CHALLENGES AND SUSTAINABILITY OF PRIVATE RESIDENTIAL REAL ESTATE PROJECTS IN ADDIS ABABA

BY

SOLOMON BEDADA JIMA

A THESIS SUBMITTED TO
THE DEPARTMENT OF BUSINESS ADMINISTRATION FOR THE
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN
CONSTRUCTION MANAGEMENT

ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

OCTOBER, 2018 G.C
CHALLENGES AND SUSTAINABLITY OF PRIVATE RESIDENCIAL REAL ESTATE PROJECTS IN ADDIS ABABA

BY SOLOMON BEDADA

ADVISER: AFEWORK GETACHEW KASSA (PhD)

A THESIS SUBMITTED TO THE DEPARTMENT OF BUSINESS ADMINISTRATION FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN CONSTRUCTION MANAGEMENT

Addis Ababa Science And Technology University
October, 2018
Declaration

I hereby declare that the work which is being presented in this thesis entitled challenges and sustainability of private residential real estate projects in Addis Ababa is original work of my own, and that all sources of material used for the thesis have been duly acknowledged.

Solomon Bedada
(Candidate)

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge.

Afework Getachew (PhD)
(Advisor)
Advisor’ Approval sheet

As thesis research advisor, I hereby certify that I have read and evaluated this thesis prepared under my guidance by Solomon Bedada entitled “Challenges and sustainability of private residential real estate projects”. I recommend that it be submitted as fulfilling the thesis requirement

Afework Getachew (PhD)  
(Thesis Advisor)  
---
Signature, Date
Abstract

The study is set out to assess the sustainability and current challenges of private residential real estate development in Addis Ababa. The study used both quantitative and qualitative as well as document analysis methods to analyze the given data. Primary data are collected from the study area using both open ended and close ended questionnaires, and interviews. The findings of this research show that the land acquisition for private residential real estate is through auction and allotment. The sector is highly challenged by shortage of loan from financial institutions despite the fact that it is highly vulnerable to risk. The sector is also characterized by price escalation of construction materials which were the cause for cost overrun and time delay is caused by inflation, shortage of foreign exchange and high interest rate. Low level of technological advancement also affects the sector. In order to reduce the housing problem, the findings suggested that clearly focusing on economic, financial, technical and technological, regulatory, infrastructure, political and affordability challenges, and working to enhance, offering incentives for sustainability of the projects are recommended as a remedial action to the challenges the industry is facing.

Key Words

Challenges, Real estate projects, Private residential real estates, Sustainability of real estate projects
Acknowledgements

I am indebted to all who helped me in the successful completion of this thesis.

Foremost, I would like to express my deepest gratitude to my advisor Dr. Afework Getachew for the continuous support of my thesis, for his patience, motivation, enthusiasm, and immense knowledge. His guidance helped me in all the time of research and writing of this thesis.

Finally, I would like to thanks real estate developers at Addis Ababa who helped me in the case of interview and questionnaires answering. They were cheering me up encouraging me, giving me insightful comments and stood by me through the good times and bad.
# Table of Content

<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Declaration</td>
<td>ii</td>
</tr>
<tr>
<td>Certificates</td>
<td>iii</td>
</tr>
<tr>
<td>Abstract</td>
<td>iv</td>
</tr>
<tr>
<td>Acknowledgment</td>
<td>v</td>
</tr>
<tr>
<td>Key words</td>
<td>v</td>
</tr>
<tr>
<td>Table of contents</td>
<td>vi</td>
</tr>
<tr>
<td>List of tables</td>
<td>ix</td>
</tr>
<tr>
<td>List of figures</td>
<td>x</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>xi</td>
</tr>
<tr>
<td><strong>CHAPTER ONE</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td>1.1. Background of the study</td>
<td>1</td>
</tr>
<tr>
<td>1.2. Problem Statement</td>
<td>3</td>
</tr>
<tr>
<td>1.3. Research Questions</td>
<td>4</td>
</tr>
<tr>
<td>1.4. Objectives</td>
<td>4</td>
</tr>
<tr>
<td>1.5. Significance</td>
<td>5</td>
</tr>
<tr>
<td>1.6. Scope</td>
<td>5</td>
</tr>
<tr>
<td>1.7. Limitation</td>
<td>6</td>
</tr>
<tr>
<td>1.8. Organization of the study</td>
<td>6</td>
</tr>
<tr>
<td><strong>CHAPTER TWO</strong></td>
<td>7</td>
</tr>
<tr>
<td><strong>LITERATURE REVIEW</strong></td>
<td>7</td>
</tr>
<tr>
<td>2.1. Defining of real estate</td>
<td>7</td>
</tr>
<tr>
<td>2.2. Basic types of real estate</td>
<td>8</td>
</tr>
<tr>
<td>2.3. Characteristics of real estate Market</td>
<td>9</td>
</tr>
<tr>
<td>2.4. Determinants of Returns of Residential Real Estate</td>
<td>11</td>
</tr>
<tr>
<td>2.5. Real Estate Development</td>
<td>13</td>
</tr>
<tr>
<td>2.6. The Real Estate Development Process</td>
<td>14</td>
</tr>
</tbody>
</table>
2.7. The Real Estate Cycle .................................................................15
2.8. Ethiopian Law on Real Estate Development ............................17
2.9. Challenges Facing Today’s Construction Manager .....................19
2.10. Challenges of Real Estate Construction Project ......................20
2.11. The unique challenges of real estate ....................................21
2.12. Supply of Land for Real Estate ..............................................22
2.13. Sustainability of the projects ...............................................26
2.14. Parties Involved in Real Estate Sector .................................27
2.15. Empirical study .................................................................29
2.16. Conceptual framework .......................................................32

CHAPTER THREE .................................................................34
METHODOLOGY .......................................................................34
3.1. Research Approach ...............................................................34
3.2. Research Design .................................................................34
3.3. Data types and source ..........................................................34
3.4. Sample Size ........................................................................35
3.5. Methods of Data Collection ..................................................35
3.6. Methods of Data Analysis .....................................................36
3.7. Variables Used .....................................................................37
3.8. Ethical Consideration ..........................................................37
3.9. Validity and Reliability ........................................................37

CHAPTER FOUR .......................................................................39
DATA ANALYSIS AND DISCUSSION ...........................................39
4.1. Respondent Composition ......................................................39
4.2. General Profile of Sampled Projects .......................................39
4.3. Economic Challenges ..........................................................40
4.4. Financial Challenges ............................................................43
4.5. Technological challenges ......................................................46
4.6. Regulatory Challenges ........................................................47
4.7. Sustainability Challenges .....................................................50
4.8. Correlation Analysis ............................................................53
List of Tables

2.1. Number and Size of Plots Allotted for Real Estate ........................................24
2.2. Summary of empirical Review .....................................................................31
3.1. Cronbach’s Alpha for each variable ............................................................38
4.1. General Profile of Sampled Projects ............................................................39
4.2. Economic challenges of real estates ............................................................41
4.3. Inflation rate ...............................................................................................42
4.4. Financial challenges ..................................................................................44
4.5. Technological Challenges .........................................................................46
4.6. Regulatory Challenges .............................................................................48
4.7. Sustainability of projects ..........................................................................51
4.8. Correlation summary analysis ...................................................................53
4.9. Model Summary of multiple regressions .................................................54
4.10. ANOVA Summary of multiple regressions ..............................................55
4.11. Multiple regression analysis result and test of Hypothesis .....................55
4.12. Affordability of Private Residential Real Estate Houses .......................60
List of figures

2.1. The real estate cycle ................................................................. 16
2.2. Challenges of construction managers........................................ 19
2.3. Number of plots allotted for real estate from 1995-2006 .................. 25
2.4. The three-pillar approach to Sustainability .................................. 27
2.5. Parties Involved in Real Estate Sector ....................................... 28
2.6. Conceptual framework of the study .......................................... 33
4.1. Housing Supply Pyramid ......................................................... 58
### Acronyms /Abbreviation/

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARS</td>
<td>Access Real Estate</td>
</tr>
<tr>
<td>CBE</td>
<td>Commercial Bank of Ethiopia</td>
</tr>
<tr>
<td>CM</td>
<td>Construction manager</td>
</tr>
<tr>
<td>CPO</td>
<td>Cash Payment Order</td>
</tr>
<tr>
<td>CSA</td>
<td>Central statistical Agency</td>
</tr>
<tr>
<td>EC</td>
<td>Ethiopian calendar</td>
</tr>
<tr>
<td>ETB</td>
<td>Ethiopian Birr</td>
</tr>
<tr>
<td>FDRE</td>
<td>Federal Democratic Republic of Ethiopia</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>NBE</td>
<td>National Bank of Ethiopia</td>
</tr>
<tr>
<td>RQ</td>
<td>Research Questions</td>
</tr>
<tr>
<td>USA</td>
<td>United State of America</td>
</tr>
<tr>
<td>USD</td>
<td>United state Dollar</td>
</tr>
</tbody>
</table>
CHAPTER ONE
INTRODUCTION

1.1. Background of the Study

Construction and development of real estate in Addis Ababa is flourishing on the back of infrastructure expenditure on road network improvements. High-rise, mixed-use buildings across the city have been delivered along main arterial routes primarily on small parcels of land usually owned by one individual. All land is owned by the government with the use of urban land granted via 99-year leases. Leases or tenancy agreements are normally signed for the duration of one year with bi-annual rental payments made while parking and service charges are typically paid annually by the tenant. Tenancy agreements don’t carry rental escalations and are renewed at the same or a renegotiated rate (JLL, 2016).

The rapidly changing real estate landscape in Addis Ababa is one of the more visible aspects of the extended period of growth recently experienced in Ethiopia. From large residential developments sprouting at the city outskirts to rising new office complexes and government-built condominiums being constructed in center city locations, there is no shortage of new facilities to demonstrate change in this area. Of course, despite all this new construction activity, Addis Ababa—like most developing country capitals—retains large swaths of informal and slum-like settlements scattered across the city. Still, over the past decade, the sub-set of city dwellers that are now part of the formal real estate market has expanded from a small base and is likely to do so for the foreseeable future (Access Capital, 2010).

Real estate is one of the classifications of housing development which are participating to solve the severe housing problem in Addis Ababa. Income property includes residential and commercial properties that are leased out and expected to provide returns primarily from periodic rental income. Residential properties include single family properties (houses, condominiums, cooperatives and townhouses) and multifamily properties
(apartment complexes and buildings). Commercial properties include office buildings, shopping centers, warehouses and factories (Selam Yohannes, 2016).

The real estate sector has been one of the fastest growing segments of the Ethiopian economy. Indeed, our review of GDP statistics shows that had it not been for the expansion of this sector and the closely affiliated construction sector, Ethiopia would not have registered double-digit economic growth in the past five years (Access Capital, 2010).

Real estate in Ethiopia is one of the most profitable, high in demand sectors. The sector majorly resides in Addis Ababa, one of the top fastest growing cities in Africa, which makes the city the right destination for real estate companies in Ethiopia to invest in to build luxury homes. Real estate sector has been one of the fastest growing sectors of the Ethiopian economy and its contributing a large sum to the nations GDP. Metropolitan Real Estate is proud to be part of this growth story which is contributing to the nation’s economic development. The sector has gone through several phases from its emergence in 1990’s to where it has gotten now. The primary destination of the real estate industry in Ethiopia, of course, is Addis Ababa. The fuel for real estate in Addis Ababa has been and will always be the enormous housing demand which seems to be ever growing (Zerayehu, (2015) et al……).

The real estate sector can play a pivotal role in the success and future growth of the city, but that will require the country’s policies to be more accommodating for foreign real estate investment and ownership, embracing transparent real estate practices of performance measurement and benchmarking, regulatory oversight and a comprehensive deeds registry system. The non-availability of mortgage financing, as well as rigid foreign exchange controls, will inhibit Addis Ababa’s chances of being a competitive real estate player in East Africa in the short to medium term (JLL, 2016).

There is a substantial imbalance between the demand for and supply of housing units in Addis Ababa. Accumulated demand for residential housing on the one hand and the low supply of residential land on the other have pushed prices beyond the reach of the
majority of the residents in the country including Addis Ababa. Overcoming the housing problem, hence, requires efforts in three main areas: housing demand; housing supply; and institutional framework. Improving the conditions in these areas, in turn, requires the combined efforts of the government of Ethiopia, regional administrations and donor agencies taking the view that overall development of the economy is crucial for the housing development in Ethiopia. This study stands to identify the major challenges that the industry is facing and tries to recommend the remedial actions to be taken. This industry is not alleviating the real demand of housing that the city is encountered, because it is affordable only for high income groups of society, despite there is increasing of the housing stock of the city.

1.2. Statement of the Problem

Housing is one of the major problems prevailing in Addis Ababa and other cities & towns across the country. The shortage of housing in cities is very serious that it is estimated to reach over one million. Even though there is a development recently in supply by both the government and private real estate companies, there is still huge gap between housing need of Addis Ababa residents and the supply. In many areas, prices doubled and even tripled in a span of a few years, and the concern to the households is lack of adequate affordable housing. With the backlog of housing need, and inadequate existing supply for housing (aggravated by the long construction periods); prices are currently seriously unaffordable by almost all households in Addis Ababa. And the market’s future with similar trend may be difficult to prosper (Kiros Aqubamicheal, 2009)

Typically, most developing countries are experiencing rapid urbanization, coupled with absence of critical infrastructure, lack of enabling rules and regulations, skills, knowledge and capacity for large scale change. In such ways, the issue of sustainability in construction industry is under questions. Available infrastructure to this very infant sector (or market) including its financing is poor. Thus, the major objective of this study is to describe those problems and derive logical inferences.
Different factors constrained the operations of the sector. These are slow and insufficient supply of land, currently the shortage and increased prices of housing construction materials, inflation and the global economic crises, less affordability of housing prices in the market and nonexistent of long term housing finance (Kiros Aqubamicheal, 2009).

Delays in the original timetable due to lack of available accessible land, finances obtained from clients for housing projects being used for other purposes and the shortage of experienced and organized professional teams to handle such huge investments, have been stated to be the major challenges for the sector from registering good performance, argue experts and some major real estate developers (Selam Yohannes, 2016).

This research, therefore, attempts to examine the difficulties, challenges, problems of a private residential real estate industry is facing today in Addis Ababa and recommending alternative remedies to minimize or avoid them and enhance sustainability of the projects.

1.3. Research Questions
The following research questions (RQ) have been formulated in order to propose a solution to the challenge and sustainability of private residential real estate project in Addis Ababa.

The following are sub-set of questions:
1. What are the challenges of private residential real estate projects in Addis Ababa?
2. What are the effects of different challenges on sustainability of real estate projects?

1.4. Objectives
1.4.1. Genera Objectives
The aim of this research is to identify and analyze challenges and sustainability of private residential real estate projects in Addis Ababa.
1.4.2. Specific Objectives

To achieve this aim, the following specific objectives will pursued:

1. To identify the challenges of private residential real estate projects in Addis Ababa
2. To analyzes the effects of different challenges on sustainability of real estate projects.

1.5. Significance

The study is expected to give new insight on the challenges of private residential real estate projects and setting the strategic plan to overcome these problems.

This study has the following advantage:

1. Give some clue about the problem and challenges of private residential real estate Projects.
2. Have importance to responsible (concerned) bodies to adjust their strategy for the future.

One of the major advantages of this study is that it incorporates the most recent data and employs both qualitative analysis and quantitative study to analyze the stated challenges. Besides, I believe that the study will provoke and pave a way for further study in the area as it reveals the difficulty in resolving the empirical question of the problem and challenges of real estate projects.

1.6. Scope

The research is focused only on private residential real estate construction project challenges and sustainability. The key elements addressed are real estate developers. Since real estate activity covers much of the world and divers in idea and operation the scope of this study is limited to Addis Ababa with special emphasis on the questions stated as such and spatial scope of the study is limited within the jurisdiction (boundary) of Addis Ababa.
1.7. Limitation

The major limitation of this study is expected to be data shortage. There is an information gap since most of the data needed to carry out this research was not documented properly. However extensive literature search related to the topic which also includes theoretical foundation, others works on the topic, works on related topics and real world application of the topic is explored in order to build a general insight about the topic under study.

1.8. Organization of the study

This study is in five chapters with chapter one of the thesis giving an introduction into the study, problem statement, research question, research objectives, significance, scope and limitation of the study. The second chapter is concerned with review of related theoretical and empirical literatures. Chapter three is based on the most suitable research methodology for this thesis. Chapter four presents data analysis and discussions and chapter five finally presents a summary of finding, conclusion, and recommendations.
CHAPTER TWO
LITERATURE REVIEW

2.1. Definition of Real Estate

Modern definitions focus on the fact that a real estate refers to the land and fixtures together, as distinguished from real property, referring to ownership rights of the land itself. A contemporary definition of real estate is provided by investors: Real estate is a term that encompasses land along with anything permanently affixed to the land, such as buildings, specifically property that is stationary or fixed in location.

Residential real estate refers to capital investments in the development of land and housing for purposes of occupancy by households. Real estate investments offer two forms of return; capital gain and rental income. Capital gain is realized from appreciation of the asset value, in this case, value of the land or housing units built on the land. Rental income is represented by cash inflows from the users of the real estate (Yang and Ye, 2010).

According to Geissler (2008) the term is artificially delineated space referenced to a fixed point on the surface of the earth with a fourth dimension of time. It is built to house an economic activity that is subject to cultural preferences and restricted by the public infrastructure.

Real estate includes entities such as residential homes, raw land, and a variety of forms of income property, including warehouses, office and apartment buildings, and condominiums.

Considering the similarity, all the authors define real estate as land that is identifiable and tangible. They further included all fixtures, improvements and buildings that are permanent to the land are to be considered as real estate.
2.2. Basic Types of Real Estate

Mainly there are two types of Real estate operations which also include many segments under each. The different dimensions of real estate segmentation in relation to the real estate market are discussed in next part. The basic types are indicated below:

- **Residential**
  - Multi-Family,
  - Single-Family

- **Commercial**
  - Land (All Types)
  - Retail
  - Agricultural / Industrial
  - Office
  - Special Purpose

Gitman and Joehnk, (2007) cited in Aamrote (2008), properties are divided into two income property and speculative property. Income property includes residential and commercial properties that are leased out and expected to provide returns primarily from periodic rental income. Residential properties include single family properties (houses, condominiums, cooperatives, and townhouses) and multifamily properties (apartment complexes and buildings). Commercial properties include office buildings, shopping centers, warehouses, and factories.

Speculative property typically includes raw land and investment properties that are expected to provide returns primarily from appreciation in value due to location, scarcity, and so forth, rather than from periodic rental income. Income properties are subject to a number of sources of risk and return. Losses can result from tenant carelessness, excessive supply of competing rental units, or poor management. On the profit side, however, income properties can provide increasing rental incomes, appreciation in the value of the property, and possibly even some shelter from taxes.

Speculative properties, as the name implies, give their owners a chance to reap significant financial rewards but carry also the risk of heavy loss. For instance, rumors may start that
a new multimillion-dollar plant is going to be built on the edge of town. Land buyers would jump into the market, and prices soon would be bid up. The right buy–sell timing could yield returns of several hundred percent or more. But people who bought into the market late or those who failed to sell before the market turned might lose the major part of their investment. Before investing in real estate, you should determine the risks that various types of properties present and then decide which risks you will accept and can afford.

Tomlinson (2007) stated that the underdevelopment of the real estate market, and hence the absence of “real” market prices makes it difficult to determine the value of a mortgage. In other words, it is difficult to assume that the mortgaged object will be sold at a price that equals at least the outstanding debt. It is also difficult, in most of the cases, to find documentation on income (salary statements, financial statements, etc.). Even if it is possible, the information obtained will be manipulated for reasons of tax evasion or other reasons.

Credit risk is another risk that is linked to housing finance. This arises as a result of the high magnitude of the housing loans in comparison to the income of the borrower, and the less developed regulatory and legal frameworks for mortgage loans recovery. The argument is that banks, in case of default, will be in a difficult position to easily convert mortgaged property into liquid funds without entering into a lengthy and costly legal procedure (www.unchs.org). The narrow real estate market is another problem for loan recovery making it difficult to dispose of defaulters’ assets.

2.3. Characteristics of Real estate Market

The real estate market is the interconnected system of the market mechanisms providing creation, transfer, management and financing of real property. The real estate market represents set of regional and local markets which are significantly distinct from each other on price and risk levels, efficiency of real estate investments and etc.

Creation and development of real property is a complex process which is called development.
Property development is:
A special type of entrepreneurial activity with the purpose of acquisition of income as a result of transformations of material processes; Transformation (process) of real property as a result of construction (repair) and another work with buildings, facilities or land, or their transformation into another new real property (change of functional specifications) with higher cost than initial one.

The price of a construction project can strongly change over time; one of the main reasons is a speculative nature of real estate market. The real estate market can accumulate large amounts of money over a relatively short period of time, thereby breaking balance between the flow of goods and money.

If to speak about real property value for its potential consumer, in most cases during its development it will increase, though it is necessary not to rule out the possibility of changing needs of the market participants, therefore new real property value can decrease in comparison with the previous one. The cost of a construction project also depends on the cyclical phase of real estate market. In this regard it is necessary to pay special attention to decision-making on development and choice of the specific capital investment project.

The choice of the capital investment project is influenced by physical opportunity, legal permissibility, financial viability and availability, and economic efficiency. Financial viability and economic efficiency is the purpose of the majority of projects. The preliminary analysis of the market and its cycle phases in perspective is of particular importance for successful development.

As a whole, the characteristics of real estate market are mainly defined by:

- imbalance of supply and demand (supply of commodities on real estate market cannot quickly respond to change in demand);
- cyclical nature of real estate market;
- high degree of state regulation;
- increase in real property value with the course of time;
✓ low liquidity;
✓ limited number of sellers and buyers;
✓ low level of researches;
✓ High level of transaction expenses.

2.4. Determinants of Returns of Residential Real Estate

- Location

According to hedonic pricing, valuation of housing units is determined based on the mix of attributes of the house. Location is one of the attributes used in determination of value and therefore it is a key determinant of return of residential development. Location of a development refers to both physical location (postal code) as well as the neighborhood location, which is determined by the social class of residents within the location, occupation and income levels and their educational attainment (Duffy, 2001).

- Infrastructure

The infrastructure in the development locations impacts on returns. Infrastructure includes the road network, availability of power connection, access to water, and drainage and sewerage systems. Infrastructure opens up areas making them accessible and able to support settlement. Residential property values rise significantly with the development of good infrastructure. In Nairobi county, the county government determines zonal ordinates for different zones and sub-counties. The zonal ordinates determine the Ground coverage and Plot ratios of residential developments within these zones. This is based on the drainage and sewerage infrastructure as well as road reserves within these sub-counties available to support population. This therefore determines the number of housing units allowable in a development within an area hence affects the returns possible.

- Interest Rates

Interest rates also have a major impact on the real estate markets. Changes in interest rates can greatly influence a person's ability to purchase a residential property. This is because mortgages impact on the prices of residential property; a change in interest rates therefore impacts property prices. Interest rates thereby influence demand for housing.
Low interest rates will result in increased uptake of mortgages, thereby increasing demand for housing; increased demand results into higher returns.

Interest rates also affect capital flows. Increase in interest rates increases the cost of funds. Competing investments make capital availability tight as banks and investors consider their required rate of return on investment. This competition for capital reduces the flow of capital hence impacts on capital available to developers. This affects supply of housing and in turns affects returns.

- **Legislation**

  Legislation is a factor that can have a sizable impact on property demand and prices. Tax credits, deductions and subsidies are some of the ways the government can temporarily boost demand for real estate. For example, in 2008, the U.S. government introduced a first time homebuyers’ tax credit to homeowners in an attempt to jump-start home sales in a sluggish economy. According to the National Association of Realtors (NAR), this tax incentive alone led to 900,000 homebuyers to buy homes. This was quite a sizable increase in demand for housing in the United States after the sub-prime global financial crisis (NAR, 2009).

- **Cost of Construction and Sale**

  Cost of construction affects the levels of return possible out of real estate projects. The higher the cost of construction, the smaller the margins of profit available for the developers. Change in cost of building materials and other related production factors greatly impacts on the levels of returns made by real estate developers. According to the Kenya National Housing Report 2013/2014 released on March 15th 2015, it is estimated that building materials account for approximately 40 per cent of the construction costs. The reports states that between 2007 and 2009, costs of building materials had increased by as much as 40 per cent resulting in increased cost of housing development. This increased cost of construction impacts on return of real estate.

  Developers engage selling agents to sell their developments to buyers. According to Marete (2011) real estate agents played a role in the determination of real estate prices.
Selling agents’ commissions are passed on to the potential buyers. This has the impact on increasing real estate prices which affect demand and in-turn impact returns. Additionally marketing costs such as advertising and other sale related expenses increases the total cost of development. This has the effect of increasing the sale price in order to meet investors required return. This ultimately impacts on demand for the same units affecting return (Odhiambo Joshua, 2016).

2.5. Real Estate Development

The history of real estate dates back to the evolution of man and his first sedentary shelters. Perhaps it can be called the first attempt to create an enclosed space, which is detached from the surrounding, apparently to protect his family from coldness and attacking animals (Graaskamp, 1981). Shelter formation enhanced the livelihood of men in terms of protection and gave him longer stability to regularize the surrounding creatively.

The term real estate can be defined as, the private ownership of a limited parcel of land, which includes the right of the air above it and the ground below it, and any buildings or structures attached to the ground (Miles, 2007). Real estate can exist in the form of business and/or residential properties, which can be sold or either by a relator or directly by the individual who owns the property. Ownership of land is considered as a real property that has sale or transfer right granted by law (Miles et al, 2007). Yet, the principle of sale or transfer follows the land policy regulated by the government of a specific country.

Graaskamp (1981) also defined real estate as; “space delineated by man, relative to a fixed geography, intended to contain an activity for a specific period of time. To the three dimensions of space (length, width and height), then, real estate has a fourth dimension – time for possession and benefit. This is referred to as space-time characteristic.”
2.6. The Real Estate Development Process

The real estate development process is a very complex process that houses many different activities within itself. Unlike many mass production industries, each real estate project is unique and the development process is so much a creature of the political process that society has a new opportunity with each major project to negotiate debate and reconsider the basic issues of an enterprise economy, i.e. who pays, who benefits, who risks, and who has standing to participate in the decision process. Thus, the development process remains a high silhouette topic for an articulate and sophisticated society. The best risk management device for the producer group, which is usually the lead group in the initiation of a project, is through research so that the development product fits as closely as possible the needs of the tenant or the purchaser, the values of the politically active collective consumers, and the land use ethic of the society (Mayo, 1994).

The real estate development process is such a complicated and diverse process, that a number of models are devised to explain and understand it. Some of these models are:

a. Equilibrium models: assert that the real estate development process is structured by the effective demand.

b. Event sequence models: focus on the management aspect of the real estate development process.

c. Agency models: analyze the agents that are involved in the real estate industry and the roles they play in the industry.

d. Structure models: try to identify the forces that shape and structure the real estate industry and their relationships.

Put in a sequential series of steps, the real estate development process generally progresses in the following manner.

1. Inception of an idea
2. Refinement of the idea
3. Feasibility
4. Contract negotiation
5. Formal Commitment
6. Construction
7. Completion and formal opening
8. Asset and property management

The real estate development process involves:
1. Property development
2. Development site appraisal
3. Development valuation
4. Property development financing
5. Marketing for development

These processes themselves are so broad and sophisticated further classifications and descriptions will be given in order to have an adequate grasp of the ideas and challenges they present (Minyahil Shelemew, 2016).

2.7. The Real Estate Cycle

Although comparatively few studies have been made of the real estate cycle, it is generally agreed that building activity follows to a degree the business cycle in a wavelike movement. It is further indicated by Unger and Karvel, 1979 (cited in Amrote, 2008, p19) that the volume of real estate activity does not necessarily advance with the increases in general business, and declines in real estate activity generally precede general business declines. It appears that the troughs and peaks of the real estate cycle go deeper and higher than those of the business cycle.

As indicated below, real estate investments react to economic cycles just like all other investments.
The major points in the cycle—falling and rising prices, for example—are characteristics of supply and demand. The tendency dictated by this basic economic idea that prices rise and fall according to levels of supply and demand is the guiding force in selecting investments, timing purchases and sales, and selecting one investment over another.

The events and conditions influencing real estate value are referred to as the real estate cycle. The stages vary in length of time and rapidity of changes in market conditions. There are however, six distinct can be identified in the course of the real estate cycle. These points are summarized in Figure 2 above and the points are: 1. Demand begins to rise 2. Construction activity increases 3. Demand slows 4. Supply exceeds demand 5. Construction activity decreases 6. Demand bottoms out.

In practice however, the actual cycle for a specific region will be affected by many complex, social, political and even historical factors. But for now the focus is on a straightforward comparison between supply and demand. In a sense, real estate is different from most consumer goods that are produced. This uniqueness results from the fact that the supply of real estate cannot be as rapidly adjusted to demand as can other consumer products. This is because of the length of time that it takes to produce a dwelling unit.
A good market can exist only when competition is able to operate. For an efficient market to operate there must be neither a seller's market nor a buyer's market, and both buyers and sellers must have knowledge of the product and prices prevailing in the market. More important, perhaps, for competitive forces to operate effectively, the product must be standardized and relatively nonperishable. Real estate is not standardized; it is differentiated by location within a housing market, as well as by size, condition, mechanical equipment, price, and workmanship. Furthermore, buyers and sellers often have incomplete knowledge of the market. Thus, the real estate market operates inefficiently as compared with the stock market or market for "personal" goods.

2.8. Ethiopian Law on Real Estate Development

Ethiopia had no clear urban land and housing policies before July 1975. However, to some extent there were land use provisions during the reign of Emperor Haile Selassie. Feudal lords, aristocrats, high government officials and capitalists owned urban land. During this period, only that class of people who could produce as security their ownership title of urban land or house benefited from the facilities provided by banks and insurance companies.

The underestimate of the importance of housing for national economic and social development seems to be one of the most relevant deficiencies in housing policies implemented so far. Besides, the efforts made by the consecutive Ethiopian governments in the field of housing showed a general tendency to underestimate the complexity of the housing problem, viewing it mainly as a problem of shortage of resources. In doing that, inadequate attention has also been paid to the role people played in the housing process (Bisrat Kifle, 2008).

Real estate in broad terms has a meaning of land and everything made permanently a particle thereof and the nature and extent of one’s interest therein. (Ethiopian Bankers association, March 2008). The report indicates that there must be land ownership in order to have exact meaning of real estate. Article 40(3) of the constitution of the federal
democratic republic of Ethiopia (FDRE) provides that land, either urban or rural, shall not be subjected to sale or other means of exchange. This in turn has a constitutional prohibition for private ownership of land, which automatically works against the establishment of real estate.

Large scale private housing construction by real estate developers and private rental of housing were prohibited in the previous regime, hence making private real estate development a new phenomenon in the current Ethiopian setting. Private investment above birr 250,000 was legally prohibited by policy guidelines during the Derg. Even the introduction of mixed economic policy later did not bring about significant changes in this category of investment, for policy guidelines and incentive frame works favored government investment programs.

It was after 1992 that studies were made in this category of investment. Following the lifting of capital ceilings, the broadening of investment areas open to private sector participation long with equal access to credit and establishment of the Ethiopian investment Authority and investment bureaus, a number of investment certificates on real estate have been issued (Biruk Tesfaneh, 2012).

Investors in real estate, renting and business activities have been steadily increasing since the early nineties. The number of certificates issued for real estate development was about 33 in 1987 EC. This steadily grew to 121 in 1993 and jumped to 1,734 in 1994 E.C. The highest recorded figure for real estate development was in 1998 E.C when 2,328 projects were licensed. This is clear manifestation of how much the demand for real estate development, renting and business activities has been increasing over the years. The total housing need encompasses housing required for accommodating newly formed families, replacing dilapidated houses, easing overcrowding and housing need associated with the desire to accommodate homeless households (Selam Yohannes, 2016).
2.9. Challenges Facing Today’s Construction Manager

There are numerous challenges facing today’s construction manager. Some are new to the industry, and some are centuries old. Many of these challenges are a direct result of construction operations, while others a result of indirect, peripheral activities. A surprising number of challenges are not construction issues but must be addressed and managed by the construction manager (CM) to ensure project success. Some of the construction issues include workforce considerations, safety, time constraints, and the changing nature of the work. Non-construction challenges that CMs face that are part of the business landscape include legal issues, government regulations, environmental concerns, and socio-political pressures. It is critical that the CM understands the demanding realities that he or she faces in the planning and control of construction operations. (Bob Muir, PE Fall, 2005)

Figure 2.2. challenges of construction managers
2.10. Challenges of Real Estate Construction Project

1. **Supply and Price of Land**: Land in Ethiopia is under current laws the property of the state and can generally be acquired only on the basis of lease. In many residential neighborhoods, there are 'free-hold' plots owned by private individuals outside of the lease system, but even for these plots of land the owners technically only own the buildings on the land and not the land itself (which remains state property). The prevailing land lease system practiced now for over a decade has allowed for many new real estate developments but has also been associated with various problems including: a high land lease price that is often beyond the reach of many potential buyers; the provision of large plots to developers who fail to commence or deliver promised projects on time; the allocation of the same plots of land repeatedly to different persons; the provision of land in remote areas where there is inadequate infrastructure development, and; administrative and bureaucratic delays in the actual release of already assigned land. Though there is a promising prospect of soon-to-be coming changes in the system of assigning and allocating leased land, this remains to be tested and seen in practice in the coming years.

2. **Availability and Cost of Construction Materials**: The fact that the construction and related material production sectors are not well developed in the Ethiopia has created severe shortages of some key construction sector inputs in recent years. These, in turn, have raised the costs of building construction substantially: up by 125 percent since the mid-2000s according to CSA price data on —House Rent, Construction Materials, Water, Fuel & Power,— and by even higher amounts (300 percent) for certain critical items such as cement. These challenges will persist until local production capacity in these critical areas is significantly expanded (as is occurring for items such as cement and steel) and/or until government quantitative import restrictions on commodities such as cement are removed.

3. **Infrastructure and Services**: The provision of supporting infrastructure is a key component to the expansion of the real estate sector. However, the lack of
provision of basic infrastructure and services has impeded progress in certain neighborhoods and held back the plans of developers who had acquired leased land. Problems are also aggravated by the lack of advanced planning and coordination between the city/sub-city administration and infrastructure providers (e.g. electricity/water suppliers), generating unnecessary costs and delays in the real estate sector.

4. **Finance Availability**: Lack of finance, particularly long-term finance, is a widespread constraint facing private business in Ethiopia and the real estate sector is no exception. The consequences of inadequate finance may be particularly more pronounced in the real estate sector, however, given the effects on both sellers (who find it difficult to start and complete their developments without adequate funding) and on buyers (who are often unable to secure sufficiently affordable mortgages). In the current financial environment, both project finance (for developers) and long-term mortgages (for buyers) remain scarce, implying that most real estate developers tend to self-finance a majority of their new constructions while most home buyers tend to pay in full for the purchase of their homes or apartments. Unless the financial system can, over time, provide such long-term financing to both sellers and prospective buyers, affordability will remain difficult and the underdevelopment of the financial system will continue to act as a drag on what could otherwise be much faster and broader growth in the real estate sector (Access Capital, 2010).

2.11. The unique challenges of real estate

All industries face disruptive forces. The unique dynamics of real estate make the challenge of disruption particularly steep. The planning, delivery and management of real property requires a long-term vision, which is difficult to establish in a rapidly changing world. The real estate sector is now in a position that will require its leaders to better anticipate the future state and consciously adopt new ideas, with success depending on the ability to proactively shape and drive future demand. With all of these changes, players in the real estate space clearly need to think differently, assessing both the weak
and strong signals in the market that spell change, as well as making bets on future opportunities. As the world continues to evolve — driven by the waves and intersections of technology, demographics and globalization — business as usual is not an option (EY Real estate disruption).

2.12. Supply of Land for Real Estate
Real estate is generally defined as “land and anything permanently affixed to the land”. In common usage the term often relates to urban real estate and excludes agricultural land. Real estate activities belong to the service sector and are distinct from construction activities. The sector consists of five distinct activities, namely development, dealing, letting, brokerage, and administration. These real estate activities may further be broken down into three categories having sub-categories of their own as follows:
   - Real estate activities with own property, including the development and selling of real estate as well as buying and selling of own real estate;
   - Letting of own property;
   - Real estate activities on a fee or on a contract basis, sub-categorized into real estate agencies and the management of real estate on a fee or on a contract basis.

The real estate sector has a fundamental significance to both businesses and individuals. To the former, real estate constitutes one of the basic conditions for running a business while in the case of the latter it constitutes an important social policy consideration as it relates to the provision of the basic need of housing.

A dynamic real estate sector boosts demand for goods and services from a range of sectors, including building materials and construction industries. As a key component in the national economy, the real estate sector comprises in several distinct businesses, each of which may be considered as an industry of its own right and each having a distinct economic logic as well as fundamental attractiveness. Understanding how attractive each of the range of industries that may be identified could be and how they are likely to change over time, hence, becomes a primary concern. A further basic question in real
estate development strategy relates to positioning the real estate company to be a superior performer.

In the Ethiopian context, three distinct periods may be identified when examining the performance of the real estate sector in Ethiopia over the past several decades. The first is the “imperial” period where land and real estate were predominantly in private domain. In the second period, popularly known as the ‘Derg’ era, all rural and urban land as well as extra houses were nationalized dealing a deadly blow to whatever there was of private initiative in real estate development. The current period, while essentially maintaining state monopoly over ownership of land, renders real estate development open to private initiative.

The first period saw the emergence in the early 1960s of the first high rise real estate buildings Gebre Wold Building, for instance) in a sub-market which otherwise was dominated by single family residential houses built by individual landlords. This was to be followed by an increasing number of mixed retail, residential and office buildings along the main thoroughfares of Addis Ababa built and owned by institutional investors, mainly banks and insurance companies. Having usurped the ownership of urban land and extra houses, the second period oversaw the emergence of state monopoly and a run down in private real estate development.

The current period, while still maintaining the administration of rental houses and buildings inherited from the previous period and the state monopoly over the ownership of both rural and urban land, permits private initiative in real estate development through a system of lease arrangements for land. Under this system, land acquired through public auction or private treaty/negotiation belongs to the private owner for a specified period, depending on the type of activity envisaged.

Following the introduction of the market economy by the current government strides were made in this new category of investment. With the abolition of capital ceilings, broadening of investment areas allowed to the private sector participation along with
equal access to credit and the establishment of Investment Authority (and Investment Bureaus) a number of investment certificates for real estate have been issued (Sida 2009).

Table 2.1. Number and Size of Plots Allotted for Real Estate

<table>
<thead>
<tr>
<th>Year</th>
<th>No plots</th>
<th>Area in hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1996</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1997</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1998</td>
<td>2</td>
<td>195.10</td>
</tr>
<tr>
<td>1999</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000</td>
<td>2</td>
<td>35.60</td>
</tr>
<tr>
<td>2001</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2002</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>5.8</td>
</tr>
<tr>
<td>2004</td>
<td>5</td>
<td>67</td>
</tr>
<tr>
<td>2005</td>
<td>15</td>
<td>66.10</td>
</tr>
<tr>
<td>2006</td>
<td>94</td>
<td>293.40</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>663.0</td>
</tr>
<tr>
<td>Annual average</td>
<td>14.90</td>
<td>82.90</td>
</tr>
</tbody>
</table>

Source: Addis Ababa City Administration, Land Administration Authority
One of the factors that determine access to urban land is its availability in land related markets. According to Article 40(3) of the Constitution of the Federal Democratic Republic of Ethiopia, land ownership “is exclusively vested in the State and peoples of Ethiopia.” The provision further stipulates that “Land is the common property of the Nations, Nationalities and Peoples of Ethiopia and shall not be subject to sale or to other means of exchange.” Article 40(6) of the Constitution recognizes “the right of private investors to the use of land on the basis of payment arrangements established by law” whose particulars shall be determined by law. The entity that avails land is thus the state as determined by the relevant laws. The land use rights recognized under the Constitution entail ownership rights over immovable that are constructed on the land, as enshrined in Article 40 (7) of the Constitution which provides:

Every Ethiopian shall have the full right to the immovable property he builds and to the permanent improvements he brings about on the land by his labor or capital. This right shall include the right to alienate, to bequeath, and, where the right of use expires, to
remove his property, transfer his title, or claim compensation for it. Particulars shall be determined by law.

Terms of lease: tender and allotment

The fundamental principles of lease are stipulated under Articles 4 to 15 of the Lease Proclamation. Article 4 identifies the terms of access, according to which access to land involves the right to use urban land by lease. This provision states two modalities of lease, namely (a) lease tender which reflects the prevailing transaction value of land and ‘urban land delivery system’ (allotment) that gives “priority to the interests of the public and urban centers to ensure rapid urban development and equitable benefits of citizens” thereby ensuring “the sustainability of the country’s development”.

- Challenges in accessing urban land for business in Ethiopia
- Challenges relating to monopoly in urban land supply
- Challenges relating to access to finance through collaterals
- Challenges relating to transferability of land use right (sida, 2009)

2.13. Sustainability of the projects

In November 1994, the First International Conference on Sustainable Construction held in Tampa, Florida, USA, the conference convener Kibert [70] defined sustainable construction as, “Creating a healthy built environment using resource-efficient, ecologically-based principles”. Sustainable construction involves a commitment to:

Economic sustainability: – increasing profitability by making more efficient use of resources, including labor, materials, water and energy.

Environmental sustainability: – preventing harmful and potential irreversible effects on the environment by careful use of natural resources, minimizing waste, protecting and where possible enhancing the environment.

Social sustainability: – responding to the needs of people at whatever stage of involvement in the construction process (from commissioning to demolition), providing high customer satisfaction and working closely with clients, suppliers, employees and local communities (Ayman Ahmed Ezzat Othman, 2014).
2.14. Parties Involved in Real Estate Sector

Real Estate Developers

- is anyone who creates, imagine, control and orchestrate the process of real estate development (and redevelopment) from the beginning to end. A developer often buys the land through a combination of debt and equity and is therefore often a property owner/investor – however a developer can also offer individual a-la-carte services for specific projects. It is better if modern management style is followed for the sector.

The real estate builds villa and apartment on the allocated land by either subcontracting the contractor or from their own company. The real estates have their own guide line that enables them to manage their clients and be governed by it. Marketing offices are the ones that play critical role in convincing both sellers and buyers to come to terms. They get involved with the client and real estate in completing the legal paperwork needed to complete the transaction.

Currently, there are 24 real estates that exist in Addis Ababa. Few are in operating stage and the majority ones are in pre implementation/implementation stage. For this paper, there are eight real estates selected to be surveyed and assessed.
Government

The government has a plan to implement the following:
- The government is involving in giving license and renewing license for the sector.
- It also participates in permitting to build and approving the plan.
- Government takes parts in if there are disputes in and among construction companies.
- Supplying the land by lease system.

Financer

Ethiopia lacks a public credit registry or private credit bureau, making it hard for financial institutions to assess the creditworthiness of borrowers. The World Bank’s 2015 Doing Business Report showed that almost 70,000 individuals and 20,000 firms were recorded on the public credit registry (an increase from the previous year), but representing just 0.2 percent of the population. (Africa housing finance year book 2015).

End User

The end users are usually involved from the beginning to an end. This facilitates the communication process in giving comments on the design and be aware of any changes. The client should know everything in detail before signing any contract (Selam Yohannes, 2016)

Figure .2.5: Parties Involved in Real Estate Sector
2.15. Empirical studies

There are limited numbers of journals and researchers that have conducted on real estate projects, especially on private residential real estate projects. These are listed and reviewed below.

Selam Yohannes, (July 2016), did a research on “experience and prospects of private residential real estate development in alleviating housing problems in Addis Ababa.” This research incorporated different income groups and affordability as a variables. This thesis was analyzed by explanatory study from documentations & desk study, and observational studies for quality assessment. According to her study the finding of the thesis is no enough actively operating real estates to alleviate the housing problems and compared with the back log of housing in years, there is insufficient supply.

Kiros Aqubamicheal, (June 2009), conducted research on “factors affecting the real estate market: the case of Addis Ababa city.” Descriptive statistics was used to analyze the data. He focused on Demand and supply of (complete market analysis of real estate homes) and concluded that Housing affordability in this market is very low that can be rated as “severely unaffordable” market. The factors that affect the market generally arises from the real estate companies themselves, from the demand side, the financing, from the government side, and current economic situations, insufficient supply of land, increased prices of housing construction materials, inflation and the global economic crises.

Minyahil Shelemew, (August 2016), Addis Ababa, done thesis on “challenges of private residential real estate developments in alleviating the housing demand in Addis Ababa” He used simple quantitative techniques to analyze the collected data. This thesis tries to focus on alleviating housing demand by alleviating challenges. The major variables were housing demand, financing of projects, regulation and application of land management system. He concluded that land acquisition, shortage of loan from financial institutions, lack of financial source, time and cost overrun, cost escalation of construction materials, high income segment of the society and member of the Diaspora are the main customers
of the industry/ middle and low income groups are excluded/ are the challenges of the sector.

Paulos Birhanu, (2011), did a thesis on “Study on private residential real estate development in Addis Ababa,” Ethiopia. Descriptive method of data analysis is used. The study more focuses on prospects and how real estate properties are affordable to different income group of a society. He concluded that the properties are affordable for only high income group/Diaspora/.

Odhiambo Joshua, (November 2016), conducted research on the “effects of supply side characteristics on returns of residential real estate industry in Nairobi county, Kenya.” Descriptive method of data analysis is used. His study revealed three significant factors affecting returns on residential real estate. These were level of income, cost of construction and level of debt financing. Out of the three factors the most significant factor affecting residential returns was cost of construction.

“sector report—real estate,” real estate market in Addis Ababa, Access Capital Research, Addis Ababa, 2010. The journal concluded that the rapidly changing real estate landscape in Addis Ababa is one of the more visible aspects of the extended period of growth recently experienced in Ethiopia.

Zerayehu, (2015) et al……. are done empirical (Survey) on “Performance, Challenges and Prospects of Real Estate Financing in Addis Ababa,” American Journal of Economics, Finance and Management. They have used descriptive statistical analysis and affordability analysis and forwarded the followings findings. They concluded that the challenge for real estate are problems of land management, low construction capacity, inadequate infrastructure, poor borrowing capacity, prices escalation, low affordability.
2.15.1. Summary of empirical Review

Table 2.2. Summary of empirical Review

<table>
<thead>
<tr>
<th>S. N</th>
<th>Name of the researcher, year, country</th>
<th>Topic of the research</th>
<th>Researched variables</th>
<th>Research findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selam Yohannes Gebremedhin (July 2016), Ethiopia</td>
<td>Experience and Prospects of Private Residential Real Estate Development in Alleviating Housing Problems in Addis Ababa</td>
<td>Different income groups and affordability</td>
<td>There are no enough actively operating real estates to alleviate the housing problems</td>
</tr>
<tr>
<td>2</td>
<td>Minyahil Shelemew (August 2016), Ethiopia</td>
<td>Challenges of private residential real estate developments in alleviating the housing demand in Addis Ababa</td>
<td>Housing demand, Financing of projects, Regulation and application of land management system</td>
<td>Housing demand can be alleviated by alleviating challenges</td>
</tr>
<tr>
<td></td>
<td>Kiros Aqubamicheal (June 2009), Ethiopia</td>
<td>Factors affecting the real estate market: the case of Addis Ababa city</td>
<td>Demand and supply (complete market analysis of real estate homes)</td>
<td>Housing affordability in this market is very low that can be rated as “severely unaffordable” market</td>
</tr>
<tr>
<td></td>
<td>Paulos Birhanu, (2011), Ethiopia</td>
<td>Study on private residential real estate development in Addis Ababa</td>
<td>Prospects and affordability of properties</td>
<td>Properties are affordable for only high income group.</td>
</tr>
<tr>
<td></td>
<td>Odhiambo Joshua Milanya, (November 2016), Kenya</td>
<td>Effects of supply side characteristics on returns of residential real estate industry in Nairobi county, Kenya.</td>
<td>Income, cost of construction and level of debt financing</td>
<td>Out of the three factors the most significant factor affecting residential returns was cost of construction.</td>
</tr>
</tbody>
</table>
This study used descriptive statics to analyze the relationship between dependent variable (sustainability) and independent variables (challenges). The study therefore sought to contribute on to the knowledge on the challenges of real estate projects (supply side). The researcher strongly believes that challenges have a negative impact on sustainability of real estate projects. This study also gave more attention to the sustainability of projects by evaluating different variables.

2.6. Conceptual Framework

To implement the study the dependent and independent variables are shown in the theoretical framework. The designed framework of this research is created to illustrate a relationship among different challenges and sustainability of projects as shown below:

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Challenges</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zerayehu Sime Eshete and Kagnew Wolde Teshome, 2015, Ethiopia</td>
<td>Performance, Challenges and Prospects of Real Estate Financing in Addis Ababa</td>
<td>Macroeconomic instability, higher inflation rate and dwindling foreign currency.</td>
<td>Challenge for real estate are problems of land management, low construction capacity, inadequate infrastructure, poor borrowing capacity, prices escalation, low affordability.</td>
</tr>
</tbody>
</table>
Figure 2.6. Conceptual framework of the study
Source: Developed based on the objective of the study and literature reviewed
CHAPTER THREE
RESEARCH METHODOLOGY

3.1. Research Approach

The study used both quantitative and qualitative as well as document analysis methods to analyze the given data. The quantitative data which is collected and gathered from the survey are analyzed by table. Then quantitative data used to describe major situation related to the challenges and prospective of real estate projects collected through questionnaires are analyzed and interpreted by using descriptive statistical tools like tabular analysis are used.

Qualitative data which is collected through interviews is organized and analyzed thematically or by narration and tables.

3.2. Research Design

The research design identifies the method of data gathering, which instruments are used, how they are dealt with and how the gathered information is arranged and analyzed. A study design is the framework, strategy or plan that the research followed. A research design is the arrangement of conditions for data collection and analysis of data in a manner that aim to combine relevance to research purpose with economy in research procedure (Kothari, 2004). The study uses descriptive methods of analyzing the data.

3.3. Data types and Sources

Data gathering normally involves either sampling or experimentation. Sampling is a much more natural approach in social science. It is easy to appreciate that it is too costly, if not impossible, to gather universal data and hence it makes a sense to restrict attention to a representative sample of the population.

As a result, the source of the data for this thesis is primary and secondary. Primary sources are data gathered through questionnaires and interview from developers of real
estate, physical observation made by the investigator. The secondary sources are documents, journals, published and unpublished materials.

3.4. Sample Size
The total target population of residential real estate entities in A.A is 24 (according to Ethiopia investment agency), among which most are very young, and not yet completed transferring up to now. That means, very few have passed through the market and know better what basic challenges impede their business in the market, which is the question of the study. The purposive sampling method was chosen to include the sample units of real estate companies based on their experience (s). There are few numbers of real estate projects were started to transfer the homes to end users. Thus, the study considers a sample size of eight (8) selected companies among those who started to transfer.

3.5. Methods of Data Collection
3.5.1. Data collection instruments
The major data collection instruments are questionnaires, interviews, and reviewing of secondary data were used to explore and analyze the challenges of real estate projects in the study area.

✓ Questionnaires
To collect information from concerned body, questionnaires which were prepared by investigator was used. The questionnaires include both closed and open ended questions to obtain relevant information for the study. Department heads are selected to respond, because they were expected having enough knowledge and information about their project. As a result 4 respondents were picked from each project. Totally, there were 32 respondents.
✓ Structured Interviews

Interview was conducted to gather relevant information and to collect the targeted data from each sampled project. As a result, investigator selected 8 respondents (project managers) for interview concerning about the prospects and challenges of their projects.

3.6. Methods of Data Analysis

3.6.1. Questionnaires Analysis

Data analysis was carried out using simple mean, standard deviation. Correlation and Multiple Regression techniques were used to measure relationship between variables. Correlation analysis technique measures the existence of an association between the variables in question. Multiple Regression technique on the other hand measures if there is any cause and relationship between variables in question and to what degree and direction is the relationship.

Analytical Model of the multiple regression equation was:

\[ \text{SustP} = \beta_0 - \beta_1 \text{EC} - \beta_2 \text{FC} - \beta_3 \text{TC} - \beta_4 \text{RC} \]

The researcher used the above abbreviations such as: - **SustP** to represent Sustainability of projects, **EC** for Economic challenges, **FC** for Financial challenges, **TC** for Technological challenges, **RG** for regulatory challenges, respectively.

3.6.2. Document, and Interview Analysis

Document analysis is the process of using any kind of document, Government Reports, Magazine, Journals, Published and unpublished materials, photographs, books, etc, for analysis for a particular research interest.

In the qualitative method, the existing problems collected through interviews is organized and analyzed thematically or narration by making summaries of the respondent’s views.
3.7. Variables Used

The variables that were used in the research are those elements which may affect the sustainability of projects. Those variables are stated as follows:

I. **Independent variables:** are those causal variables which are economic, financial, technological, and regulatory challenges.

II. **Dependent variable:** is that variable, which is hypothesized as dependent on the changes in the independent variables which are stated as sustainability of projects.

3.8. Ethical Consideration

The study gave due consideration to ethical issues such as confidentiality and anonymity. Therefore, the participants were first communicated as to the purpose and significance of the study and that their responses were used only for academic purpose and kept confidential.

3.9. Validity and Reliability

Validity refers to the extent of accuracy of the results of the study. Validity of the results can either be internal or external. Internal validity refers to the analysis of the accuracy of the results obtained. External validity refers to the analysis of the findings with regards to whether they can be generalized (Ghauri & Grönhaug 2005, 65). Where measurements are used, there exist different types of validity; face validity, which describes the extent to which the measure used is reasonably capable of what is due to measure, convergent validity, which describes the extent to which the measurement used can bring similar results if used elsewhere and divergent validity that describes the extent to which one construct is distinguished from another (Ghauri & Grönhaug 2005, 83 – 84)

If any of the VIF values exceeds 5 or 10, it implies that the associated regression coefficients are poorly estimated because of multicollinearity (Montgomery, 2001). But the table below indicates non multicollinearity since the VIF is too low. Tolerance values that are very high indicate that the variable has very low correlations with other variables in the model.
Table 3.1. Collinearity Statistics

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td></td>
</tr>
<tr>
<td>1 Economics</td>
<td>.912</td>
</tr>
<tr>
<td>2 Financial</td>
<td>.757</td>
</tr>
<tr>
<td>3 Technological</td>
<td>.792</td>
</tr>
<tr>
<td>4 Regulatory</td>
<td>.901</td>
</tr>
</tbody>
</table>

Dependent Variable: sustainability of projects
(Source: SPSS output)

Reliability refers to the stability of the measure used to study the relationships between variables (Ghauri & Grönhaug 2005, 81). It is the degree to which a test consistently measures whatever it measures. Having established the variables of the study, and allocated appropriate names, the next part of evaluation entailed testing the reliabilities of the factors. To ensure that the factors identified were consistent, and reliable, a Cronbach’s alpha was calculated for the overall scale and for each individual variable. A commonly accepted Cronbach’s alpha is 0.7, although a value of 0.6 can be accepted during exploratory research (Hair et al, 1995). So, the study results indicate reliable overall Cronbach’s Alpha of 0.722 and each variable has a Cronbach’s Alpha that ranges from 0.701 to 0.810 and indicates high internal reliability.
CHAPTER FOUR
DATA ANALYSIS AND DISCUSSIONS

4.1. Respondent Composition

In this chapter the results of questionnaire collected are presented using basic descriptive statistical tools, and analyses drawn out of the presentations of data (in tabular form) and interviews are thematically. The population of this research are private residential real estate developers. The samples of this research population include 8 private residential real estates. 32 questionnaires are distributed, 32 collected.

Respondent Rate = Collected Questionnaire
Total Questionnaire Distributed

The percentage of response can be easily calculated by dividing the number of questionnaires collected by the total number of questionnaires distributed and multiplying the result by 100. The real estate developer response rate is 100%.

4.2. General Profile of Sampled Projects

Table 4.1. General Profile of Sampled Projects

<table>
<thead>
<tr>
<th>No</th>
<th>Name of real estate projects</th>
<th>Establishment Year</th>
<th>Type of Real Estate Development</th>
<th>Head office location (Sub city)</th>
<th>Site(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enyi</td>
<td>2006G.C</td>
<td>Residential properties</td>
<td>Arada</td>
<td>Jimma Road &amp; bole bulbula</td>
</tr>
<tr>
<td>2</td>
<td>Flint stone</td>
<td>2008G.C</td>
<td>Residential properties</td>
<td>Bole</td>
<td>Beshale, Bole, Yeka, Arada, Akakikality, Kirkos</td>
</tr>
<tr>
<td>3</td>
<td>Gift</td>
<td>1998G.C</td>
<td>Residential properties</td>
<td>Kirkos</td>
<td>CMC, Ayat, Yeka</td>
</tr>
<tr>
<td>4</td>
<td>Noah</td>
<td>2006G.C</td>
<td>Residential properties and commercial</td>
<td>Bole</td>
<td>Ayat, bole atlas, Ayat, Goro, 22, Figa</td>
</tr>
<tr>
<td>5</td>
<td>Tsehay</td>
<td>2011G.C</td>
<td>Residential properties</td>
<td>Yeka</td>
<td>CMC</td>
</tr>
<tr>
<td>6</td>
<td>Sunrise</td>
<td>1998E.C</td>
<td>Residential properties</td>
<td>Bole</td>
<td>Bole (semmit)</td>
</tr>
<tr>
<td>7</td>
<td>Sunshine</td>
<td>1996E.C</td>
<td>Residential properties</td>
<td>Kirkos</td>
<td>CMC, Gerji, CMC Mari lake, &amp; Bole-beshale</td>
</tr>
<tr>
<td>8</td>
<td>ZenebeFrew</td>
<td>1996E.C</td>
<td>Residential properties</td>
<td>Nifas-Silk</td>
<td>Karakore and Nifas-Silk (Gotera)</td>
</tr>
</tbody>
</table>

(Source: Questionnaire June 2018)
4.3. Economic Challenges

Economic factors are economic growth, inflation, availability and cost (interest on) financing, exchange rates, tax rate, etc. There are many causes for economic crises in the real estate projects. Shortage of foreign exchange, price escalation of construction materials, inflation, and high interest rate are some of them.

4.3.1. Project Cost over Run and transferring Date

The reply from almost all real estates sampled is that the real estate developers are willing to finish all the construction and deliver the houses for the client with the range of 18 months to three years, which is not practically seen from their experiences and performance.

As the rule on the contract document, there is a penalty that the real estate developer pay if the house is not delivered as per the set time but this rule is not obeyed by most of the real estates and thus creates a disagreement with the client.

It is known that such delays arise to customer discontent regardless where the bottle necks are from; and mainly if these are from companies’ own difficulties, affecting their business. Thus, to care for such promises especially for those Diaspora clients who are convinced by the advancements around them, as they are main and major players in the market, is more than crucial. One of the biggest complaints we all hear from Diaspora and local homeowners and investors is that new houses are never completed within the time frame that clients are promised. To see the main reasons for delays; the next summary is noticed from those suppliers and additional discussion results are included.

It can be inferred that the increasingly skyrocketing prices of housing construction materials, seriously affects purchasing power of customers; as all currently have an adjustable agreed prices in their contract based on a clear and objective inflation (and appreciation of foreign currencies for their imported items) trend on their inputs. The outdated construction techniques also are additional reasons. Those who, somehow
passed through the learning curve and mainly because of shortage and expensiveness of Raw materials are facing delays.

If there is a breach of contract or the client fails to pay according to the schedule, there will be a delay in transferring the houses until this issue is settled. The other most complain raised is due to increase of construction cost (cost escalation) and if the client was asked to pay for it, which as a result causes a breach of contract.

In general, cost escalation and time constraints are the main challenge that affects the completion of the project.

The most common factors creating delay and challenging the real estate developers are:

- Delay in the delivery of finishing material
- Price escalation
- Lack of foreign currency
- Access to loan
- Unavailability of the municipality supervising inspector up on the request during the different stage of the project
- Delay in client approval or modification request
- Design change either from the client or the design team
- Unpredicted condition happening on the site, For instance: soil condition, ground water level (Source: interview).

<table>
<thead>
<tr>
<th>Economic challenges</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Price escalation of construction materials</td>
<td>4.2813</td>
<td>.92403</td>
</tr>
<tr>
<td>2 Shortage of foreign exchange /foreign currencies/</td>
<td>3.8438</td>
<td>1.11034</td>
</tr>
<tr>
<td>3 Inflation</td>
<td>3.7812</td>
<td>1.03906</td>
</tr>
<tr>
<td>4 High Bank interest rate</td>
<td>3.1562</td>
<td>.76662</td>
</tr>
<tr>
<td>5 The demand problems of the end products /Homes/</td>
<td>3.1250</td>
<td>.97551</td>
</tr>
</tbody>
</table>

Valid N (listwise)
(Source: Questionnaire June 2018)

The mean value of 4.2813 and standard deviation of 0.92403 on “Price escalation of construction materials” shows it is the most serious challenges. The prices of construction
materials are highly increasing from time to time because of combination of different reasons. Different factors escalated the prices of the imported construction materials in turn reflected on housing value. On the demanders’ side, the increases in prices affect their affordability seriously. The escalating prices of housing construction materials affects not only for new orders to come, but for the existing contracts (because all have adjustable contract prices based on justifiable raw material costs) which affects the ability to pay remaining installment payments and creates delays or defaults on settlement in which the builders relied up on, for their finance.

The table shows mean value 3.8438 and standard deviation 1.11034 on “shortage of foreign currency” is the current phenomenon of acute foreign currency shortage in reserve leading to expensive exchange rates for major currencies is another risk (problem) that cannot be hedged. This effect escalated the prices of the imported construction materials and the same is reflected on housing value. Constructers, suppliers, real estate developers, end users and any stake holders of construction projects are vulnerable to this type of problems in the city.

From the table mean 3.7812 and standard deviation 1.03906 on “Inflation” which total price increment of land lease, operation cost, administration cost, rent or cost of construction machineries and so on cannot be easily overcome. All factors stated have currently a direct impact on pushing prices up. The inflation sternness in some items resulted in more than doubled prices. Prices of the residential properties are highly increasing for a combination of different reasons. There is high concentration of (active & potential) investors in Addis Ababa that pushes the prices of lease up highly.

Table: 4.3. Inflation rate

<table>
<thead>
<tr>
<th>2017/18</th>
<th>2018/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>June</td>
</tr>
<tr>
<td>7.1</td>
<td>7.2</td>
</tr>
</tbody>
</table>

Source: Central statistics Agency 2018/19
From the table 4.3. we observe that mean 3.1562 and standard deviation 0.76662 on “High bank interest rate.” There is no mortgage credit service from bank because black history (shadow) stolen public trust by Access real estate projects (ARE), 2008. Even though not supported, few of real estate projects use different private banks after projects secured the land and plan by having the house plan by banks, Awash, Abay, Dashin and Buna banks.

Interest rates have a major impact on the real estate markets. Changes in interest rates can greatly influence a person's ability to purchase a residential property. This is because mortgages impact on the prices of residential property; a change in interest rates therefore impacts property prices. Interest rates thereby influence demand for housing. Low interest rates will result in increased uptake of mortgages, thereby increasing demand for housing; increased demand results into higher returns (source: interview).

The above table shows mean 3.1250 and standard deviation 0.97551 on “The demand problems of the end products /Homes/.” Despite the demand is alarmingly increasing the homes are affordable to only high income group of society (Diaspora).

4.4. Financial Challenges

Finance is back bone of any business. It is known that Real estate projects plays a great role in creating well planned and beauty city, modernizing the city; it enhances the financial capacity of Investor, Increase government revenues by tax systems. For this reason government should give more incentive to the sector. The financing of private real estate is also an affair which needs special attention. The majority of the problems of the sector arise from financial constraints. (Source: interview).

4.4.1. Source of Finance for the sector

Source of finance to develop the sector are:

- Financed by sister company (Noah and Gift real estate)
- Investment by owners / self-financing/ (Tsehay and Zenebe Frew real estate)
- Financed by clients /end users/
- Banks
Finance is the pillars/mot-her/ for real estate development. The great problems are there is no support from bank credit mortgage service because of the mistrust registered by Access and others real estate crisis and cast shadow on the public. There is a limited source of finance from private banks and no support from the government in providing subsidized facilities where only small portion of households in Addis Ababa would be in a position to access the bank credit under existing housing and loan regulations which has made most of Addis Ababa residents (low and middle) to be less interested in buying real estate houses. Due to problems in financing, cost overrun and time overrun are very common in most of the residential real estate developments. These are serious challenges to the growth of the real estate sector. The major cause is the lower financial capacity of the majority of owners. Developers only do works when the appropriate payment is made on the right time from their clients. (Source: interview).

This discourages the sector to be developed as required. It is better if National bank of Ethiopia involve in supplying financial resources with minimum interest rate. It is better if saving habit is adapted (family saving and the others) (source: interview).

Table 4.4. Financial challenges

<table>
<thead>
<tr>
<th>Financial Challenges</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Inadequate finance/Lack of adequate source of finance/</td>
<td>3.4062</td>
<td>1.16007</td>
</tr>
<tr>
<td>2 Lack of financial resources (financial securities, checks, assets equity)</td>
<td>3.1250</td>
<td>1.09985</td>
</tr>
<tr>
<td>3 Shortage of Monthly Cash Flow for proper operation of the sector</td>
<td>3.1250</td>
<td>1.28891</td>
</tr>
<tr>
<td>4 Lack of collateral to borrow money from the bank</td>
<td>3.0000</td>
<td>1.01600</td>
</tr>
<tr>
<td>5 Shortage of venture capital /Risk financing/ (since the sector is vulnerable to the risk)</td>
<td>2.7813</td>
<td>1.03906</td>
</tr>
</tbody>
</table>

Valid N (listwise)

(Source: Questionnaire June 2018)

The table 4.4 shows mean 3.4062 and standard deviation 1.16007 on the “Inadequate finance”. Acquiring finance is not easy activities for most of real estates projects. Housing finance is very insufficient, difficult, and expensive. Currently the source of finance for most of the real estate sector is not bank. Projects should be favored to base long-term mortgage financing and government subsidy in many cases (EPA, 2010). Seeing alternative mechanisms of financial provision scheme for the sector is very important. Developing policy and regulation is very important to integrate the sector with
bank or other financial institution, since it is one parts of investment. There is rapid expansion of housing stock ongoing despite limited source of housing finance and the typical lending terms that are far less attractive.

As we seen from the table mean 3.1250 and standard deviation 1.09985 on the statement of “shortage of financial resources” shows developers affected by lack of financial resources like securities, checks, assets equity and so on.

As shown on table 4.4. mean 3.1250 standard deviation 1.28891 on “shortage of monthly cash flows” shows means confirm that more construction companies fail due to a lack of liquidity for day-to-day activities than because of inadequate management of financial resources and inadequate cash flow which is a consistent cause of failure.

Cash flow is the summation of all payment receipts collected by a firm during a specific time period, less all payments paid out during the same period. Cash flow can be measured weekly, monthly, and/or cumulatively. Period cash flow examines variables month-by-month, producing a regular monthly analysis of incomes and expenses over that period. Cumulative cash flow, meanwhile, involves the continuous addition of period cash flow from the beginning of a given milestone to the end of another. In other words, it is the summation of period cash flow over the duration of a project, from the Project Start Milestone to the Project Finish Milestone (Ihab Adel Ismail, 2014).

The table show mean 2.7813 and standard deviation 1.03906 on “shortage venture capital” which is risk financing. This shows all business is a full of uncertainty. Risks happened at any levels of a project and may be identified at any stage of the project life cycle. Any risk identified during the life of the project will need to be formally managed as part of the risk management process. Thus the researcher concludes that despite real estate projects are in full of uncertainty, there is no enough venture (risk) reducing source of finance.
4.5. Technological Challenges

The technology enables the production of purpose-built shapes that cannot be produced by any other method; it promises productivity gains of up to 80% for some applications, together with an important reduction in waste. Construction time for some buildings could shrink from weeks to hours, and customized components could be provided at much lower cost. (World Economic Forum, May 2016).

Table 4.5. Technological challenges

<table>
<thead>
<tr>
<th>Technological Challenges</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Level of Global technological competition of real estate projects</td>
<td>3.1250</td>
<td>1.15703</td>
</tr>
<tr>
<td>2 Shortage of Research &amp; Development on the real estate projects</td>
<td>2.7812</td>
<td>1.18415</td>
</tr>
<tr>
<td>3 Inappropriate level of scientific and technological knowledge in the country</td>
<td>2.6875</td>
<td>1.11984</td>
</tr>
<tr>
<td>4 Shortage of technological innovation in construction area.</td>
<td>2.6563</td>
<td>1.23417</td>
</tr>
<tr>
<td>5 Shortage of advanced new construction technologies and Automated equipment</td>
<td>2.5937</td>
<td>1.36451</td>
</tr>
</tbody>
</table>

(Source: Questionnaire June 2018)

Table 4.5 shows mean 3.1250 and standard deviation 1.15703 on “Level of global technological competition” shows now days the world is highly competitive technologically. High in technology means the time to take service and for production is becoming short and short. As a result, backwardness in technology is a great challenge to the sectors. It is known that Ethiopia is at infant stage in technological development.

From the table mean 2.7812 and standard deviation 1.18415 on “shortage of Research & development on the real estate projects” shows the sectors suffer by shortage of many researches and literatures. Shortage of research and supporting documents affects the sector negatively Research is knowledge acquired systematically. i.e. evaluate observation by our bodily senses or measuring devices. Scientific research focuses on
solving problems and pursues a step-by-step logical, organized, and rigorous method. i.e. identifying problems, collecting data, analyzing and drawing valid conclusion.

Mean 2.6875 and standard deviation 1.2341 shown on “Inappropriate level of scientific and technological knowledge” shows it is one of the major factor that hinders the development of the sector. Technology can lower costs and improve considerably the quality of the end product.

On the table mean 2.6563 and standard deviation 1.23417 on shows “shortage of technological innovation” is low in the city. Technological factors are Economic regeneration with the help of new technologies (new products and processes). Ethiopia’s general level of technological capability is low and lags well behind other countries in the Reliably science and technology indicators for African countries are not easily available but the limited information obtained suggests that access to and application of technology, especially information and communications technologies are still at the rudimentary stages.

From the table 4.5 mean 2.5937 and standard deviation 1.36451 on “shortage of advanced new construction technologies and automated equipment” shows there is low technological advancement in the city. This cause inflated the price and rent fee of automated construction machineries.

4.6. Regulatory Challenges
Regulatory is government body or institution that regulates and facilitates desirable condition for projects in order to operate their duty. This body has its own limitation that can be a challenge for the given projects. It is better following more recent construction methodology and technology.
Table 4.6 Regulatory challenges

<table>
<thead>
<tr>
<th>Regulatory Challenges</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Bureaucracies around government offices</td>
<td>3.7813</td>
<td>1.38504</td>
</tr>
<tr>
<td>2 Management problems in government bureaus and offices.</td>
<td>3.5000</td>
<td>1.10716</td>
</tr>
<tr>
<td>3 Weak controlling systems of projects by regulatory body</td>
<td>3.3438</td>
<td>1.03517</td>
</tr>
<tr>
<td>4 Weak Enforcement of the Land Laws in the city.</td>
<td>3.3438</td>
<td>1.09572</td>
</tr>
<tr>
<td>5 Levels of Corruption in government office.</td>
<td>3.2812</td>
<td>1.27594</td>
</tr>
</tbody>
</table>

(Source: Questionnaire June 2018)

On the table mean 3.7813 and standard deviation 1.385 shows high bureaucratic activities is the reason for unable to deliver the homes on time, inability to supply raw material on time, and commonly the delays payments for service rendered and manufactured product and so.

Table 4.6 shows mean 3.5 and standard deviation 1.10716 on “Management Problems”. This shows lack of sound Project Management by sector on projects on the other hand leads to construction delays and extra costs for projects and end users. Project Management is a specialized management technique necessary for the planning, organization and control of projects under one strong point of responsibility. It is also described Project Management as the application of knowledge, skills, tools, and techniques to project activities in order to meet project requirements. The function of construction project management is therefore to predict as many of the risk and problems as possible and to plan, organize and control activities so that the project is completed successfully.

On the table mean 3.3438 and standard deviation 1.03517 on “weak controlling systems” shows there is low follow up and controlling by government. Each area of the project is analyzed to identify Risks, Control procedures and Monitoring controls. Project controls is to ensure the efficient coordination, monitoring and management of a project.

The table 4.6 mean3.3438 and standard deviation 1.09572 on “Poor enforcement of land laws” shows even though there is enough land affordability laws for real estate projects in
the city, there is a huge gap on implementation. More scientific way of land management and fair distribution helps to use limited available resource. Sound implementation of the policy and changes thereto, the roles of different stakeholders in the process of implementing land policies of all stakeholders are of critical importance.

Mean 3.2812 and standard deviation 1.27594 on “Levels of Corruption in government office.” is an act done using public power unlawfully and wrongly to get some benefit for oneself or for another person. Contrary to the rights of others, Corruption is the abuse of public office for private gain. On the other hand corruption is a criminal act against society. So this act is the challenges of this sector.

4.6.1. Land Acquisition
Currently, land acquisition of real estate development in Ethiopia is in two ways.

1. Lease /Auction/
Auction: is a modality of transferring lease of urban land to a bid winner fulfilling the competition requirements issued based on the rule of market competition of urban land tenure [Federal Negarit Gazeta, Proclamation No. 721/2011]

Residential leases: Residential leases may be granted for up to 99 years and may be automatically renewed for a further 99 years without charge. The only exception to this right is if the ACT or the Federal Government requires the land for public use (land lease policy in Addis Ababa, 2009).

There is no free land in Ethiopia. Most of real estate developers acquire land by lease. The price of the land to be leased is usually determined through an auction. The lease office sets the floor price for each plot intended for lease with a view to recovering costs of infrastructure and any resettlement expenses for those with pre-existing rental agreements or usufruct rights. The developers purchase the land by lease from government by participating on the bidding (Source Interview).
2. Allotment /Joint Venture/

Allotment: is a modality applied for urban lands by lease to institutions that could not be accommodated by way of tender [Federal Negarit Gazeta, Proclamation No. 721/2011]

Some developers of real estate develop the business by collaborating with anyone who has enough land for real estate and willing to work together (ENYI and Gift real estate). There is an agreement between the developers and land owners. Developers bring the finance, professionals, materials and so on (according to their agreement), and land owners provide the land together they built the houses. (Source: Interview).

4.7. Sustainability of the projects

Sustainable Construction (also known as green construction or sustainable building) refers to a structure, the construction process and occupancy processes that are environmentally responsible and resource efficient throughout a building's life-cycle from location to design, construction, operation, maintenance, renovation, and demolition.

4.7.1. Public Trust

The real estate industry in Ethiopia has focused the vast majority of its efforts on the top end of the market. Until Access Real Estate’s arrival in 2008. Access Real Estate, S.C. (ARE) was established in 2008 to address the acute shortage of “affordable” quality housing in Addis Ababa in a systematic and innovative way that focuses on satisfying customers. Most of real estate projects do not uses a bank as a source of finance because of black history (shadow) stolen public trust by Access real estate projects (ARE), 2008, which means ARE collected money from the clients (customers) but no house is built and no house is transferred to the end users. To retain the previous stolen public trust by Access real estate, all real estate is trying to delivers the house on time (on time delivery is the trust). In addition, visually showing the already built building to the buyer /end users/ is also build the trust on the sector. Transparency is the usual work of real estate projects. (Source: interview)
Table 4.7. Sustainability of projects

<table>
<thead>
<tr>
<th>Sustainability parameters</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Creating health Environment</td>
<td>3.6563</td>
<td>1.12478</td>
</tr>
<tr>
<td>2 Waste reduction</td>
<td>3.1875</td>
<td>1.11984</td>
</tr>
<tr>
<td>3 Efficient energy consumption</td>
<td>3.0625</td>
<td>1.01401</td>
</tr>
<tr>
<td>4 Sustainable Design</td>
<td>2.9063</td>
<td>0.89296</td>
</tr>
<tr>
<td>5 Waste recycling</td>
<td>2.8437</td>
<td>1.01947</td>
</tr>
</tbody>
</table>

Valid N (listwise)

(Source: Questionnaire June 2018)

The table 4.7 shows mean 3.6563 and standard deviation 1.12478 on the statement of “creating health Environment” indicates that integrating environmental protection to avoid and minimize pollution can be built into the project design and work schedule is at highest stage. This approach is more cost-effective than establishing controls once the project commences.

On the table mean 3.1875 and standard deviation 1.11984 on the “Waste reduction” shows sustainability of construction projects can be determined by waste reduction. Waste can be reduced by remodeling, repair, and demolition of residential construction. There is high waste reduction in real estate projects.

The table shows that mean 3.0625 and standard deviation 1.01401 on statement of “Efficient energy consumption” the projects are consuming efficient Energy at this levels. The most sustainable energy is saved energy.

The table shows mean of 2.9063 and standard deviation 0.89296 on availability of “sustainable design” is the stage sustainable design in every real estate projects. The building and construction sector requires sustainability indicators both for its own decision-making within design, production and management of buildings, as well as for indicating to the public and to clients the overall economic, environmental or social impact of buildings, building products and related processes.
As shown on the table mean 2.8437 and standard deviation 1.01947 on the statement of “waste recycling” is the degree at which these projects are recycling the wastes. When wastes are recycled economy, compatibility with other materials and material properties has taken to account.

4.7.2. Poor Infrastructure and service

The infrastructure in the development locations impacts on returns. Infrastructure includes the road network, availability of power connection, access to water, and drainage and sewerage systems. Infrastructure opens up areas making them accessible and able to support settlement. Residential property values rise significantly with the development of good infrastructure.

The private real estate industry is contributing very less house supply in the city as per the numbers of population and as compared to the low cost housing condominium apartment built by government. There are many reasons for this:

- Government do not facilitate infrastructure as per the agreement:
  - Water and sewer infrastructure
  - Electric and power infrastructure
  - Road infrastructure and the others
- Government do not give incentive for the sector
- There is no subsidy for the sector

This is why private real estate is not affordable for low income groups of society.

To make private real estate more responsive to the general house demand including the lower economic class, focusing on the following is very important. Government should afford the land for real estate developers freely. Government should supply construction material with minimum cost as much as possible. Government should afford mortgage loan from the bank with minimum interest. With regard to incentive, there is no special for real estate development, duty free import of construction materials privilege is given to construction companies (source: interview).
4.8. Correlation summary analysis

Correlation refers to synonym for association or the relationship between variables. It measures the degree to which two sets of data are related. Higher correlation value indicates stronger relationship between both sets of data (Coetzee, 2003).

Table 4.8. Correlation summary analysis of each challenging variables with sustainability of projects n=32

<table>
<thead>
<tr>
<th></th>
<th>Economics</th>
<th>Financial</th>
<th>Technological</th>
<th>Regulatory</th>
<th>Sustainability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics</td>
<td>Pearson Correlation</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial</td>
<td>Pearson Correlation</td>
<td>0.178</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>32</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological</td>
<td>Pearson Correlation</td>
<td>0.285</td>
<td>0.394*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Regulatory</td>
<td>Pearson Correlation</td>
<td>0.008</td>
<td>-0.300</td>
<td>-0.042</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Pearson Correlation</td>
<td>-0.041</td>
<td>0.189</td>
<td>-0.145</td>
<td>-0.386*</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>N</td>
<td>32</td>
<td>32</td>
<td>32</td>
<td>32</td>
</tr>
</tbody>
</table>

(Sources: own survey, 2018)

When the correlation is 1 or -1, a perfectly linear positive or negative relationship exists; when the correlation is 0, there is no relationship between the two sets of data. Coetzee (2003) noted that when considering the correlation between the independent variable and the dependent variables, the larger the magnitude of the correlation, the stronger the linear association.

Table 4.8 shows that all independent variables (Economic, Financial, technological, and regulatory) on dependent variable (sustainability) of the projects has very low positive with financial challenges (0.189) and negative with economic, technology, regulatory correlation (-0.041, -0.145, -0.386) on the sustainability of the projects respectively. It
also indicates that there is a statistically negative correlation between the independent variables and dependent variable because their Sig (2-Tailed) value is out of 0.00 which is above of 0.05. Correlation between the effects of combined of all independent variables, i.e. economic, financial, technological and regulatory challenges on the sustainability of real estate projects resulted into strong negative relation with \( r = 0.446 \), \( p < 0.05 \). This value of correlation indicates almost all there is no positive relationship between the two variables at \( p \) value less than 0.05.

4.9. Summary of multiple regressions Analysis
Regression analysis is a statistical procedure used for estimating the relationships between one or more predictor variables and the response variable. In order to test for the influence of each independent variable (economic, financial, technological, and regulatory) on sustainability of real estate projects by multiple regression analysis was performed. As well the following regression assumptions were tested before regression analysis was made:

➢ Assumption 1, was tested as there is no linear relationship exist between challenges and sustainability of real estate projects based on Scatter plots.
➢ Assumption 2, was also tested as there is non multicollinearity in my data since the VIF value varies from 1.097 up to 1.318 and its tolerance level range between 0.757 up to 0.912 which is greater than 0.2
➢ Assumption 3, was also tested as there are no influential cases biasing this model.

Multiple regression Model was performed in following form:

\[
\text{SustP} = \beta_0 - \beta_1 \text{EC} - \beta_2 \text{FC} - \beta_3 \text{TC} - \beta_4 \text{RC}
\]

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.446(^a)</td>
<td>.199</td>
<td>.080</td>
<td>2.07751</td>
</tr>
</tbody>
</table>

\(^a\) Predictors: (Constant), Regulatory, Economics, Technological, Financial challenges

b. Dependent Variable: Sustainability of real estate projects

Source: own survey
Regression coefficient R = 0.446 or 44.6% relationship exist between independent variables (I.V”s) and dependent variables (D.V) which is very low relationship. The coefficient of determination R2 = 0.199 which show that 19.9% of variation in real estate projects perceived sustainability is explained by economic, financial, technological, and regulatory challenges.

Table: 4.10. ANOVA Summary of multiple regressions

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>28.966</td>
<td>4</td>
<td>7.242</td>
<td>1.678</td>
<td>.184b</td>
</tr>
<tr>
<td>Residual</td>
<td>116.534</td>
<td>27</td>
<td>4.316</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>145.500</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Sustainability of projects
b. Predictors: (Constant), Regulatory, Economics, Technological, Financial challenges

Source: own survey

The F value is 1.678 and is statistically not significant because the significance level is = 0.184 which is greater than P ≤ 0.05. This implies that over all regression models is statistically not significant, not valid and not fit. This regression model implies that all independent variables are explaining that there is a no positive and no significant relationship with dependent variable.

Table 4.11. multiple regression analysis result and test of Hypothesis

<table>
<thead>
<tr>
<th>Model</th>
<th>Un standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>20.855</td>
<td>2.969</td>
<td>-0.005</td>
<td>.000</td>
</tr>
<tr>
<td>Economics</td>
<td>-.003</td>
<td>.116</td>
<td>-.005</td>
<td>.979</td>
</tr>
<tr>
<td>Financial</td>
<td>.037</td>
<td>.041</td>
<td>.177</td>
<td>.379</td>
</tr>
<tr>
<td>Technological</td>
<td>-.111</td>
<td>.094</td>
<td>-.228</td>
<td>.249</td>
</tr>
<tr>
<td>Regulatory</td>
<td>-.166</td>
<td>.088</td>
<td>-.343</td>
<td>.070</td>
</tr>
</tbody>
</table>

Source: own survey
The above 4.11 table shows that there was statistically negative and not significant relationship between challenges and sustainability of real estate projects at the case of Addis Ababa ($\beta_1=-0.003$, $\beta_2=0.037$, $\beta_3=-0.111$, $\beta_4=-0.166$) $t$ for each variable = is - 0.026, 0.894, -1.179, -1.179 respectively and $p<0.05$ for each variable).

4.10. Effects of challenges on sustainability of projects

4.10.1. The effect of economic challenges on sustainability of projects

The value of unstandardized Coefficient $B= (-0.003)$ which show that a one unit increase in economic challenges lead to decrease sustainability of real estate projects by -0.003 in Addis Ababa.

Table 4.11, the results indicate that there was statistically negative and not significant relationship between economic challenges and sustainability of real estate projects in Addis Ababa, ($b = -0.003$, $t = -0.026$, $p<0.05$). Therefore, hypothesis two (H1) which states that there is no significant effect of economic challenges on sustainability real estate projects in Addis Ababa, was accepted at $p<0.05$. This implies that increase in economic challenges will decrease the sustainability real estate projects in Addis Ababa.

4.10.2. The effect of financial challenges on sustainability of projects

The value of unstandardized Coefficient $B= (0.037)$ which show that a one unit increase in financial challenges will lead to 0.037 decrease of sustainability of real estate projects in Addis Ababa. The above table 4.11 shows that there was very low positive and not significant relationship between financial challenges and sustainability of real estate projects in Addis Ababa., ($b = 0.037$, $t = 0.894$, $p<0.05$). Therefore, hypothesis three (H3) which states that there is no significant effect of financial challenges on sustainability of projects, was accepted at $p<0.05$. This shows that as financial challenges had no its own role on sustainability of projects.
4.10.3. The effect of technological challenges on sustainability of projects

The value of un standardized Coefficient B= (-0.111) which show that a one unit increase in technological challenges will lead to decrease the sustainability of projects Addis Ababa by -0.111. The above table shows that there was a negative and not significant effect between Technological challenges and sustainability of projects Addis Ababa, (b = -0.111, t = - 1.179, p<0.05). Therefore, hypothesis one (H1) which states that there is no significant effect between technological challenges and its sustainability of projects Addis Ababa, was accepted at p<0.05. This shows that as technological challenges had no its own role in sustainability of projects.

4.10.4. The effect of regulatory challenges on sustainability of projects

The value of un standardized Coefficient B= (-0.166) which show that A one unit increase in regulatory challenges will lead to -0.166decrease of sustainability of projects in Addis Ababa.

The above table 4.11 shows that there was a negative and not significant relationship between regulatory challenges and sustainability of projects in Addis Ababa, (b = -0.166, t = -1.889, p<0.05). Therefore, hypothesis two (H2) which states that there is no significant effect of regulatory challenges on sustainability of projects in Addis Ababa, was accepted at p<0.05. This shows that as regulatory challenges had no its own role in sustainability of real estate projects in Addis Ababa.

4.11. Current status of Real estate in Addis Ababa

Real estate activities belong to the service sector and are distinct from construction activities. The sector consists of five distinct activities, namely development, dealing, letting, brokerage, and administration. Even though many business companies are entering to real estate business, the sector is on infant stage (junior). The number of house built by real estate is very few as compared to the demand and the condominium
apartments built by government. The sector affords the house for those of high class income group. Almost all lower and middle income holders are not able to afford the astonishingly increasing project cost during the recent periods of inflation. Since the house is among the basic need, government should facilitate the affordability of real estate to low income groups. (Source: Interview)

![Housing Supply Pyramid](image)

**Figure 4.1. Housing Supply Pyramid**
Source: Urban Housing strategy of Ethiopia (August 2013)

### 4.12. Advertising Homes
Advertising is public promotion of something such as a product, service, business, or event to attract or increase interest in it. There is advertising of houses through Door to Door, Banner, Radio, Television and social media. Some of real estate starts advertising the homes when construction progress reaches 70% (Tsehay Real Estate, and Sun rise real estate). The others one starts to advertise the homes as soon as they secure the land and plan (ENYI and Zenebe Frew Real Estate). There is a contract agreement with the clients. The contract includes: Types of house, plots, Area (care meter) of the house,
Payment system, Delivery date, Penalty (against the default & dalliance), how to transfer the house and so on.

The clients pay the money in CPO or bank or bank payment system based on the progress of the construction with maximum of three times (mortgage payment) as many real estate projects said. This system minimizes the money laundry and other mischief. Price of homes is discounted in some of projects if the customers pay ones for the last. Tsehay real estate discounts 5 % if the end users pay the price once for the last. (Source interview)

4.13. Affordability of Private Residential Real Estate Houses

One constraint which is challenging people while making a decision to buy house, is the access to loan. In Ethiopia, there is no such thing as mortgage loan which is a loan for 25-30 years that the household pays periodically and lives in it. On the other hand the purchasing power of the households in Addis Ababa is the other challenge. Based on the requirement and eligibility of the households there is a limit in the amount of loan they can qualify for.

Encouraging real-estate developers those who want to develop affordable housing units for low and middle-income group through facilitating land and infrastructure, importing tax free building material production machineries and introduce the application of low-cost materials and construction technology, etc. This is after making clear that the real estate developers shouldn’t only think of their profit but also make effort in alleviating housing problem by targeting different income groups. (Source: interview).
Table 4.12. Affordability Analysis

<table>
<thead>
<tr>
<th>No</th>
<th>Items</th>
<th>Tsehay</th>
<th>Sun Rise</th>
<th>Noah</th>
<th>Zenebe Frew</th>
<th>Gift</th>
<th>Sun Shine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction Contract agreement duration(delivery)</td>
<td>One year and two months</td>
<td>3 years</td>
<td>18-24 months</td>
<td>24 months</td>
<td>18-24 months</td>
<td>24 months</td>
</tr>
<tr>
<td>1</td>
<td>Who purchase the homes?</td>
<td>Diaspora, Wealth person</td>
<td>Diaspora</td>
<td>Diaspora</td>
<td>Diaspora</td>
<td>Diaspora</td>
<td>Diaspora</td>
</tr>
<tr>
<td>2</td>
<td>Sales Unit Price</td>
<td>Villa</td>
<td>-</td>
<td>For rent only</td>
<td>7 million Birr</td>
<td>3 million and 920 thousand birr</td>
<td>3-5 million birr</td>
</tr>
<tr>
<td></td>
<td>APPARTAMA</td>
<td>One bed</td>
<td>-</td>
<td>From 1.8 to 5 million Birr</td>
<td>3million and 920 thousand birr</td>
<td>From 600,000 thousand to 2.5 million birr</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Two bed</td>
<td>140,442.35 Dollar</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tree bed</td>
<td>172,688.33 Dollar</td>
<td>24,850 birr (care)</td>
<td>5 million, and 130 thousand birr</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Four bed</td>
<td>197,463.45 Dollar(113.40m²)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Four bed</td>
<td>238,827.72 Dollar(133.62m²)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Period of mortgage payment</td>
<td>One year</td>
<td>24 months</td>
<td>18 Months</td>
<td>24 months</td>
<td>18-24 months</td>
<td>24 months</td>
</tr>
<tr>
<td>4</td>
<td>Number of houses</td>
<td>Villa</td>
<td>0</td>
<td>34</td>
<td>25</td>
<td>280</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apartment</td>
<td>13</td>
<td>284</td>
<td>3000</td>
<td>56</td>
<td>18 (current)</td>
</tr>
</tbody>
</table>

Source: interview
4.14. Other Challenges

In addition to the above many factors affect the development of the sector, lack of good governance, Political condition of the country, Lack of proper professionals /Work Man ship/, Unresolved border disputes, Market problems, Unpredicted condition happening on the site, Delay in the delivery of finishing material and others are the major challenges.
CHAPTER FIVE
SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATION

This chapter summarizes the outcomes of the study and provides possible solutions or recommendations in order to minimize housing problems by targeting main different challenges affects real estate sector. The first section of this chapter is dedicated to summarize the findings part and followed by conclusion and recommendations.

5.1. Summary of Findings

✓ Even though many business companies are entering to real estate business, the sector is on infant stage (junior). The numbers of house built by real estate projects are very few as compared to the overwhelming housing demand of society. Even not cover more than 3% of house demand.

✓ The current private real estate construction projects suffers from poor project management and control that lead to extended completion of projects beyond the planned completion time, cost and poor quality.

✓ Price escalation of construction materials which are the cause for cost overrun is caused by inflation, shortage of foreign exchange, and high interest rate and so on is the highest challenge that results mean score of 4.2813. This causes economic crises in real estate projects.

✓ The descending order of challenges based on mean values is economic, regulatory, financial and technological challenges.

✓ Even though the contractual agreement time to finish and transfer of homes to end users is 18 months, practically many real estate projects takes beyond the given time. Even more than 3 years. This cause cost overrun, and deteriorates public trust and so on.
✓ Source of finance to develop the real estate projects are: - sister company, Investment by owners / self-financing/, clients/end users/and Private Banks.

✓ Even though there are enough land and financial affordability policy for real estate projects in the city, there is a huge gap on sound implementation.

✓ Low stage in technology, science, research over the country scarifies the sector. It is the reason for low performance, les quality, delay, cost overrun and so on.

✓ To be high sustainable the projects economic, financial, technical and technological, regulatory, affordability, political and supply challenges are should be minimized or avoided.

✓ The level of social, environmental, waste, efficient energy management can determine the sustainability of projects.

✓ Unable to develop infrastructure, high bureaucratic activities and procedural difficulties are the reason for unable to deliver the homes on time, inability to supply raw material on time, corruption and commonly the delays payments for service rendered and manufactured product and so on.

✓ There was a negative and not significant relationship between independent variable i.e. challenges (economic, financial, technological, regulatory) and dependent variable i.e. sustainability of real estate projects at the case of Addis Ababa ($\beta_1= -0.003, \beta_2= 0.037, \beta_3= -0.111, \beta_4= -0.166$) t for each variable = is -0.026, 0.894, -1.179, -1.179 respectively and p<0.05 for each variable).

✓ The effects of value of un standardized Coefficient B= (-0.003, 0.037, -0.111, - 0.166) which show that a one unit increase in economic, financial, technological,
and regulatory challenges will lead to decrease the sustainability of real estate projects Addis Ababa by -0.003, 0.037, -0.111, -0.166 respectively.

✓ The properties of real estate projects are not affordable to low and middle-income group of a society. It is affordable to high income group and Diasporas only. The reason is low purchasing power of society, skyrocketing prices of housing construction materials and lack of loan from financial institution.

5.2. Conclusion

The objective of this thesis is to assess the challenges and sustainability of private residential real estate developers, which were to analyze the economic, financial, technical and technological, regulatory, lack of professional man powers, poor infrastructure and service, political, and others challenges on development of the sector, specifically in Addis Ababa. The study used both quantitative and qualitative as well as document analysis methods to analyze the given data. Despite 24 real estate projects available in the city, the demand for residence homes is alarmingly increasing from year to years because it is affordable for high income group only. This indicates there is imbalance between supply and demand of residence homes in the city. To solve this government and real estate developers should have to give more attention for sustainability parameters to enhance the sustainability of projects. The finding of the research indicates there is negative and not significant relationship between different challenges and sustainability of projects. The real estate business is on infant stage (junior). The properties of projects are not affordable to low and middle-income group of a society.
5.1. Recommendation

To satisfy the overwhelming housing demand in Addis Ababa, overcoming the challenges and setting sustainable strategies is going one step forward the sector. Therefore, recommendations are given as follows:

- It is better if government have efficient plan of offering subsidies to private real estate investors in order to promote investment in real estate sector. Subsidies have to be easily available and adequate for the low income housing, middle and high income housing projects. These subsidies can be in form of construction materials, financial subsidies, tax subsidies as well as supply of land for development of residential property.

- To solve the economic challenges it is better expanding domestic mega plants for production of housing construction materials. Reliance on foreign suppliers and foreign construction materials is the cause for delay in transferring the homes. Enhancing the capacity of local plants positively affect the supply and save a foreign currency for import.

- It needs intensive policy and regulation with sound implementation to market, finance and land affordability for the sector to satisfy overwhelming housing demand.

- It is better if developers of the sector develop more scientific and technological creation and innovation, generating new idea laid ground for the success of the project.

- It is advisable if government assists the sector in developing infrastructure facility and minimizes the bureaucracy and procedural difficulties, manage corruption.
✓ It is better if developers and government try to sustain the real estate projects by giving more attention to sustainability parameters and minimizing the challenges of the project.

✓ Prioritizing the challenges in order to minimize overloaded challenges that seriously hinder the development of the sector is very important.

✓ Structuring the best strategic management and integrating the sector with capable enough suppliers and experienced construction companies is advisable.
REFERENCE


Biruk Tesfaneh, Number of investment certificates on real estates, Ethiopian investment Authority and investment bureaus, Ethiopian, 2012.


Bob Muir, PE Fall, “Challenges facing construction manager today’s construction managers,” University of Delaware, 2005.


Gitman and Joehnk, Income property and speculative property, 2008.


Wu, Fulong, Real Estate Development and the Transformation of Urban Space in China’s Transitional Economy with Special Reference to Shanghai, 2002.

APPENDIX
ADDIS ABABA SCIENCE AND THE TECHNOLOGY UNIVERSITY

DEPARTMENT OF MBA IN CONSTRUCTION MANAGEMENT

Questionnaire for Real Estate Developers

Thesis title: CHALLENGES AND SUSTAINABILITY OF PRIVATE RESIDENCIAL REAL ESTATE PROJECTS IN ADDIS ABABA

This research is prepared to fulfill an academic requirement for MBA in construction management from Addis Ababa science and Technology University. I would like to assure you that the information you and your company provided in the following questionnaire will be used for an academic purpose only and will as such kept confidential.

Please give your response by making “x” in the space provided from given choice or write your answer in the space provided. In case you have more than one response please feel free to provide as many response as you can for that particular question.

Use the following number with corresponding title to fill the specified space to identify the level of challenges and level of sustainability of your project.

1- represent Very low
2- represent Slight
3- represent Moderate
4-represent High
5- represent Very high

Part-I General information

Company Name __________________________________________
Location of Real Estate Co. sub city __________________________
Location of Real Estate Site(s) ______________________________
Date of Establishment & Date of operation (_______________,___________)

Part-II Question about the title
<table>
<thead>
<tr>
<th>No</th>
<th>Economic Challenges</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shortage of foreign exchange /foreign currencies/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>price escalation of construction materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Inflation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>High bank interest rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The demand problems of the end products /Homes/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Finance Challenges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Lack of collateral to borrow money from the bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Lack of financial resources (financial securities, checks, assets equity)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Shortage of Monthly Cash Flow for proper operation of the sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Inadequate finance /lack of adequate source of finance/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Shortage of venture capital /Risk financing/ (since the sector is vulnerable to the risk)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Technological Challenges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Shortage of technological innovation in construction area.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Inappropriate level of scientific and technological knowledge in the country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Shortage of Research &amp; Development on the real estate projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Shortage of advanced new construction technologies and automated construction equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Level of Global technological competition of real estate projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Regulatory Challenges</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Weak Enforcement of the Land Laws in the city.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Management problems in government bureaus and offices.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Levels of Corruption in government office.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Levels bureaucracies around government offices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Weak controlling systems of projects by regulatory body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sustainability Parameters</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Efficient energy consumption</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Waste recycling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sustainable Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Waste reduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Creating health Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If there are others, please specify

______________________________________

______________________________________

______________________________________

______________________________________ ::
ADDIS ABABA SCIENCE AND THE TECHNOLOGY UNIVERSITY

Department: - MASTER OF BUSINESS ADMINISTRATION IN CONSTRUCTION MANAGEMENT

Thesis title: - CHALLENGES AND SUSTAINABILITY OF PRIVATE RESIDENCIAL REAL ESTATE PROJECTS IN ADDIS ABABA

Interview Questions for Real Estate Developers

Name --------------------------------------

Position ----------------------------------

1. How do you assess the real estate development in Ethiopia? And what is its current status?
2. Do you think the private real estate industry has significantly affected the overwhelming house demand in Addis Ababa?
3. How do you acquire land?
4. How do you finance your projects?
5. When do you start advertising and registering home buyers?
6. Have you ever encountered cost overrun in any of your projects? What was the cause of the cost overrun?
7. A recently publicized crisis in the real estate industry is the failure to transfer houses on the agreed upon date? What do you think are the major causes for this failure?
8. The Access Real Estate crisis has cast a shadow of mistrust from the general public on all real estate developers of the country. What measures do you plan to take to gain the public’s trust back?
9. What seems like the affordability of the homes? What are the challenges to affordability? For whom the homes are affordable?
List of private residential real estate projects in Addis Ababa

1. Addis real estate
2. Adams Pavilion PLC
3. A.Z. Real estate
4. Akakas Real estate PLC
5. Ayat S.c CCD PLC
6. Enyi Real Estate
7. Flint stone Homes
8. Gift Real Estate
9. Hassen Mohammed Ibrahim real estate
10. Hassenias Real estate
11. Huda real estate PLC
12. Kara Kore
13. Lemual Real Estate
14. Metropolital Real estate
15. Metro real estate
16. Muller real estate
17. N and M Real estate
18. Noah Real Estate
19. Petram PLC
20. Sunrise Real Estate
21. Sunshine Real Estate
22. Tracon real estate
23. Tsehay Real estate
24. Zenebe Frew Real Estate
Automated construction machinery and equipment
Noah Real Estate Apartment (Around Ayat Adababay)
Tsehay real estate apartment around CMC

Tsehay real estate Apartment 3D display