is a key priority for the government. The country's road network is being extended from 50,000 km at present to over 130,000 km over the next five years. The government has also launched a project for the construction of a 5000 km railway (FDRE MOFED, 2011). Furthermore, trends in the building of hospitals, universities, hotels and other public services are also spurring demand. The conducive investment policy in the country has attracted many local and foreign investors in the agriculture, manufacturing, real estate, hotels and health sectors.

Urbanization has also led to increased power consumption in Ethiopia and with domestic generation capacity only 2000 MW, the government is keen to raise this figure to 10,000 MW and 20,000 MW in the next 5 and 10 years, respectively (FDRE MOFED, 2011). Hydropower schemes are a top priority as the country aims to become a major African power hub. The government has recently launched the multibillion-dollar Great Millennium Dam that will span a section of the Blue Nile River in the country's Benishangul-Gumuz region. With a generating capacity of 6000 MW, the bulk of the generated electricity will be exported to neighbouring countries. Due for completion in 2017, the dam requires significant amount of cement over the next five years. Aside from hydropower, the government is also allocating a significant part of its budget to the wind, solar and geothermal power generation projects to exploit renewable energy potential.

Survey conducted by the Ministry of Trade and Industry in 2005/06 indicated that demand of six major groups of consumers of cement in the country in 2005/2006 was about 4,696,146 tons (Ministry of Trade and Industry, 2006). The major consumers of cement were grouped in to six broad categories. These are construction projects executed by:

- Federal & Regional Government - Capital Budget
- Investors
- Residential Houses Construction
- NGO's & Religious Organizations
- Development Associations
- Hollow Blocks and other Cement products manufacturers

Record of Cement Request Registrations at Mughher Cement Enterprise, as summarized below clearly show the ever increasing demand for cement

Table – 4: Cement Request Submitted to Mughher Cement Enterprise(2006/07 and 2007/08)

Year	No of request	No of answered request	Total cement requested /tons/	Cement supplied /tons/
2006/07	43,306	33,502	17,613,567	749,333
2007/08	33,739	29,227	18,857,000	737,179
Total	77,045	62,729	36,470,567	1,486,512
Average	38,522.5	31,364.5	18,235,283.5	743,256

*Source:-Mughher Cement Enterprise Marketing Department (2006/07 data)
The Ethiopian Herald Tuesday 2 September 2008 (2007/08 data)*

As it is depicted in table 4 above, the Enterprise only managed to distribute about 4.3% and 4% of the request during the years 2006/07 and 2007/08 respectively depicting the shortfall in supply as compared to demand. Looking at the share of actual distribution by type of consumers for the year 2006/07; government took 62.31% share while private investors, individual and association of house builders, block makers and NGOs had 8.59%, 18.04%, 8.05% and 3.4% share respectively. Similarly, the figures for the year 2007/08 were 57.2% for governments, 17.4% for private investors, 15% for individual and association of house builders, 8% for block makers and 2.2% for NGOs. In terms of location Addis Ababa got 55.8% of total distribution in 2007/2008 while Oromia and Southern Nations, Nationalities and Peoples' states got 34.9% and 5.38% respectively during the same year. In general, cement consumption has been growing at an average rate of about 7.06% per annum in the last two years. An examination of the past years' cement consumption in the country shows that effective demand of the product has shown continuous growth.

The higher share of government purchase as shown above imply infrastructural development projects being undertaken by the state, which is mentioned in the previous section as one of the major drivers of cement demand in the country. With the government's commitment to expand such projects, it is apparent that demand for cement will further increase and thereby making the sector more attractive and prospective to investors. Closer look at the country's budget structure reveal government's commitment to continue investing in infrastructure development. For example, of the country's total budget of 16.07 and 18.89 billion birr in 2006/07 and 2007/08; Birr 4.352 billion (27.1%) and Birr 5.897 billion (31.2%) respectively was allocated to the construction industry (Negarit Gazeta July 8, 2006 and September 4, 2007). The share of the construction sector from the total budget (in terms of proportion and amount of budget) has increased year after year registering 35.5% increase in 2007/08 as compared to the previous year. Currently the construction sector, as stipulated in the National Accounts of Ethiopia, is growing at 19.5% annual growth rate (NBE, 2011). Considering the current growth rate of the sector and previous years' performance, demand is expected to further increase in the years to come.

Hence, with the increasing demand as discussed above, supply shortfall in the country was recently estimated to be more than two million tons of cement (Fortune, Vol. 9,

No 434 August 24, 2008), implying the untapped market for cement and hence the prospect for investors who wish to enter the sector.

4.2.1.3 Supply of Cement

Supply of cement in the country is composed of the production of the existing factories, expansion program of the existing enterprises, imported cements through francovaluta scheme and capacity of new entrants.(Ministry of trade and industry,2012)

4.2.1.3.1 Existing Supply

As mentioned in the previous section, the existing cement plants in the country are working in 3 shifts and extra hours in order to meet the ever-increasing demand. Presently, there are eleven ongoing cement-producing factories namely Mugher, Messebo, National Cement Share Company ,Jema PLC, Abyssina PLC, Red fox, Huanshang cement, Zongshan cement, Midroc Dejen, Debresina cement and Hwaiu. Annual production of these plants is presented in table 3 above:

Many of these cement plants entered the market recently driven by the attractiveness of the sector owing to the untapped demand as discussed in the previous section. Jema PLC, Abyssina PLC and Midroc Dejen Cement PLC started production in September 2007, December 2007 and April 2008 respectively. (Ministry of trade and industry, 2012)

In order to see the supply of cement in the country we have to look into the production capacity of the existing factories first and go on to looking at expansion projects of existing plants and emerging plants in pipe line. Accordingly, the production capacity of the existing eleven cement-producing factories in the country is shown hereunder.

As shown in table 3, the Ethiopian cement sector has improved in terms of capacity utilization of cement plants except the significantly low capacity utilization registered a couple of years ago as a result of government's decision to save electric power by banning cement plants from producing cement. Capacity utilization of existing plants stood at above 60%. The fact that existing plants are operating at lower of their capacity due to internal and external problems but further affirm the huge potential that exist in the sector for new entrants.(Ministry of trade and industry, 2012)

4.2.1.3.2 Expansion Programs

Based on the result of interview held with officials of Mughher Cement Enterprise, the Enterprise is planning to upgrade its capacity to 1.4 million tons of cement per year. Mossobois also planning to upgrade its annual production capacity to 1.4 million tons of cement .Although these expansion projects would lead to increase in supply; the additional supply is insignificant as compared to the unsatisfied demand and hence the sector will remain attractive for new entrants.

Table 5: Production capacity of Expansion cement projects

NO	Plant Name	Max Capacity in ton
1	Mughher Cement	1,400,000
2	Messebo Cement	1,400,000
	Total	2,800,000

Source: Ministry of trade and industry(2011/12)

4.2.1.3.3 Cement Factories In Pipeline

The shortage of cement resulted in steep price rise and huge unsatisfied demand. This in turn has seriously constrained progress in the construction sector. Consequently, this situation has resulted in dramatic increase in the number of entrepreneurs requesting for licenses to manufacture cement. List of Cement Plants in the Pipeline are summarized in the following table:

Table-6: Licensed Cement Plants under Implementation

NO	Plant Name	Max Capacity in ton
1	East Cement	750,000
2	Ture cement	300,000
3	Ethio cement	400,000
4	Bidroc cement	300,000
5	CH clinker	900,000
6	Derbamidroc	2,300,000
7	National cement	1,200,000
8	Habesha cement	1,200,000
	Total	7,350,000

Source: Ministry of trade and industry (2011/12)

As indicated in the above table, 8 new cement manufacturers with a total annual installed capacity of about 7.3 million tonnes of cement are under formation. However, this addition to the country's total cement supply is insignificant when compared to the 20 million tonnes of annual demand as discussed in the section on demand.

4.2.1.3.4 Imports

Ethiopia had been importing cement mainly from Pakistan, Egypt, and Saudi Arabia to bridge the deficit currently observed in the market. Import of cement in Ethiopia is classified in to three separate international custom product categories under the HS (Harmonic System) code namely:

- HS-25232100- White Port Land Cement
- HS-252329000- Port Land Cement (excl White)
- HS-25239000- Other Hydraulic

Imported cement has been supplementing Ethiopia's domestic production and provided some degree of relief in the market. According to estimates by Access Capital (2009), imported cement has amounted to nearly a third of domestic production at that time (or about 840,000 tons of imported cement in 2008 as compared to an estimated production of 2,400,000 tons last year). Imports have grown continuously since 2006, when the Ministry of Trade and Industry allowed contractors and investors who can source foreign currency from external sources to import cement (i.e. cement imports on a franco-valuta basis). Recently, however, currently the Government has banned on private sector cement imports.

As it is clearly indicated in table 7 below, import of cement registered remarkable growth year after year even though it could not be able to satisfy booming needs. However, imported amount could not match the ever increasing demand. The major reason for this, based on the result of interviews with importers, is government's strict requirements (minimum import of 25,000 ton), which were beyond the capacity of most importers. In addition, the import side has been curtailed by the severity of the scarcity of foreign exchange in Ethiopia and to protect local producers from imported cement competition; it was sold at a lower price than locally produced cement.

The following table (table 7) depicts the quantity of cement in the country for the last two and half years.

Table – 7: Total Quantity of Imported Cement (2006 – 2008)

Year	Quantity (in tons)
2006	66,410.5
2007	835,509.2
2008*	317,601.6*
Total	1,219,521.3

Source: Ministry of Trade and Industry (2011/12)

*It is only for six months of operation, January to June 2008.

The government is taking various measures that would enable and encourage trading and construction companies to bring cement easily to solve the critical shortage till the ongoing projects start production and satisfy the market. The heavy restrictions were somehow relaxed, though a lot need to be improved if importers have to be encouraged. Other incentives are also being introduced. It is believed that these will improve the import size. This practice is expected to continue till the local demand is satisfied with the ongoing and new cement projects in the country

Generally, limited supply of domestic cement has been hindering the Ethiopian cement market in light of the fast-growing demand. Until recently, cement was manufactured in only six factories. But this figure is now up to 11 factories producing a total of 2.8 million tons (Table 3). Per capita consumption is among the lowest in the world and well below levels found in countries like South Africa, China and India. Production is dominated by four large players Derba Midroc, Mugher, Messebo and National Cement. Derba Midroc is now the largest producer and price setter taking over from Mugher. Despite the rising supply, demand growth has been equally brisk, reflecting large-scale public sector infrastructure projects (roads, power plants) and private sector construction activities for residential housing, industry, and real estate developments.

As a result of the low supply and ever rising demand, cement prices had been on a steady upward trend for quite many years. Let us look at the three key prices which, despite their level differences, tend to move in parallel with each other:

Ex-factory prices: The ex-factory selling price for cement (PPC) in Ethiopia has risen from near Birr 80/qtl in early 2006 to Birr 220/qtl in 2011/12. However, in 2013 ex-

factory price has fallen to Birr 160-200 mainly due to the lower price set by Derba Midroc and the fact that Mugher and Messoba expansion projects became operational.

Retail prices, which include transportation costs plus wholesaler/retailer margins, are higher and more volatile than ex-factory prices. Retail prices for cement as of June 2011 have been between Birr 320 and Birr 350, indicating significant increase in retail prices (market assessment Report of Bizenu investment PLC). However, currently retail price dropped to birr 230. Again, reduction in retail price is attributable to the market penetration strategy being followed by the newly emerged market leader, Derba Midroc.

Import prices: data from cement manufacturers and retailers show that retail prices of imported cement are very close to that of domestic cement although import prices on a CIF basis alone are well below local retail prices. Currently cement importation is stopped in order to protect local producers.

Considering the ongoing expansion plans of the major producers and emerging cement plants in pipeline (Ministry of Trade and Industry, 2010), there is a possibility a substantial further reduction in local cement prices.

The significant reduction in cement prices as discussed above and the market penetration strategy adopted by Derba Midroc implies two basic facts. The first fact is the high profit margins that cement producers and retailers had been enjoying, which mainly emanates from the second fact: the lower cost of production. Hence, despite interview results that cement manufacturers see new entrants (cement producers) and the decline in the cement price as potential threats; we can say that cement marketing will remain less sensitive to price reduction and hence will continue being one of the most lucrative business in Ethiopia.

4.2.1.3.5 Logistical issues

Cement being a bulk commodity, logistics is the key challenge producers are facing in terms of transportation of cement from the “producing areas” to the “consuming areas”. Poor infrastructure in some parts of the country is also challenging some cement producers who find it difficult to transport inputs such as gypsum. However, as the country is growing

and the government is focusing on infrastructure development, most cement producers believe that this problem will be resolved in the near future.

The first priority for a cement manufacturer, would, therefore be to sell most of the cement in areas near the Plant where contribution to profit is high. Even if it is sold in areas away from the Plant, prices should be so high that the contribution to profit justifies the sales in far off areas.

Most Ethiopian Cement Plants are located close to Limestone deposits as limestone is the major raw material for manufacture of cement and hence proximity of Plants to limestone deposits is advantageous. Normally 1.5tonnes of Limestone is required to manufacture one tonne of cement and therefore it is logical to set up cement Plants near the Limestone deposits than near the Markets. Lime stone deposits are available in central Ethiopia, Eastern Ethiopia and Northern Ethiopia.

Distributing Cement from the Plants to various areas is also another challenge. The normal mode of transportation is Road since it is preferred for shorter distance and rail way transport, which is economical for longer distance is currently unavailable in the country.

Cement producers in Ethiopia either directly dispatches cement to the customer or through dealers. Many producers transport cement to their major dealers by road. Most of the dealers who are close to the manufacturing facility normally receive cement by road. Some Companies appoint major dealers/distributors who would sell a huge quantity of cement; who in turn would deliver to the customers in the area. National Cement S.C is among such producers.

There are also companies who would rather prefer to distribute cement through a large network of small dealers. Distributing cement through a large network of small dealers would ensure that the cement is available in all outlets. Examples include National cement, Huanshang and Zongshan cement .Distribution of cement through large dealers would be through an attractive discount scheme so that the dealer does not give much attention to the sales of other brands. Most dealers normally deal with multiple cement brands.

The disadvantage of distributing cement through large dealer is that negotiation power for discounts/incentives would be shifted to the distributors. Any strain in the

relationship between the producer and major dealers would lead to huge loss of sale. However a large network of small dealers will encourage healthy competition between them.

Cement Plants normally are situated far off from project locations and customer's premises. This could delay supply of cement to customers and involve high inventory costs. To tide over these problems producers have started setting up grinding units and Packing units near major Markets. Major infrastructure projects would prefer to have a direct contact with producers and hence supply would be directly to these major projects from the Plant. There are projects that are supplied through major dealers. The advantage for projects to procure from a major dealer would be attractive credit terms and convenience in the procurement of other building materials.

The first and foremost challenge would therefore be to set up a distribution network in line with the objectives of the Company. Distribution strategy followed would in turn determine segmentation, pricing, customer behaviour and customer communication decisions.

4.3 Economic legal and socio-cultural issues

4.3.1 Economic conditions

The economy can have a serious impact on sales and profitability within an industry and firm. Unemployment rates, the value of the local as well as foreign currencies, inflations, growth, and productivity are factors that impact the health of the economy and consumer confidence. These factors provide indicators to potential concerns on recession and inflation. The economy may lead to reduced spending by consumers that have a rebound effect throughout companies and industries. A firm must monitor these factors to forecast sales and profits appropriately and devise appropriate strategies to ride out unfavourable economic environment. Firms may even be able to take advantage of an economic downturn to gain share and customers from competitors. Potential sources of information to evaluate the current and projected state of the economy include Stock Exchanges and Journal, and analyst reports.

Ethiopia has become one of the fastest-growing African economies in recent years. The cement sector has also made significant strides in terms putting an end to its reliance on imports and satisfying local demand. The industry is also set to be a key beneficiary of the government's Growth and Transformation Plan which aims to take demand to a higher level.

The Ethiopian economy has been undergoing a transitional phase and in fiscal 2003-04, began a higher growth trajectory which is still being maintained. Between FY05-06 to FY09-10, overall real GDP grew rapidly at an average rate of 11 per cent per annum and double-digit economic growth continues to be recorded. This positive growth places the country among the fastest-growing economies in the world. Indeed, in 2010 Ethiopia proved to be the second-fastest growing economy in sub-Saharan Africa after the Republic of Congo (World Bank, 2011).

On the other hand, high inflation has been and remains a major drawback of the Ethiopian economy and poses serious threats to the business environment by discouraging savings and distorting investment decisions. However, inflation has been gradually settling it is a good indicator of the economy being stabilized.

In terms of sector performance, over the 2005-10 period; agriculture, industry and services registered an annual growth rate of 8.4, 10 and 14.6 per cent, respectively. Their share of real GDP in 2009-10 accounted for 41.6, 12.9 and 45.5 per cent, respectively. In terms of contribution to GDP, the industry sector contributes 13 percent of Ethiopia's GDP of which 6 percent comes from the construction sub sector, which has a reciprocal relationship with both agriculture and industry sectors (NBE, 2011) This is among the factors which contributed to the robust economic growth that has been registered in Ethiopia.

The five-year Growth and Transformation Plan that the government is implementing is also becoming the major driver for almost all sectors of the economy. We will discuss the GTP in the section dealing with government policies and strategies.

The cement industry is highly energy intensive, requiring the availability of adequate energy supply for the smooth functioning of the industry. The country has currently sufficient power supply. As depicted in table 8 below, the installed capacity of hydro and thermal plants (excluding the wide power generating plants) of the country is presently about 1,938 MW.

Table 8: Installed and Generation Capacity of Existing power Plants of Ethiopia

Existing Power plants	Installed Capacity(in MW)	Dependable Capacity(in MW)	Average Energy(GWh/year)
– Koka	43.2	38.4	110
– Tis Abay I	11.4	11.4	85.2
– Awash II	32	32	165
– Fincha	134	128	640
– Awash III	32	32	165
– MelkaWakena	153	153	543
– Tis Abay II	73	68	282
– Gilgel Gibe I	192	184	847
– Diesel (reserves)	80	Unknown	
- AlutoLangano GT	7	Unknown	
- Tekeze	300		
- Gelegel Gibe 2 nd	420		
- TanaBelese	460	-	-
Total	1,938	1,826	2837.2

Source: Ministry of mines & energy(2011/12)

In addition to the above, the following (table 9 below) power plants are expected to start production of electricity in the near future to supplement power production levels in the Country.

Table 9: Power Plants under Construction and Study.

Name	Existing installed capacity(in MW)	Status
Gibe 3rd	1870	64% completed until 2000 Ethiopian fiscal yr.
AmertiNeshe	100	11% completed until 2000 Eth fiscal year.
Under study		
Wind power energy		
Tendaho Geothermal		
Gebe I Hydro Electric power project		
Gebe II Hydro Electric power project		
Gebe IV Hydro electric Power project		
GenaleDawa Hydro Electric power project		
ChemogaYedaHydro electric power project		
Mendaya Hydro Electric power Project		
Renaissance Dam	About 6,000MW	

Source: Ministry of Mines & Energy (2011/12)

Although the country's economy is on the right track and government is encouraging investment by way of different incentives; scarcity of finance is hindering investment especially big investments. The problem ranges from complete freeze in bank financing as frequently witnessed during the last couple of years to selectively financing sectors described by the government as priority. The fact that currently the cement sector is among such priority sectors can be considered as one promising factor for the sector. However, throughout the last two years banks have been challenged with limited lending capacity and hence could not finance big investments. As a result investors are being forced to finance their investment through high proportion of equity, which is difficult given the limited capital they have and time required to raise equity.

4.3.2 Political/Legal issues

An industry must remain abreast of political forces that may influence the viability and profitability of the overall industry, as well as specific firms. Political and legal issues that have impacted businesses and industries globally over the past decade include: environmental legislation, regulation of the Internet, antitrust rulings, to name a few. Businesses must continually monitor the stability of governments, understand differences in governmental practices, know the rules in terms of importing and exporting goods, and be knowledgeable about the laws that impact the industry and business in the country. These factors can impact the structure and profitability of the business and industry in the country. Let see the major policy and legal issues in the country.

4.3.2.1 Growth and Transformation Plan (GTP)

The major policy area right now is the five-year Growth and Transformation Plan, which the government of Ethiopia is implementing. The GTP laid down a number of targets in infrastructural development, agriculture, manufacturing industry and energy. Plans to build 10 sugar factories 11 fertilizer plants, constructing over 70 thousand kms of road and the great Renaissance Dam are among the major projects envisaged in the GTP (FDRE GTP, 2010).

These projects require about 40 million tons of cement (Ministry of Construction and Urban works). As part of the effort to ensure adequate supply of cement, the government is also encouraging investors to engage in the cement sector.

4.3.2.2 Investment Policy

The investment proclamation No. 37/1996, June 1996, which is the major legal instrument in Ethiopia, indicates areas of investment reserved for the government, for domestic investors, and also areas of a joint investment with foreign investors. The proclamation also outlines the role of foreign investors who are allowed to participate in some areas of investment only in the context of partnership with domestic investors where the investment amount exceeds US\$ 20 Million. The equity share of the domestic partners in a joint investment, it shall not be less than 27%. The proclamation highlights the following:

a) Customs Import Duty

Machinery and equipment together with accessories thereof, with spare parts up to 15 % of their total value (value of imported investment capital goods) as well as equipment and materials to be used directly for the construction of industrial buildings and not locally produced shall be allowed to be imported free of customs duty.

b) Income tax holiday

Any income tax derived from approved new investment shall be exempted from payment. This exemption of income tax payment ranges from one to five years depending upon the priority area of investment activity, pioneer, promoted, etc.)and the location in which the investment is undertaken. The Council of Ministers regulation No. 7/1996 states that the manufacturing process of cement is categorized in the pioneer investment activity.

The period of exemption from income tax shall begin from the date of commencement of production.

An investor who has incurred loss within the period of exemption from income tax shall carry forward the loss. In the case of cement, the period most likely shall be 5 years after the termination of the tax holiday.

c) Remittance of funds

Foreign investors shall have the right in respect of an approved investment to make the following remittances out of Ethiopia in convertible foreign currency at the prevailing rate of exchange on the date of remittance:

- i.** Profits and dividends accruing from investment
- ii.** Principal and interest payments on external loans
- iii.** Payments related to a technology transfer agreement registered in accordance with the proclamation.
- iv.** Proceeds from the sales or liquidation of an enterprise.
- v.** Proceeds from transfer of shares or partial ownership of an enterprise to a domestic investor.

Besides, expatriates employed in an enterprise may remit in convertible foreign currency salaries and other payments accruing from their employment in accordance with the foreign exchange regulation of the country.

d) Corporate tax (30 %)

Currently, corporate tax is set to be 30%. But, expenditure for training and research are tax deductible.

e) Protection

Ethiopia is a member of the World Bank, affiliated Multilateral Investment Guarantee Agency (MIGA) which guarantees against non- commercial risks.

The investment proclamation Article 21 on "Investment Guarantees and Protection" states as follows

- i.** No investment may be expropriated or nationalized except when required by the public interest and then, only in compliance with requirements of the law.

- ii. Adequate compensation, corresponding to the prevailing market values shall be paid without delay in case of expropriation or nationalization of an investment for public interest.
- iii. Any foreign investor may remit compensation paid to him out of Ethiopia in a convertible foreign currency.

The most important legal aspect to mention could be the government's continued commitment to fight corruption and ensure ethical practices in the country especially among the civil servants. Particularly with the establishment of the Federal Ethics and Anti-Corruption commission, the country has improved in terms of reducing the level of corruption in public offices. Although, the country is yet to achieve its national goal of building corruption free society, the government's commitment and the results achieved so far are encouraging. Interview result in this area shows that managers in the cement sector are positive about the legal and policy environment. Many respondents to the interview believe that investment is being encouraged in Ethiopia. The country's political stability, Support being given to the manufacturing industries like ban on import of cement, improved land leasing are some of the examples mentioned in this regard.

However, many mentioned the poor services at public offices and bureaucratic processes in some offices like Inland Revenue and Tax Authority. They also mentioned that the tax system especially tax on spare parts should be improved; as it is hindering cement manufacturers.

Government measures like the May 8, 2009 directive of the Ethiopian Electric Power Corporation (EEPCO) instructing the nation's two largest cement producers to close for a month due to severe shortages in power supply are also mentioned by managers as challenges. It is worth mentioning here that EEPCO's decision has resulted in rise of cement prices rose from levels of around Birr 275 to over Birr 360 per quintal, or a jump of 31 percent (Access Capital,2009).

4.3.2.3 Environmental protection issues

Cement plants are considered among the most environmentally unfriendly ventures across the world. The major environmental issues associated with the cement manufacturing are in fact, associated with the manufacture of clinker rather than with the subsequent inter

grinding of clinker and various additives to make cement. With clinker manufacture, the environmental issues concern particulate and gaseous emissions from the burning of large quantities of fuels and raw materials—chiefly limestone. By far the major environmental issue of concern today related to clinker manufacture is that of carbon dioxide (CO₂) emissions. Interest in calculating CO₂ emissions stems from the global warming debate and the role therein of anthropogenic greenhouse gases.

Hence, cement manufacturers are required to employ technologies that minimize some of the pollutants like Sulphur, Nitrogen and other gases. Similarly, to control dust emission, cement plants should use bag filter both in the cement and raw mill units. Dust emission norm in Europe is 50gm/Nm³ while it is 100gm/Nm³ in Egypt. In our case, for example Muhger's dust emission is about 150gm/Nm³.

In Ethiopia, so far there is no regulation and mandatory standards that can help safeguard the environment from pollution and guide investors in this regard. Of course it is generally regulated in Ethiopia that manufacturing enterprises shall be environmentally feasible and often approval of investment projects in the industry sector and consequential land acquisition as well as bank financing are based on environmental impact assessments that reveal the feasibility such projects in terms of environmental issues and clear plans for mitigating possible environmental impacts. However, the absence of clearly stipulated standards means that investors hardly understand what is required of them before making their investment decisions. Besides, consultants mostly use international standards, which might not fit in to our context. For example, small cement producers are unlikely to fulfil many of the internationally accepted mitigating measures for environmental impacts like high tech pollution control mechanisms.

Given the small number of cement plants in the country, pollution might not be a serious problem. However, given the growth of the manufacturing sector in the country and the overall economy, the government should stipulate clear standards and regulations to ensure safer environment.

4.3.2.4 Safety and health issues

Based on the globally recognized standards pertaining to safety and health, employees shall be provided with safety uniforms and helmets. Depending on the nature of

the job, they shall be provided with safety goggles, leg guards, gloves and other protective equipment. All the machines shall be earthed properly.

All emergency systems shall be in operation. There shall be an exclusive wing, which periodically checks the functioning of equipments. Level controllers, smoke detectors, co-detectors, flame detectors etc shall be regularly serviced.

There shall be a routine checkup of firefighting equipments such as fire fighting hydrants, fire extinguisher etc. An ambulance and fire engine shall be at the service around the clock.

Safety, health and welfare measures to be carried out to mitigate the hazards and prevent accidents during the operational phase of an undertaking shall be discussed in EIA reports.

In general the three polluting emissions of most concern to the cement industry are dust, sulphur dioxide and nitrogen oxides. There are currently no pollution standards for the cement industry in Ethiopia. Of the three emission concerns, dust is by far the most critical one and controlling dust emission benefits both the plant operator and the local environment. The current global industrial standard limits the level of dust emission to less than 50 mg/m³ and this can be achieved by using either Bag House or Electrostatic Precipitator of suitable design employed at each dust generating point.

Waste treatment shall also be provided to treat other industrial wastes, such as used oil and car lubricants and bay discharges. To prevent environmental degradation caused by mining, forestation plan shall be drawn and implemented.

In clinker-grinding units, precautionary occupational safety and health measures need to be taken against fugitive dust inhalation, dangerous machinery, and noise. Measures shall also be taken to promote the general health and well-being of employees. Employees who are exposed to dust need to be provided with dust mask, goggles to protect eyes, ear plugs for ears, shoes, gloves, helmets etc. Suitable uniforms shall also be provided depending on the nature of work. Employees who are exposed to heat need be provided with heat protective aprons. Employees, especially security personnel, need to be trained on how

to use fire-fighting equipment. All vulnerable places shall be provided with fire extinguishers and other related fireguards.

4.3.3 Socio-cultural considerations

In general, investments in cement manufacturing shall benefit the country in general and the locality where cement plants are erected through:

- ❖ Generating employment opportunity for the local people both during project phase and during the operational phase.
- ❖ Generating revenue for the government by way of value added tax and profit tax.
- ❖ Mitigating shortage of cement in the country and assisting the country's endeavor towards development.
- ❖ Generating foreign currency by exporting through export of cement to the neighboring countries,

Trends may occur within the social and/or cultural structure of a society. Examples in the past decade include the increase in working women, the health and fitness trend, and the growth in discretionary spending by youths. In Ethiopia, the higher proportion of young people, improved savings and generally the value that many people attach to owning own house, can be mentioned as major social factors related to the construction sector and hence to the cement industry. These trends can have a serious impact on entire industries, as well as individual companies. Hence a business must monitor these trends to make sure that its product will continue to meet the needs of the consumers it serves. New attributes may emerge and the importance of existing attributes may change as a result of changes in society. Similarly, as new businesses enter markets; expectations may be very different based on the social structure and societal expectations of the specific culture or cultures. Sources of information on these trends include newspapers and magazines, television and other mass communication media, and specific monitoring publications.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

From the discussion in the previous chapter, the following findings are drawn, which show the prospects and challenges for the cement sector in Ethiopia.

- The cement sector's potential for growth remains intact given the favourable government policies and strategies. The ever increasing government spending on infrastructure development and improvement as part of the GTP are expected to boost demand for cement. Government policies enacted to steer investment in the country such as duty free privilege, access to bank finance and tax holiday can also be mentioned as opportunities for investors who want to engage in the cement sector.
- With the exception of times when the government allowed import of cement to stabilize the market, the government of Ethiopia normally follows the policy of protecting local cement producers from foreign suppliers. This is among the major opportunities for growth of the sector.

Despite the above prospects and the commitment of the government, the cement sector in Ethiopia is being challenged by the following:

- As per interview with cement producers, the procedures at some government offices are lengthy and have poor coordination with functionally interrelated offices. Such bureaucratic and poorly linked procedures have adverse effects on big investors, especially foreign investors.
- Fluctuation in price of coal (as source of energy) is also a challenge for cement producers. Coal is imported input and its price is volatile as it is dependent on foreign exchange.
- Considering the ever increasing demand for cement, additional cement plants are joining the sector while existing plants are expanding their capacities. Hence, despite the current untapped demand for cement supply might catch up demand

in the future and as a result the degree of competition might increase, posing challenge for producers.

- Even if cement is logistic intensive business due to lack of rail way facility in the country the transportation of cement is handled by road transport.
- Despite government's commitment to enhance the country's power generation capacity; power shortage is expected to remain a challenge for the sector at least for the coming few years given the growth in the number of power intensive manufacturers including cement plants.
- Based on interview with cement producers , in addition to the problem of power shortage, cement producers in Ethiopia are highly dependence on electric power as a source of energy and hence are likely to be highly affected by power cuts and interruptions.
- The Ethiopian business environment in general is characterized by investors' limited access to bank finance due to frequent freezes in lending capacity of banks. Although the cement sector is among priority sectors that can get bank financing, the prevailing limited lending capacity of banks can hinder investments in the sector.
- Across the world, cement plants are among the high environment pollutants. Although there is no clear environmental regulation in the country and the number of cement plants is very low, it is likely that tougher regulations will be enacted to ensure safer environment, which might affect small cement producers.
- The fact that there is no clear regulation and mandatory standards for environmental protection, investors in cement sector are not clear about requirements pertaining to environmental protection.
- Setting up a distribution network and transportation of cement from the “producing areas” to the “consuming areas remain to be challenges for cement producers. Poor infrastructures in some parts of the country, absence of rail transport, which is preferred for being economical, are major areas of concern.

5.2 Conclusion

Cement is a critical component of the major materials used in the construction sector. The cement market in Ethiopia has been growing since the liberalization of the economy back in mid 1990s. This growth of the sector is attributable to the growth of the country's economy as a whole, which has become one of the fastest-growing economies in Africa and the ever expanding construction sector particularly government projects. Driven by the ever increasing demand for cement and the attention given to the sector by the government along with the expanding construction sector; the cement sector is continuously developing both in terms of investments in the sector as well as total production. The sector is attracting new players while existing plants are improving in terms of expanding their production capacity adopting new technologies.

Hence, the sector's potential for growth remains intact given the favourable government policies and strategies; huge demand driven by the expanding construction sectors especially the increasing government spending on infrastructure development; improving capacity utilization of cement plants and government's commitment to control corruption and ensuring effective civil service. However, the sector is not without challenges. Lengthy procedures in government offices, cement plants' dependence on electricity as source of energy; power shortage, increasing competition due to new entrants, infrastructural problems such as poor road networks and lack of rail way facility and investors' limited access to finance will challenge players in the sector.

Therefore, despite the opportunities and enabling factors foreseen to boost the cement sectors, the sector's future development and the success of players therein will be achieved by capitalizing on the opportunities while effectively mitigating the challenges. The study forwards some recommendations, which are mentioned in the following section.

5.3 Recommendations

In order to mitigate the problems/challenges identified in the previous section while capitalizing on the prospects the following are suggested.

- In order to reduce dependence on electric power and cope up with the rising cost of Furness oil energy, cement plants in Ethiopia should look for alternate power sources like coal. In connection with this, the government should encourage coal mining through investment incentives. The major concern in connection with coal mining could be the resulting pollution, which might not be a serious problem in the near future, given the small number of cement plants and the overall pollution level in the country. However, this might be a challenge for the nation in the long run given the growth of the manufacturing sector. Hence, both the government as well as cement producers should consider appropriate pollution control mechanisms.
- Cement producers, in addition to exploring alternate sources of energy, have to also strive to enhance their operational efficiency by employing modern manufacturing practice. Improving operational efficiency cuts energy costs, improves health and safety of workers and reduces greenhouse gas emissions.
- In order to enhance cement consumption the cement manufacturers has to introduce cement for Ethiopian transportation sector to use cement in road construction rather than asphalt. Asphalt, the basic input for the traditional road construction is imported from abroad, using locally produced cement for road construction saves foreign currency for the nation. In addition, given nature of cement, roads made of cement normally have more strength than the traditional asphalt roads. Besides, cement roads are ideal for a tropical weather like in Ethiopia, as they ensure cooler road surface and hence help control environmental warming.
- Most Ethiopian population; 85% of Ethiopian population, is living in rural areas with low cost houses. Hence cement manufacturers has to address this market by introducing cement made houses and distribute cement at a reasonable

price. Although cement made houses seem expensive from the outset, they are indeed cheaper and advantageous given their durability and the lesser need for maintenance that they provide for dwellers. As the income of Ethiopia's rural population is improving from time to time; the missing points remains lack of awareness among the rural community and hence cement producers can further boost demand through participating in awareness creation and educating the rural community.

- Transportation and persistent raw material pressures have been playing a heavy strain on the cement and construction industry. Hence investors have to establish railway facilities jointly with Government that can at least connect major raw material and cement manufacturing sites with major cities and roads. Cement producers should participate in such projects through cost sharing and collaboration with government as using railways for transportation will ultimately benefits them in terms of lower transportation costs.
- In order to mitigate the problem of limited access to finance; investors should arrange a mechanism to improve banks' lending facilities through collaboration with foreign banks.
- Since most cement factories sell their product at factory gate in the future it will be difficult to address the unattached market. Hence Cement producers should set up a distribution network in line with their objectives.

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VII. Appendix

**School of Graduate Studies
St. Marry University College**

Interview Questions

Dear respondents,

The purpose of this interview question is to enable me to carry out a research for the partial fulfilment of the requirement for Masters of Degree in Business Administration (MBA). The research focuses on cement market with the topic of “Opportunity and challenges of cement market in Ethiopia”. The interview is designed to collect information about the country’s cement market. The result of the study may have importance in suggesting possible solutions for better improvement of the cement Business. Therefore, your sincere cooperation in responding to the interview questions is important, and your responses to the interview would be kept in confidential and will only be used for academic purpose. Your cooperation and prompt response will be highly appreciated.

Thank you very much in advance!

NebiyuKrishina
(Graduating student)

1. Who are buyers of your product (cement)? Do you have market segmentation strategy?
2. What are your Market segmentation strategies?
3. Generally what are the problems that your company is facing?
 - 3.1 Problem with the company's internal environment?.
 - 3.2 Problems from areas (factors) external to your business?
4. What positive aspects (prospects) do think exist and will merge in the industry?
5. What challenges do you expect in the futures?
6. What aspects of government policies and regulation do you think are affecting or will affect your business (either positively or negatively)?
7. What aspects of the cement market do you think are affecting or will affect your business?