EiABC
Ethiopian Institute of Architecture,
Building Construction and City Development
Addis Ababa University

User-initiated house transformation for income generation; *the case of individual private housing in Woreda 07, Akaki Kality, Addis Ababa*

By: **Bonny Tesfaye Degefa**

This thesis is submitted to the Ethiopian Institute of Architecture, Building Construction and City Development (EiABC) and to School of Graduate Studies of Addis Ababa University for partial fulfilment of all requirements of Master of Science in Housing and Sustainable Development.

Advisor Elias Yitbarek (PhD)

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This thesis is submitted to the Ethiopian Institute of Architecture, Building Construction and City Development (EiABC), the school of Graduate Studies of Addis Ababa University in partial fulfillment of the requirements for the degree of Master of Science in Housing and Sustainable Development.

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Author: Bonny Tesfaye Degefa

October, 2022

Approved by Board of Examiners:

Chair Person	Signature	Date
Advisor	Signature	Date
External Examiner	Signature	Date
Internal Examiner	Signature	Date

Declaration

I declare that, this thesis is prepared for the partial fulfillment of the requirements for the degree of Masters of Science in Housing and Sustainable Development entitled **"User-initiated house transformation for income generation; *the case of individual private neighborhood in Woreda 07, Akaki Kality, Addis Ababa"*** is my original research work prepared independently by my own effort with the close guidance and supervision of my advisor. I also declare that this thesis has not been presented for a degree in any university, and all sources that I used or quoted have been acknowledged by means of complete references.

Declared by: Bonny Tesfaye Degefa

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Signature:

October 2022

Certification

Here with, I state that Bonny Tesfaye Degefa has carried out this research work on the topic entitled "**User-initiated house transformation for income generation; *the case of individual private neighborhood in Woreda 07, Akaki Kality, Addis Ababa***" under my supervision and it is sufficient for submission for defense.

Elias Yitbarek Alemayehu (Ph.D)

Signature:

Date:

Abstract

As the capital, Addis Ababa struggles to accommodate influx of population, it is apparent that changes on all levels and sectors are taking place. Spatially the city has been densifying and the built-up elements are increasing so as to keep up with the housing demand of the people. This research focuses on the transformations that took place in a dominantly private owned settlement located in Akaki Kality, Woreda 07, for the purpose of income generation. And the kind of transformations that took place and for what functions these transformed spaces are used, the challenges of the transformations and the prospects. To study these aspects, data was collected from selected households in the study area using semi-structured questionnaires, key informant interviews with sub city office employee and Woreda level building permit office. According to the data collected the research found that transformation of housing/compound for the purpose of income generation is common and they are continuing transforming and planning to transform. Based on the studied cases the residents were able to accommodate their needs and cope with the spatial transformations that directly impact them socio-economically. These transformations have posed some challenges like landuse incompatibility, accessibility issue due to overflow of activities and in some cases pollution of sound for residents. The transformations are consciously planned activities done by each transformer, although it is an unplanned and spontaneous development at a neighborhood level as it's not planned cohesively and conclusively for the area. The study concludes that the residents' livelihood is directly linked to the housing/compound they own as they derive their significant portion of income from it. Reinforcing the sustainable livelihood framework that entails that livelihood is directly linked to the physical capital and the factors such as policy and regulation being factors mediating the dynamic. The ownership status of the residents has given them a level of freedom and rights in exploring ways in transforming to generate income from the physical capital they possess. Based on the findings, the recommended points are to regularize the transformations taking place at a compound level and planning intervention at a neighborhood level so as to minimize the challenges caused by the transformations and to maximize the benefit the transformers gain.

Keywords: housing transformation, income generation, private owned housing,

Acknowledgment

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List of Abbreviations

A.A- Addis Ababa

AAPCo- Addis Ababa Plan Commission

AAPDC- Addis Ababa Plan and Development Commission

AAU- Addis Ababa University

BAR- Built-up Area Ratio

CSA- Central Statistics Agency

DFID- Department For International Development

FDRE- Federal Democratic Republic of Ethiopia

GIS- Geographic Information System

HBE- Home-Based Enterprises

OECD- the Organization for Economic Cooperation ad Development

SPSS- Statistical Package for Social Sciences

UNDP- United Nations Development Program

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the study

Urban growth in sub-Saharan Africa is taking place in an unprecedented speed causing many pressing urban issues, particularly rapid increase in housing demand and straining the hosing supply. This growth puts immense pressure on urban services to meet the needs of the flourishing urban population(Lozano-Gracia & Young, 2014). Ethiopia being one of the sub Saharan African countries is facing the challenges of urbanization in different aspects and more on the housing aspect in the capital city Addis Ababa. There are different interventions being made by the city administration to accommodate the population increase.

In keeping with the pattern of urban growth of the least urbanized countries, Ethiopia is currently witnessing one of the fastest rates of urban growth in the world, with an average 10.9 per cent per annum over the past ten years (UNDP, 2014). Hence, Addis Ababa, the capital city of Ethiopia, a bustling metropolis is a small-scale fabric of global mainstreams, 80% residing in slums, 51% engaged in the informal sector(UN-Habitat, 2007).

The high rate of urbanization is manifested in all aspects in the city Addis Ababa. Transformation on the physical, social, economic and cultural fabric is noticed throughout as it thrives to accommodate the population increase. The densification of inner cities beyond the limit as people surge in search for jobs and opportunities is one of the physically visible phenomena. Although the densification is more prominent in the inner city, the effect is all over the city including the peripheries and neighboring towns.

The idea of house transformation is a very wide and complex issue. Human beings by nature like to design things and living environment the way it suits their needs and desires. Human beings made transformations at different levels to the place where he live (the dwelling) to make it suitable for day to day activities or for other socio-economic reasons(Bekele, 2015).

This study focuses on owner-initiated transformation of house and living space for income generation. There are previous studies made around the subject of housing transformation but the focus was on the methods of transformation, transformation for demographic reasons (family size increase) and the housing types are mostly on government owned housing units. This study is focused on housing transformations that took place for income generation in a dominantly private owned settlement. The general framework of this research is the relationship between the physical/spatial elements of housing or settlement with the livelihoods of residents. It studied the selected area in terms of the existing functional and income mix, the types of transformation that have occurred for the purpose of income generation, the challenges and opportunities that are faced due to the transformations that are taking place.

The case area selected for this research is located in Akaki Kality sub city, which is the sub city by the southern edge of Addis Ababa further away from the city center. It is dominated by privately owned large sized parcels/ compounds. The area used to be covered with farmlands and homes where farmers live with their families. Even though the compounds are transformed for income generation such as renting the compound or a house, the residents might have jobs located at a different location and the people working at the transformed space live somewhere else. The research tries to analyze those different scenarios that are in the study area.

1.2. Statement of the problem

House transformation is a common phenomenon around the world as the needs and desires of human beings are constantly changing, seeking for a better life and making a livelihood. Transformations of houses and compounds for the purpose of income generation are one of the motives for generating income initiated by the owners/dwellers in the house. Utilizing residential spaces and compounds for income generation becomes more evident in Addis Ababa, Ethiopia where many transformations are happening and it is seen many people trying to make a living through home-based enterprises, renting dwelling spaces and transforming their houses and compounds in a way that it can generate them income for a living. (HABITAT 2008)

The concepts of housing, livelihood and well-being are linked, these connections are capable of transforming the socio-economic and political aspects of a population to an advanced level(Kiduanga, 2010)

Human by nature like to design things and living environment the way suits. Moreover, to the most critical point human being made transformation, in different level, the place where he lives (the dwelling) to make it suitable for day-to-day activities or for other socio-economic reasons Bekele (2015). To see further, Bourne (1981, p. 14) defines the relation of living environment and its function to people, in terms of six dimensions. In addition to providing shelter to its occupants, housing also consumes land and demands the provision of physical services such as water and sewage as well as social services to households. As an economic good and commodity, housing is traded or exchanged in a market and acts as an investment good, which returns equity to its owner. It is a basic need, which means that it is essential for the population being like education, food and in most cases health care.

Owner-initiated house/compound transformations are known to create a convenient and usable space that can improve the economic problems faced by the owners. Such unplanned transformations for income generation change the urban fabric/physical aspects/ as well as the socioeconomic aspect of an area. Although it is known that the owners have a motive/drive for transformation, it is not known what challenges the transformations result in or the opportunities that come with it.

Despite all the above merits of secondary units and its extension, it remains unconventional housing options. During the study area survey, respondents are skeptical when asked about secondary units rental because of fear of tax came due to rental house. In addition, the illegality of the units creates suspicion to give full information (Bekele 2015). This implies that house transformation comes with its own challenges, both expected and unforeseen.

However common and accustomed cities around the world are to transformation and change, there is always a challenge, potential or threat to the city, making it important to study an area and the underlying realities of the transformation. In the case of Addis Ababa there are researches done on housing transformation, such as:

Secondary dwelling units extension by Alemayehu Hailemariam: examines secondary dwelling units' (a local name called "Service biet") extension in Woreda 2 Akaki-Kality sub city in Addis Ababa. The study was designed to better understand why and how secondary dwelling units have been extending for the past twenty years.

Renter initiated transformation of kebele housing by Yonas Alemayehu: the housing transformation was studies on government owned housing known as kebele housing that are usually occupied by low-income groups, most of this housing types are located in the inner city of Addis Ababa which were the earliest settlements of the city.

Self-initiated transformations of public-provided dwellings in Addis Ababa, Ethiopia by Demissachew Shiferaw,

KITIYA- Transformation of low-income housing in Addis Ababa by Esayas Ababu, *low rent public housing in Addis Ababa.*

On this research; the primary focus is on housing transformations for income generation, the type of transformations that took place for the purpose of income generation, the challenges for transformation, potential of transformation and the relationship between the physical spaces and the livelihood of the residents. In contrast to the cited cases this research has a narrowed scope within housing transformation and goes in-depth about the types of transformations that are taking place for income generation, in a different location(landuse) and type of housing.

1.3. Research objectives

1.3.1. General research objective

The general objective of this research is to investigate user-initiated house transformation for income generation in individual private housing in Addis Ababa, Ethiopia.

1.3.2. Specific research objectives

i. To identify the transformations for income generation in the study area.
ii. To identify the challenges of transformations for income generation.
iii. To identify the prospects of transformations for income generation.
iv. To suggest a house/compound form that can enhance the prospects and rectify the challenges of transformation in the study area.

1.4. Research questions

1. What housing transformations for income generation have occurred in the study area?
2. What are the challenges of housing transformation for income generation in the study area?
3. What are the prospects of housing transformation for income generation?
4. What housing form can be developed to rectify the challenges and capitalize on the prospects of housing transformation for income generation?

1.5. Scope of the study

1.5.1. Spatial scope

The study is spatially limited on a block located in Seriti neighborhood which is located in Akaki Kality sub city a sub city located at the southern end of the city Addis Ababa, Ethiopia. The selected block is consisted of dominantly private owned compounds that have residential buildings. The location is over 10kms away from the city center/core of the city/.

The study area falls in one administrative Woreda in the sub city; Woreda 07.

1.5.2. Theoretical scope

The study is mainly concerned with examining and understanding the transformations in the study area that are occurring for income generation. It focuses on the existing issues regarding the transformations for income generation by residents/owners. The study focuses on the transformations occurring for income generation purpose in specific and in that identify the different challenges that are faced as well as opportunities and prospects. The scope of the study is described on the following diagrams Figure 1, Figure 2 Figure 3.

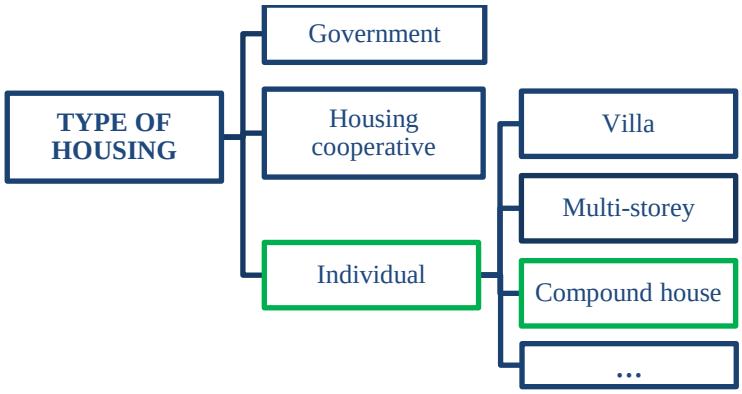


Figure 1 - Focus of study- Housing type

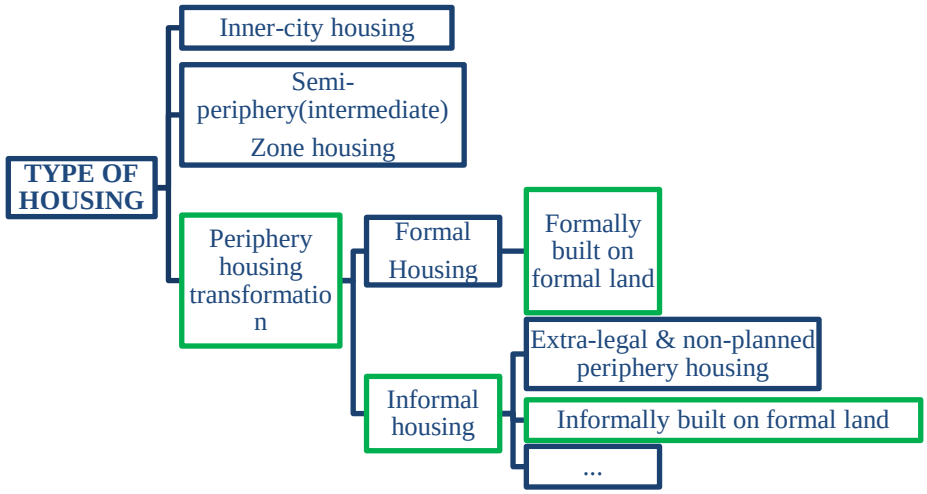


Figure 2 - Focus of study- location of housing

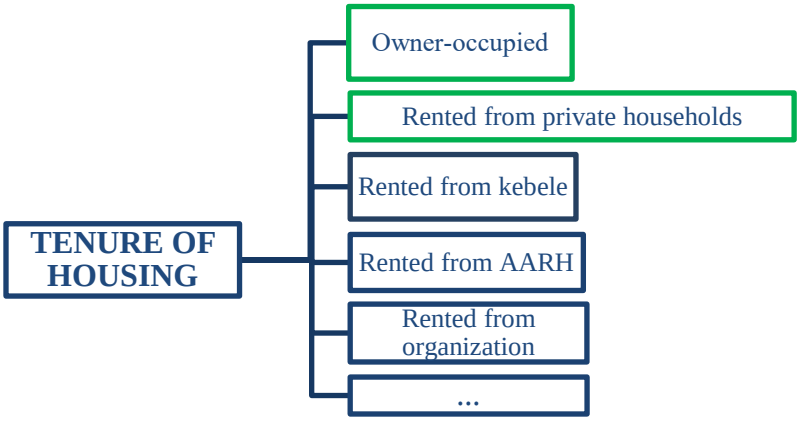


Figure 3 - Focus of study- Tenure of housing

1.6. Significance of the study

The significance of this study is in going one step deeper into house transformation for income generation, by studying the types of transformations that have taken place and the challenges/prospects that comes with it. It tries to grasp the attitude of the owners and business owners residing in the area towards the transformation, and beyond into analyzing the dynamic between house/compound form with the livelihoods of the residents/business owners in the study area.

The process of the study provides relevant information on the existing reality of the neighborhood regarding the transformations for income generation and through the awareness and outcome of the study there will be a lesson to be learnt from this case that could be a basis for capitalizing on the positive side of the transformation and will make way improvement of the challenges.

1.7. Limitation of Research

The limitations faced in the data collection of this study are finding a documented regulation from government offices at different hierarchies, where they know and use a rule but don't know where the printed and documented file is. While inquiring information on the regulation/"circular" that from the respective offices, which is setup in different hierarchies and all the offices at Woreda level, sub city and city level were giving a response that such document is found at the office at the other level and vice versa. So no having the actual copy of the document attached to the annex of the study might have a limitation in terms of further studying and analyzing the regulation.

Another limitation of the research is; during conducting the questionnaire, some residents were uncomfortable to answer question regarding taking building permits for the transformation/constructions they undertook in their compounds. Although all of them have

answered that question, after explaining the questions are only for research purposes and all responses will not be disclosed to any third party in a way that could expose them.

1.8. Organization of research

The contents of the study are presented in five chapters as follows **Table 1**:

CHAPTER	CONTENT
1. INTRODUCTION	An introductory section for the study: background, problem statement, research questions, objectives, scope, significance, limitation of the research.
2. LITERATURE REVIEW	It covers a variety of subtopics, including housing transformation, related urban issues, types of housing transformations, livelihood, housing transformation, and explores pertinent and related issues in each one.
3. RESEARCH METHODOLOGY	This chapter discusses about how the research was conducted and its methodology. It includes case selection, the research method of choice, data gathering methods, sampling methods, data analysis methods, and presentation methods.
4. DATA INTERPRETATION AND ANALYSIS	It conveys the research's findings by delving into analysis and theoretical discussion.
5. FINDING AND RECOMMENDATION	It summarizes the findings, draws conclusions, and offers suggestions on housing transformation for income generation practices in context to the study area.

Table 1- Organization of Research

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Introduction

This research focuses on the transformation of housing for income generation in the selected study area, the type of transformations and the effect of such transformations on residents and business owners in the study area. And therefore, before studying the specific case and area, there should be a theoretical framework on which the study is based on.

In the literature review; different concepts and theories that are included in the research will be defined and discussed, the main theoretical framework of this study is the relationship between the housing space and their transformation for income generation.

The literature review has two main sections, the first one focuses on areas within the scope and framework of the research; general concepts of housing transformation, owner-initiated transformation of house form/spaces and function for income generation, the challenge, potential and effect it has on different aspects of residents' lives. Under every main topic there are incorporated sub-topics under the broad concept. The second section is the contextual literature review.

2.2. Definition of terms and phrases

According to different researches done in the area of housing transformation; it is defined as follows to help understand the study.

Transformation is synonymous with words such as alteration, adjustment, modification, improvement and change. In this research transformation refers to transformation of physical/spatial elements of housing.(Graham Tipple, 2000)

Bolaane & Kalabamu (2013) referred Longman Dictionary of Contemporary English (2007), transformation simply means a complete or partial change, usually into something with an improved or disfigured appearance or usefulness. And added in their research "The term 'housing transformation' is used here to refer to informal, extra-legal and unplanned processes through which home-owners extend their houses, erect additional rooms or convert part of their homesteads into rental accommodation." (Bolaane & Kalabamu, 2013, p. 33)

Tipple (1991) defined the transformation of a dwelling as the alteration or extension involving construction activity using locally available materials and technology.

Kim et al. (2005) described The remodeling of completed buildings that results in a change in the look or character of building envelope components is referred to as transformation.

(Popkin et al., 2012) also defined housing transformations as actions ranging from rearranging interior furnishings and painting a room to structural changes such as the installation of additional rooms or even the destruction of certain housing units.

Summarizing the definitions into context housing transformation can be defined as the changing of original physical form and spatial arrangement of a dwelling unit/ space to/by occupants to meet their needs and achieve their goals.

Dwelling- Dwellings are buildings that are used entirely or primarily as residences, including any associated structures, such as garages, and all permanent fixtures customarily installed in residences; movable structures, such as caravans, used as principal residences of households are included (OECD, 2019).

Housing unit- A housing unit is a separate and independent place of abode intended for habitation by a single household, or one not intended for habitation but occupied as living quarters by a household at the time of the census(Ibid). A dwelling/(s) that are under one deed title, which is legally considered as one.

Household-Constitutes of a person or group of persons, irrespective of whether related or not who normally live together in the same housing unit or group of housing units and who have common cooking arrangements CSA` (2007) people living in the same housing unit

Compound- in this research the term compound refers to the enclosed/defined area where houses or other functions reside in and is owned legally and the owner possesses a title deed for the property.

2.3. Housing and urbanization and industrialization

As different literature; challenges of housing is more severe in cities than in rural regions, indicating that housing challenges are connected to urbanization. If urbanization isn't addressed properly, it can result in the growth of slums, informal settlements, insufficient housing, extreme poverty, homelessness, and unemployment, among other things. Moreover, Cities are overburdened in order to satisfy the needs of growing urban populations, resulting in rising housing shortages.(UN-Habitat, 2020)

Housing as basic necessity for human kind is directly linked with urbanization where there is a significant flow of population that requires a house and all the infrastructures linked to it. Shortage of housing is likely to happen during a city's period of urbanization.

According to Collier & Venables (2014) urbanization and increasing density produces value and increasing density which enhances productivity In the process of housing provision. Because the effect is location-specific, owners benefit disproportionately from the increase in value. Cities' growth is a classic coordination phenomena, thus the increased value is difficult to attribute to any single factor.

To balance the social and infrastructure stress they cause in the city they are in or places nearby, industrial parks' economic potential needs to be taken into consideration. Shelter and housing are key issues that place a burden on cities with industrial areas since they relate to basic human necessities.

Where there is employment there comes a need for accommodation of the population attracted by the employing establishments.

2.4. Housing transformations and urbanization

The physical and cultural transformation of traditional communities and settlements are influenced by the rate of urbanization and globalization. This phenomenon is most evident in fast-growing and changing cities in developing countries like Addis Ababa Ethiopia. Human settlements are changing dramatically in developing nations' cities, as housing supply is falling short of demand despite growing urbanization and demographic change(Shiferaw, 1998). The housing demands created by urbanization has different outcomes in cities such as informal settlements, informal and formal subletting of houses by house owners, shortage of infrastructure and many more. “A population that is urban is one in which vast numbers of people are clustered together in very small areas called towns and cities”(Tegenu, 2010).

Adding to the significance of connection between urbanization and housing Watcher et al. (2018) described; housing, together with related services and infrastructure, is essential to the urbanization process, both in terms of equity and as a vital investment sector for the supply of shelter.

From the report by UN-HABITAT, over the next 25 years, over 2 billion people will add to the growing demand for housing, water supply, sanitation and other urban infrastructure services. Closer to 3 billion people, or about 40% of the world’s population by 2030, will need to have housing and basic infrastructure services (UN-Habitat 2005).

Rapid urbanization in developing countries is the most unprecedented phenomenon of the world’s development in the past few decades. The pace of urbanization has exceeded many developing cities' capacity to absorb the needs of a growing population, despite all innovations and efforts. One of the main pressing problems is to provide adequate housing for all, particularly for the poor. (UN Habitat 2008)

2.5. Housing and livelihood

People have described livelihood as their jobs, making a living and supporting their families. There are formal definitions of 'livelihood' forwarded by researchers and organizations; DFID (1999) defines it as; 'A livelihood comprises the capabilities, means/assets (including both material and social resources) and activities required for a means of living.

In the context of this definition; housing as a tangible asset falling in the 'stores and resources' component/element/ of livelihood that is required to thrive or make a living, it is depicted in the following diagram Figure 4.

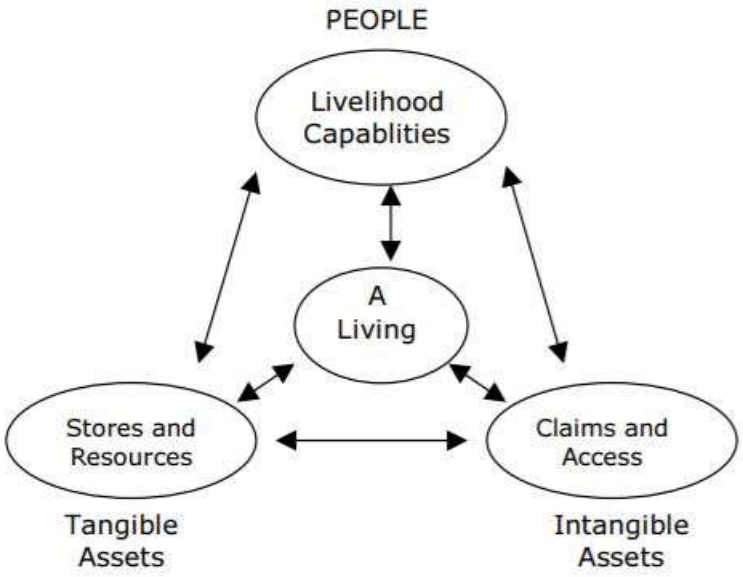


Figure 4 - Components and flows in a Livelihood(Chambers & Conway, 1992)

Housing as a basic necessity for humans is a substantial influencer on the way of life and livelihood of the people residing in it. "The linkage between housing, livelihoods and well-being exists because all the concepts are capable in transforming the socio-economic and political aspects of urban population to the progressive level. While the well-being revolves around a variety of progressive values the population and the city are striving to achieve for better live and urban setting; such level of attainment can be realized by housing as a strong livelihood means"(Kiduanga, 2010).

A human rights framework based on United Nations Universal Declaration of Human Rights adopted in 1948 and the International Covenant on Economic, Social and Cultural Rights adopted in 1966, takes up that housing is fundamental to well-being of individuals and assures a means of livelihood. “Adequate housing, as defined by the United Nations, is not just a house but also a community and a ‘‘territory where people can have access to the means of livelihood – to land, to water, to resources, to sources of income – and not only being sheltered somewhere.’’ While this framework does not explicitly address housing affordability, it often does when translated to policy”(Smith, 2012, p. 11).

From a utilitarian standpoint, housing is an item of great importance to the people, area, and nation. Apart from providing a place for humans to dwell, housing has other purposes as well.(Kiduanga, 2010)

As an economic good and commodity, housing is traded or exchanged in a market and acts as an investment good, which returns equity to its owner. It is a basic need, which means that it is essential for the population being like education, food and in most cases health care. As a package or bundle of services a view, which recognizes that occupancy of housing, involves also the consumption of neighborhood services (parks, schools), a location (accessibility to jobs and amenities) and the proximity of certain types of neighbours (a social environment). As a sector of the economy, housing is a component of fixed capital stock, a means of producing wealth and a tool of governments and cities in regulating economic growth. Kissick et al (2006) in underscoring what housing performs, they revealed that it creates job opportunities to the people when construction takes place. They further pointed out that legalization of informal settlements and registration of housing and other real property helps unlock fixed capital for productive investment and builds local tax bases.

Housing plays a major role in stimulating employment, directly and indirectly. Direct employment is generated when housing construction takes place. It was found that in both developed and developing countries housing production is more labour than capital intensive.. As a result a high level of employment is created particularly for unskilled and semi-skilled labour. This argument has been confirmed empirically by a number of studies. A research carried out by Kimm (1977) confirmed that housing construction provides a point of entry to the job market for many unemployed and unskilled urban migrants.

It is also argued that improved housing contributes to increased productivity of labour; improve health and lower health care costs of residents. It also contributes to increased motivation and effectiveness in education of re-housed children and reductions of crime and juvenile delinquency and reduction of fire hazards in residential neighborhoods. (Ibid)

2.5.1. Sustainable livelihood framework

The livelihood of people is affected by several factors, both directly and indirectly. Livelihood is more than the people and their potentials it is linked with several variables and issues.it incudes all possible/available resources, technologies, knowledge and opportunities through which they support their lives.

The sustainable livelihood framework is based on livelihood approach with core concepts;

People-centered; puts people at the center of development. People rather thann the government that rules and the resources they utilize.

Holistic; focus on various issues that consider different variables that considers or give opportunities, as well as how they connect to one another.

Dynamic; seeks to understand changes that take place in people's lives because people's livelihoods and the institutions are constantly changing. A two-dimensional framework cannot fully represent the real dynamic of livelihoods, but it may be represented in processes and techniques of study.

Building on strength; recognizes the inherent potential of everyone and starts with analyzing the strengths rather than needs. The key objective of the approach is to remove obstacles to realization of potential.

Macro-micro links; unlike different development activities, the livelihood approach tries to bridge the gap of focusing on either micro or macro level by linking both. Policy at macro level is usually developed without the inclusion of communities it affects.

Sustainability;

Among the several aspects discussed in the sustainable livelihood framework, for this research it mainly focuses on income generation as a result of housing transformation, which can be translated in the framework as the physical capital/housing/ resulting in income increase and wellbeing.

The livelihoods framework is a tool to improve our understanding of livelihoods, particularly the livelihoods of the poor. It was developed over a period of several months by the Sustainable Rural Livelihoods Advisory Committee, building on earlier work by the Institute of Development Studies (amongst others).

The livelihoods approach is concerned first and foremost with people. It seeks to gain an accurate and realistic understanding of people's strengths (assets or capital endowments) and how they endeavor to convert these into positive livelihood outcomes. The approach is founded on a belief that people require a range of assets to achieve positive livelihood outcomes; no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. This is particularly true for poor people whose access to any given category of assets tends to be very limited. As a result they have to seek ways of nurturing and combining what assets they do have in innovative ways to ensure survival.(DFID, 1999)

The framework identifies five core asset categories or types of capital upon which livelihoods are built. Increasing access which can take the form of ownership or the right to use to these assets is a primary concern for DFID in its support of livelihoods and poverty elimination; these capitals are also called building blocks of livelihood.

Human capital- are defined as the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives. At a household level human capital is a factor of the amount and quality of labour available; this varies according to household size, skill levels, leadership potential, health status, etc. in the context of this study the capacity of the owners of the housing units/compounds undertaking the transformations.

Social capital- the social resources from which people draw in order to achieve their living goals These are formed through the following processes: networks and connection, participation in more structured groups, and trust, reciprocity, and exchanges.

Natural capital- the natural resource stocks that provide resource flows and services (e.g., nutrient cycling, erosion prevention) that are important for livelihoods Changes and shocks that occur as a result of changes in access and availability of these resources have an impact on people's livelihoods.

Physical capital- Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. The most essential components of infrastructure that contribute for sustainable livelihood are affordable transport; secure shelter and buildings, adequate water supply and sanitation, clean, affordable energy; and access to information (communications).

Financial capital- is the financial resources that people use to achieve their livelihood objectives.

It is important to note that a single physical asset can generate multiple benefits. If someone has secure access to land (natural capital) they may also be well-endowed with financial capital, as they are able to use the land not only for direct productive activities but also as collateral for loans. (ibid)

Transforming Structures and Processes within the livelihoods framework are the institutions, organizations, policies and legislation that shape livelihoods. The importance of these is very crucial and requires great emphasis. They operate at all levels, from the household to the international arena, and in all spheres, from the most private to the most public. The interaction and relationship of all the components is presented diagrammatically Figure 5.

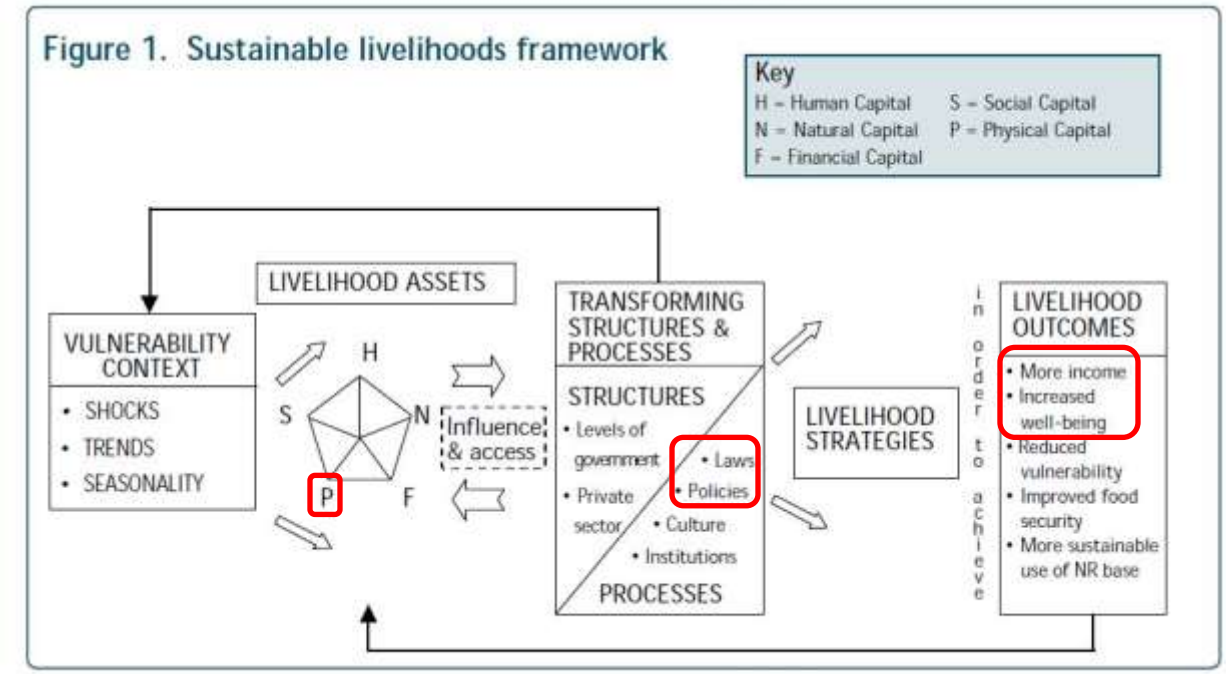


Figure 5 - Sustainable livelihoods framework (DFID, 1999)

2.6. Concepts and theories of housing transformation

Housing transformation is a global phenomenon on which different studies are done regarding the topic. Historically human beings have continuously developed their housing environment to meet essential needs imposed by variables that change from one period of time to another. It is not unlikely that transformation of housing affects the human environment economically, socially and culturally for it has been happening since early times.

There are many ideas forwarded that can be accounted as a reason and motivation for housing transformation. Households carry out far-reaching alterations, extensions, modifications, or additions to the original forms, extent, and patterns of their buildings, including their immediate environment, in the context of housing transformation. Housing transformation encompasses more than just utility and functionality; it also encompasses a sense of belonging to the surroundings. The idea is that one cannot reacquaint oneself with a situation (Tipple, 2000)**.**

There are several theories raised about housing transformation ranging in the focus area of economic, social, psychological, spatial, development and so on.

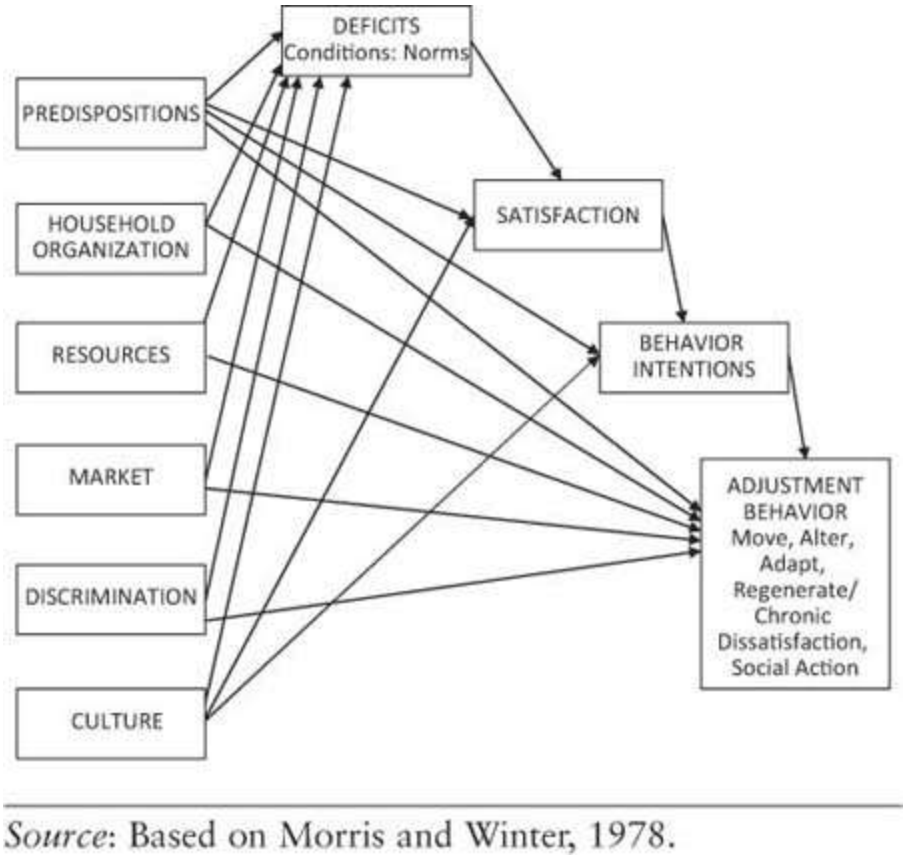
2.6.1. The housing adjustment theory

Historically, settlements have been influenced by the necessity to conform to societal standards and lifestyles. Mirmoghtadaee (2009) Norms refer to the rules and regulations that dictate the way of life and manners of a people in a society and family in the context.

The theory of housing adjustment behavior is a framework for explaining the process through which households aim to preserve equilibrium, as well as the causes of disequilibrium and the implications of being in one.

Families consider two factors to assess their housing situation: family norms and culture norms. Given the family life cycle stage in which the family finds itself, each family assesses their housing on a regular basis to see if it is in accordance with family and cultural norms (Morris & Winter, 1975)**.**

As shown in **Figure 6** there is bound to be a "housing deficit" when a household's current housing conditions do not conform to established norms and lifestyles as a result of changing needs over time, family life cycle such as increased household size and income (Aduwo et al., 2013)**.**



Source: Based on Morris and Winter, 1978.

Figure 6 - Diagram based of Housing adjustment theory (Carswell, 2012)

This gap can be brought about by a variety of factors, including changes in housing demands arising from changes in the household's socio-economic circumstances and tastes and preferences, changes in housing attributes and changes in housing prices and other external influences, such as public decisions relating to land use or transportation.

At some point in time, a household may desire some housing attributes which are not provided by the current dwelling, indicating a gap between the actual and the preferred level of housing consumption.

In most cases, `stress' or `dissatisfaction' will mount gradually, but at increasing intensity, over a fairly long period of time (at least over some stages of the family life cycle). These cycles and adjustment timing are presented below Figure 7.

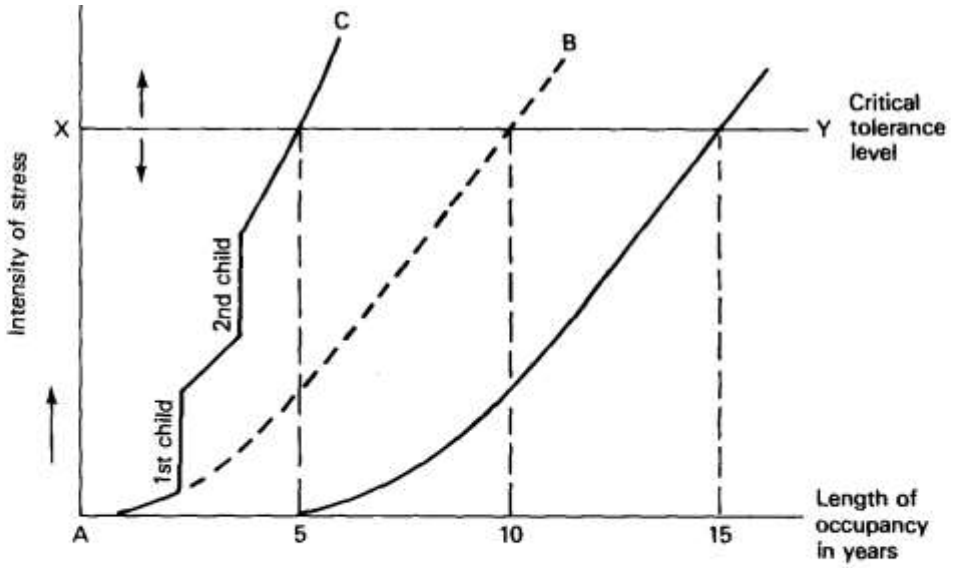


Figure 7 - Housing stress and adjustment timing (adapted from Seek 1983)

On the other hand, incongruence between housing needs and aspirations may lead to dissatisfaction. Rossi (1955) postulates that changing housing needs and aspirations occur as households progress through their life cycle stages leading to residential dissatisfaction at some stage and they respond to this dissatisfaction through migration. Hence, migration is viewed as a process of adjustment with the essential purpose of increasing one's place utility or level of residential satisfaction (Wolpert, 1966).

Morris and Winter (1975, 1978) introduced the idea of "housing deficit" and conceptualized housing satisfaction as a dynamic process. In their housing adjustment model of residential mobility, they theorize that households judge their housing conditions according to two types of norms, personal or cultural which may not coincide. An incongruity between the actual housing satisfaction and housing norms results in a housing deficit, which in turn gives rise to residential dissatisfaction, leading to some form of housing adjustments which may be either in situ such as revising their housing needs and aspirations in order to reconcile the incongruity, or improve their housing conditions through remodeling, or else they may move to another place and bring their housing into conformity with their aspirations or needs.

A number of theories have been put forward to explain housing transformations. One of such theories is the housing adjustment theory. According to Morris and Winter (1975), people generally judge their housing conditions based on specific family and cultural norms. Mirmoghtadaee (2009) explained that this is because settlements are naturally designed and built to meet the needs, social norms and lifestyles of people. Norms in this context refer to rules and regulations that determine the way of life and conduct of people in the family or society. Therefore, when a household's current housing conditions do not confirm with the established norms and lifestyle as a result of changing needs over time, family life cycle such as increase in household size (e.g. arrival of new babies, elderly relatives) and income (Tipple, 2000a)

There is bound to be what is called "housing deficit" which Mohit et al. (2010) argued can manifest in housing dissatisfaction. This may eventually trigger housing stress, shocks and demand for adjustment actions by the households. Seek (1983) insisted that people always crave to overcome housing stress by adjusting and re-adjusting their levels of tolerance, but Carmon (1987) noted that when this reaches a critical point and in order to cope with the stress, people will either have to improve their housing conditions through the transformation of their residences or move to a better housing if they have the means and permission to do so. In a the same vein, Quercia and Rohe (1993) explained that households always seek a satisfactory residential environment at all times, and if the characteristics of their housing and/or neighborhood no longer satisfy them because of changes in housing or neighborhood conditions, or because of demographic or socioeconomic changes in the household itself, then the household experiences stress. They argued that housing transformations are essentially aimed mitigating the impact of housing stress on family members.

This appears to be in line with the proposition by Mohit et al. (2010) that improvement of housing conditions through housing transformations affords households an opportunity to bring their housing environment into conformity with their needs, expectations and aspirations. Therefore, the theory of housing adjustment which provides insight into housing transformations has a strong link with housing satisfaction.

The existing studies (Tanaka et al., 1998; Tipple, 2000a; 200b; Manalang et al., 2002) suggest that in the developing countries, housing transformation is largely accomplished through spontaneous private initiatives.

2.7. House form and space transformation for income generation

The degree of transformation and its potentiality to change the domestic spaces of a dwelling depends on many individual factors and when there are possibilities of economic return this transformation is even greater. (Mahmud, 2013)

Through physical transformation, the extended and altered spaces are sometimes used in carrying out home-based enterprises or let out for renting purpose by low-income households. The dwelling is one of the few resources used for generating income. Asa (2018) and also described the economic reason for transformation is as a result of the rents they get from their rooms or shop tenants, personal business outlets like shops and other services rendered from their houses. Residents claimed that it made most of them to engage in home-based enterprises (HBEs) for additional income. Such small and medium scale businesses which are carried out from places of residence are generally referred to as home-based enterprise (HBEs).

The income generating means varies from place to place, urban areas to rural areas depending on the context of people's needs and the potential of the area. Moreover house transformation varies with tenure type, compound size and the character of the settlement.

2.7.1. Types of housing transformation

Definitions of transformation as summarized by Bekele (2015) as According to Khan (2014), spontaneous transformation of house defined as any alterations, additions, extensions or any modifications of both or either of the internal space or external form of any houses. House transformation can occur in any houses however, the probability of transformation occurrence is higher in self-built houses (Carmon, 2002).

"'Self-help' is the process by which poor people take control of their housing construction with the understanding that progressive improvements are to be expected and eventually achieved. It is the direct and significant involvement of dwellers in all aspects of the housing construction and transformation. Turner believes that the value of housing should be measured by what it does/contributes to the dwellers livelihood.

Progressive development is the gradual construction of houses to meeting developing needs" (Susana, 2005, pp. 15). The concept of self-help housing was introduced in contemporary literature by John Crane (Crane and Foster, 1953; Crane and McCabe, 1950). As Turner (1976) defined "self-help" housing in a simpler and by its literal meaning as "do-it-yourself" building. In which in this scheme the values of governmental building regulations and principles will be minimized. Low-income groups well aware what they need according to their capacities rather than governmental officials' dictation. They motivate to construct their dwellings by their capacity and skill if they get the opportunities; such as land and willingness from their government. As Turner (1976) has also noted self-help housing may not be physically pleasing but the builders will gradually improve the physical condition with their life condition.

The different types of transformations can be defined and categorized based on the purpose, physical attributes, type of housing and the like. Based on researches on transformation there are: transformations for income generation (can be through addition/ modification of building, changing the function then/or renting the added or modified unit) ,Transformation by Addition and Division(physical, this is practiced for home-based enterprises, renting, selling)**,** Transformation by Total Conversion- this can be functional conversion or changing individual home into a communal building/ commercial quarter**,** Transformation by incorporating other function within compound and much more.

2.7.2. Motives for transformation of house

From different literatures researches and studies done on housing transformation for income generation; the motives/reasons are summarized in the chart presented above. The cases are from different cities around the world. Based on the different cases review the motives for transformation are summarized below Figure 8.

The residential buildings in government housing estates often times were built without consultation with users, who usually indulged in unauthorized alterations, since the house did not conform to their expectations. (Asa, 2018)

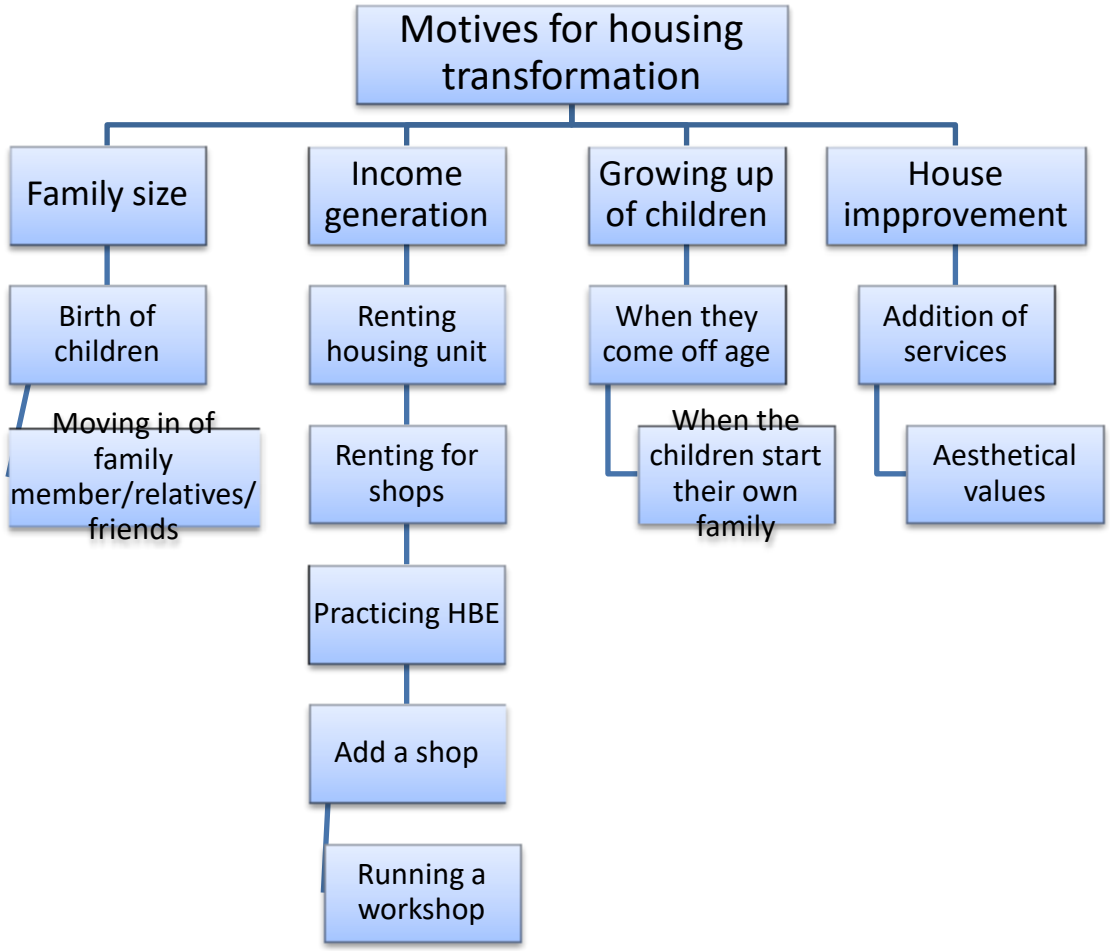


Figure 8 - Summary of Motivations for housing transformation
Source: compiled by author based on reviewed literature

It can be assumed that the determination to change emanates from the desire by the occupants to improve their surroundings, taking into account the physical characteristics of the building in which they live, but the ensuing changes can be assumed to have far reaching socio-economic implications.(Nguluma, 2003)

> In the case of Hanna Nassif settlement Housing transformations that are taking place should be regarded as a natural response to housing demands, as well as to satisfy other needs created by the rapid urbanization process. Ibid
> Transformation of houses can be assumed as being related to modernization in the sense that developmental aspects in house design are taken into consideration by the developers1 in their desire to improve the houses to suit their changing needs and surroundings.

There are various reason people transform their house, ranging from personal preference to utilitarian reason to accommodate their basic needs and to sustain livelihood. As summarized in Asa (2018) about different rationales for transformation; Tamés (2004) noted that transformations are pronounced in public housing because public housing estates are often uniform and monotonous and offer limited opportunities for self-expression by the residents.

On the other hand, Salim (1998) was of the view that the need to have an extra space for the household and for income generation was a key motivation for transformation.

This was corroborated by Tipple (2000a) who noted that many households transform their dwellings because they needed to work in their homes and let out additional spaces created in the course of transformation activities. He therefore concluded that one of the greatest motivations for transformation was to add value to the existing housing stock.

Shortage of housing/failure of housing delivery system

Hasan (2006) from another perspective argued that transformation of dwelling units by residents in public housing schemes was a response to the failure of the government constructed housing to cater for the housing needs of the people. This suggests that housing transformations are on the increase due to the perceived gap between what residents need and what they are provided with by public housing providers.

According to (Nguluma, 2003); There are many factors motivating housing transformation. A combination of the economic, social-cultural and a great desire for modernisation are factors unveiled by the residents.

Kellet et al (1993) opined that Housing transformation seeks to obtain a more satisfactory habitat. People engage in housing transformation on a number of levels, in order to make a home more aesthetically pleasing or more suitable for their needs. Transformation can therefore be seen to be a means of renewing the housing stock and at the same time adding accommodation and services. Moreover, it is mentioned in Tipple (2000) argued that transformation is a means of extending property ownership, of increasing the amount of housing owned and, thus, its effectiveness in whatever varied functions a house performs. Thus, the ownership of more rooms allows more space for one's own household to develop their personalities and activities in the home, more patronage of relatives, and more opportunities for rental or other income-generating activities.

On research finding much relevant with the context Bekele (2015) the motivation to transform housing by building a secondary dwelling units were categorized into 5; Accommodation of married children, Rental income, Accommodation of matured children, To run home based business and Extension motivated to add functional room to the main house.

2.7.3. Outcomes of housing transformation

As Salim (1998) rightly observed, it is common for owner occupiers, through their own initiatives and efforts to alter or extend their houses so as to improve their housing conditions and at the same time meet the growing needs of their households. Tipple (2000a) noted that housing transformations in developing countries are often illegal and involved modifications and extensions of the external and internal parts of dwelling units or both. He asserted that most transformations in these countries are done by small scale contractors and single artisans using locally available materials and labour, and are so extensive to the extent that the original dwelling units could hardly be recognized.

Manalang et al. (2002) also viewed housing transformations as self-built improvements, which apart from helping in understanding the adjustment behaviours of the residents, also indicates how the residents have augmented for the deficiencies in their current residences. This implies that housing transformations are most often an initiative of housing owners and seek to improve housing conditions by providing more spaces to accommodate household needs. According to Adegbehingbe (2012), housing transformations are a common in government housing estates in many developing countries, including Nigeria. Rapoport (1989) opined that people transform their houses as way of communicating some aspects of themselves to others, while Tipple (2000b) argued that transformation was common in public housing because potential residents are rarely involved in the planning and designing of such housing estates, and as such the dwelling units are neither in tune with their socio-economic, religious and demographic characteristics nor a reflection of their expectations and aspirations.

In this situation, the residents find their housing units inappropriate to their household needs and way of life, and thus explore avenues of physically adjusting the units to suit their needs and lifestyle. In support of Rapoport's notion, Tamés (2004) also noted that transformations are pronounced in public housing because public housing estates are often uniform and monotonous and offer limited opportunities for self-expression by the residents. On the other hand, Salim (1998) was of the view that the need to have an extra space for the household and for income generation is a key motivation for transformation. This was corroborated by Tipple (2000a) who noted that many households transform their dwellings because they needed to work in their homes and let out additional spaces created in the course of transformation activities.

He therefore concluded that one of the greatest motivations for transformation is to add value to the existing housing stock. Hasan (2006) viewed transformations in public housing from another perspective by arguing that transformation of dwelling units by residents in public housing schemes was a response to the failure of the government constructed housing to cater for the housing needs of the people. This suggests that housing transformations are on the increase due to the perceived gap between what residents need and what they are provided with by public housing providers.

It can be inferred from the above that housing transformations are motivated by a number of inter-related factors such as the socioeconomic context of households, their housing needs, expectations and their present housing conditions. With regards to the benefits of housing transformation, Salama (1995) found out that transformation activities initiated by residents in public housing in Egypt not only increased the range of useful spaces within the dwelling units, but also created dynamic multi-functional estates that responded better to the changing needs of households. Secondly, it is believed that transformation activities increase housing supply for low-income households and their tenants and also contribute to improving housing quality in a neighbourhood (Salim, 1998).

Housing transformations can bring families together, reduce commuting within the city, enhance employment avenues within residential area and rejuvenate social and economic life of housing estates that are at the end of their useful life (Tipple, 2000a).

In addition, Manalang et al. (2002) have also indicated that transformation activities can enhance residents' sense of pride, confidence and feeling of attachment to their dwelling units. As they put it, 'residents could feel at home and secured when they gradually improve and maximize the space within and around their residences'. It is perhaps on this premise that Turner et al. (2009) concluded that housing transformations are beneficial in improving the value of housing, increasing the housing stock within a locality and attracting more residents into the neighbourhood.

In spite of these benefits of housing transformations, several authors have criticized user initiated transformations for having negative effects on the quality of housing environment. For examples, Shiferaw (1998) identified some of the adverse consequences of uncontrolled transformation to include overstretching of the existing infrastructure, urban services and land use, creating obstruction to vehicular/pedestrian circulation and channels for services. According to Tipple (2000a), deterioration of community facilities may principally be due to the fact due to the fact that transformed houses increase population density more than existing infrastructure can support. Besides, Makachia (2005) and Landman (2006) enumerated some of the negative consequences of transformations to include reduction in the levels of comfort, privacy, natural lighting and ventilation and other physical environmental functions in the transformed buildings. These negative consequences appear to be pronounced where the internal layout of a dwelling unit are changed to the extent that windows are positioned very close to fences and adjacent dwellings. Indeed, from the above, it is clear that housing transformations have both positive and negative impacts to residents and the environment. Hence, studies on the subject are crucial in informing housing policy and development as well as urban planning and design.

2.8.Summary of literature review

Housing is an item of great importance to the people, area, and nation. Apart from providing a place for humans to dwell, housing has other purposes as well (Kiduanga, 2010). Housing intersects with different aspects of a city and the people residing in it. It serves the people dwelling in it more than a mere shelter as they alter, transform and utilize it to achieve the household's economic, social and spatial needs.

Specific to this study, housing transformation for income generation takes different forms such as utilizing compound space to practice HBEs, renting out housing units, renting out shops, splitting a housing unit to rent out, etc…

Transformations take place in all housing types but the tenure status has an effect on the type and level of transformations; in government built housing type transformations are common as the dwelling units are the same and not in consideration of the dwellers' needs. Transformations are not a onetime phenomenon where the dwellers do once in people transform from time to time as their needs, lifestyle and trends of way of life change.

The livelihood of people is affected by several factors, both directly and indirectly. Livelihood is more than the people and their potentials it is linked with several variables and issues. It includes all possible/available resources, technologies, knowledge and opportunities through which they support their lives. The sustainable livelihood framework entails the relationship between the physical, policies and other elements with livelihood of the people living in the physical housing, people in the country under the policy framework.

CONTEXTUAL REVIEW

2.9.Urbanization in Addis Ababa

In 2006, the 'built' portion of Addis Ababa was 24,942 ha or 48% of the area within the city's municipal boundary (we included transitional bare land and mineral and gravel pits as 'built' areas but excluded areas of agriculture and vegetation). By 2016, the 'built' portion of the city had expanded by 10,108 ha to 35,050 ha (67% of the area within the city's boundaries). The annual rate of expansion during this decade was 1.9%. Based on the 2007 census and 2017 population projections, the population increased by an estimated 714,000 people. Between 2006 and 2016, every additional person increased the urban area by 0.014 ha (Larsen, Yeshitela et.al, 2019).

2.10. Transformation of Addis Ababa

In the four central sub-cities of Addis Ketema, Arada, Kirkos, and Lideta, the largest changes were gains in retail and business (353 ha), manufacturing and storage (147 ha), and bare land (20 ha) and losses in residential (405 ha) and community services (36 ha). In general, these changes are expected as retail and business operations push out residential housing and community services (Table 1). In the six surrounding sub-cities, agricultural areas (8362 ha) and vegetation (1753 ha) were converted to residential housing (3520 ha), manufacturing and storage (1784 ha), mineral and gravel pits (1575 ha) and retail and business (154 ha). The significant increase in mineral extraction reflects the demands of road and housing construction. However, many of these extraction sites are degrading nearby waterways. While vegetation decreased, a botanical garden was established near the city's northern boundary and this increased the area of recreation and conservation land by 773 ha.

2.11. Existing housing transformation policies and implementation of the city's plan

The Addis Ababa City Development Plan (2004-2014) had comprised a statutory structure plan, an action oriented strategic development framework and a management reform component. The statutory structure plan had provided an overall framework for the spatial development of the city. The action oriented strategic development plans had prioritized six key urban issues to be implemented in five years (i.e. housing, urban road network and transport, manufacturing) (AAPCO, 2017)**.**

Housing is one of the major issues that is planned to address in the city's structural plan. Addis Ababa city government plan and development commission has the mandate to implement and reinforce the city's plan to be implemented and guide the coming developments in the city.

The Addis Ababa Structure Plan is prepared to guide the development of the city for the coming ten years (2013-2023) cognizant of the fact that the city needs to achieve economic, social, cultural and environmental objectives stipulated by Articles 89-92 of the FDRE Constitution, and the right of the residents to "improved living standards and to sustainable development" by indicating major "development activities ... to enhance the capacity of citizens for development and to meet their basic needs" (FDRE constitution art 43(1) and (4)). The plan recognizes and appreciates the responsibility of the Addis Ababa City Government as an organ of state to abide by and promote the national policy principles and objectives as stipulated under art 85(1) of the FDRE constitution, and is in compliance with national policy principles and objectives as enunciated by the FDRE Constitution and other Federal laws, including the Revised Addis Ababa City Government Charter Proclamation No. 361/2003 and subsidiary legislations (AAPCO, 2017)**.**

As learned from key informants in this case study area; the permit given in the area is of renewing/improving existing housing, rather than new housing developing license since the proposed landuse of the area in the structural plan of the city is manufacturing and storage and doesn't promote housing development. And such cases where housing and other functions other than the planned manufacturing and storage are labeled ፕላን ተቃርኖ/plan contradicting (opposing)/ by building permit offices and AAPDC.

The office responsible for giving building and construction permit is Addis Ababa Construction Bureau that has offices at sub city and Woreda levels in addition to the central main office. The bureau has its own directive; Building directive No. 2/2010 comprising of all sections and sub section that guides all issues regarding building process in Addis Ababa. Permits for buildings in the study areas grouped as 'plan contradicting' are /resolved by a directive Section 10.9 existing residential house temporary upgrading permit/የመኖሪያ ቤት ነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ/

CHAPTER THREE

3. Research methodology

3.1. Introduction

This chapter introduces the methods and techniques used to acquire and utilize data used in the research. Followed by identifying the data needed for the research, the sources of each type of data and the methods of collection and documentation, and finally how they will be analyzed and used to answer our research questions. This chapter has four sections; *the first one describes the study area and the selection of the case*, the second and third entail *the type of data used*, *data collection techniques*, *data analysis technique* the last section describes the *organization of the research*.

3.2. Study area

The study area of the research is located in Addis Ababa, Akaki Kality sub-city Woreda 7 in a neighborhood locally known as Seriti(Figure 9). The neighborhood consists dominantly of privately owned plots from which this study will focus on transformations that have taken place by the owners for income generation. The area was initially farmlands and homes of farmers, meaning there was a large area of land owned by farmers. Since the Dergue regime as industries started to expand around the edges of the city where there is a large amount of land and the land was not taken by the government when land was nationalized and extra houses were inherited because the land was given to the farmers that were farming and for landlords.

In one of the earlier master plans prepared for Addis Ababa, Akaki Kality was designated as the industry and transit hub. The 1986 master plan preserved Akaki and Qaliti area as a main industrial and freight terminal services. In addition represent the two areas as growth poles for commercial and public services development(Tufa, 2008).

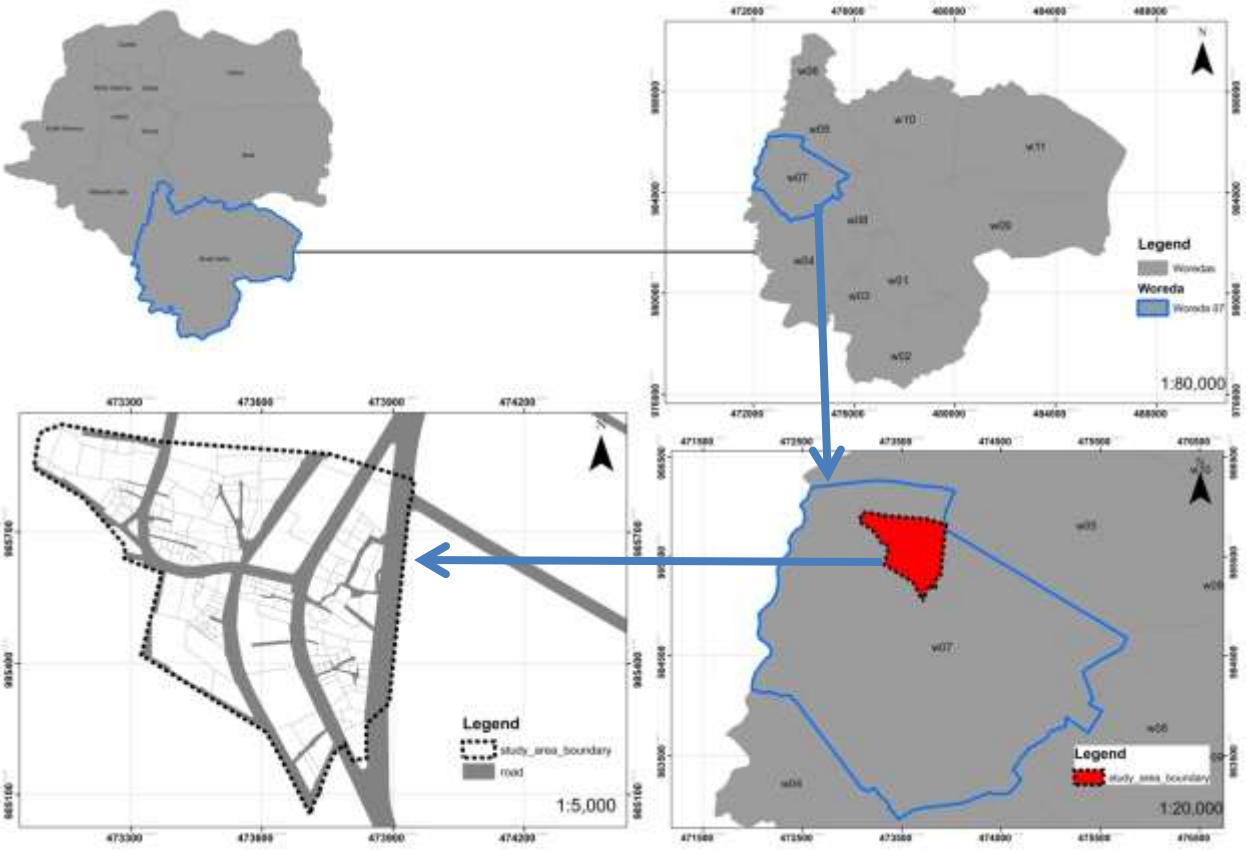


Figure 9 - Location of the study area

3.3. Research type

Based on the research objectives and research questions, the type of research to be undertaken is descriptive research. As the research questions to be answered are 'What is/are?" questions and the research tries to describe an aspect/phenomenon. According to a research guide manual published by AAU, Zegeye et al. (2009); Descriptive research, therefore, involves a variety of research methods to achieve its goal. The methods that come under descriptive research are Surveys, correlation studies, observation studies, and case studies. . In this research surveys, case studies, observation and correlation study methods are used.

3.4. Research method Selection

The selection of methodology is done based on the type of research questions the study aims to gain answer and explanation for. Among different research methodologies, it is selected based on the characteristics, advantages, and disadvantages of each method.

Data type and source

The research is done on a selected block within a neighborhood, and tries to understand; the transformations that are happening which are initiated by the owners motivated by income generation, secondly to understand the type of transformation that took place, challenges of the transformation, and the prospect of the change encountered by the residents and business owners in the study area. This type of data is to be retrieved from the residents/business owners through semi-structured questionnaires/interviews/, through observation of the study area, and by using secondary documented data and maps. To answer the research question: the needed data, the source of data and the method of collection is summarized Table 2.

For this research, both primary and secondary data are collected. To understand the conceptual framework and to track the transformations secondary documents such as researches, books, and existing land use maps, master plans are used. The primary data will be gathered from the residents through interviews, questionnaires, and direct observation. By using the combination of both types of data it is important to obtain complete information that is the basis of the study and in answering the questions raised in the research questions.

Data/issue	Data source	Data collection method
Types of housing transformations that took place	Selected residents and business owners from the study area	Survey method through questioner, direct observation, photographs
Spatial transformation patterns of the study area	Existing maps from sub-cities and Google earth to map locations and analyzing the distance	Mapping, observation, Physical mapping, using existing GIS maps and Google map, photographs
The challenges and potentials incurred due to the transformation for income generation	Key informants; residents, business owners, and government officials	Interview using a semi-structured questionnaire

Table 2 Data, data source, collection method

The research employs a combined data type of qualitative and quantitative data. As the research questions show the research is mainly based on qualitative data as it primarily tries to investigate the individual experience of the residents and business owners in the study area. But since it is always advantageous to get perspective from the quantitative aspect of the issue, a combined method is employed.

3.4.1. Qualitative data source and collection technique

Since qualitative data requires the close involvement of the researcher to acquire information from the source; the following tasks were carried out for discovering answers that emerge from information that is available as a result of the study. The tasks are in summary: identifying the topic or question(s) of interest, collecting information from a variety of sources and the analysis of the gathered information.

> Research process is designed to reflect, as much as possible, the natural, ongoing context being investigated; information is often gathered by participant observers (individuals actively engaged, immersed, or involved in the information collection setting or activity). (R.Dawson 2007)

Key informant interview- to gain a comprehensive and detailed information from selected informants, the residents chosen for this interview are among residents that have lived in the study area for a long time and professionals that have information about the transformation of the area and the contemporary challenges of the study area.

Housing history- documenting the history of selected residents on how and where they lived, to understand the transformations they did and for what purpose/reason the changes took place.

Observation- familiarity with the study area is important to bridge the understanding of the area with the people residing in the area. The interaction of the residents with their environment defines the characteristics of area and the other way around.

Mapping from questionnaire and observation- mapping is a powerful tool to tool for analysis and documentation. It helps present data visually which makes way for making analyzing patterns and relationships.

Photograph documentation- can be useful to study and present the transformed space utilization and interactions taking place.

Sampling technique

In selecting households for the questionnaire from the total size of the area, the key point is to gain a full picture of the transformation of housing for income generation phenomena. And due to that, it is considered important to gather data from households that have transformed for income generation and those that haven't because even though the interest of the research is mainly on the transformation it is important to study other households that are located in the study area. They are considered to be affected by the changes occurring in their surroundings.

There are no fixed rules for sample size in qualitative research. The size of the sample depends on what you try to find out, and from what different informants or perspectives you try to find that out(Zegeye et al., 2009).

The individuals for key informant interviews were selected based on preset criteria. The in-depth interview was done with people selected using purposive sampling. The interview was done by identifying people that have stayed in the study area for a long time and have witnessed the transformations that have occurred in the area.

3.4.2. Quantitative data source and collection technique

In data collection and analysis of quantitative data, as summarized in (R.Dawson 2007) ; the Researcher identifies the topic or question(s) of interest and selects participants, and arranges procedures that provide answers that are accepted with a predetermined degree of confidence.

Report of the outcomes of the process is generally expository, consisting of a series of statistical answers to questions under investigation. Although the dominant focus of the research isn't a statistical outcome, there will be a notable finding from the quantitative side.

Questionnaire- close-ended questions were used to collect most of the data for the research through survey. It was distributed to the residents/owners in the study area. Through these survey questionnaires; information about the households (profile) and business owners, the transformations for income generation, their attitude towards the transformations, challenges they face, their economic status etc.

Semi-structured questionnaires were used to collect information from key informants.

Sampling technique

Through purposive sampling, the questionnaire was undertaken among residents with transformed housing and non-transformed housing.

The questionnaire was administered majority on owners consisting of at least 75% and the rest on tenants. This constituent will be maintained by the researcher during data collection by keeping the count and keeping the number of tenants interviewed under 25%.

After narrowing down the compounds to the ones that include a housing unit, random sampling is used to select samples from the study area. The compounds in the study area were given parcel codes and using RANDOM.ORG - True Random Number Service 74 samples were selected.

Data collection protocol

After selection of sample households from which data will be collected from there are set of procedures to be followed.

Upon entering the selected compound- the researcher/data collector/ will introduce oneself, the reason for undertaking the questionnaire and asking the household head/ member for willingness to give information as inquired in the prepared questionnaire.

After confirming willingness, they are informed their actual named won't be used in the research. If they are not willing, try to approach another household within the compound, if not regenerate a random number from the coded parcels and ask them.

If no one is available to give the information, check their availability and return.

3.4.3. Sample size

In the research process the information that will be used is acquired from sources in the study area. Samples are selected in order to gain a representative data about the existing issues the research aims to cover. As summarized in Israel, (1992); In addition to the purpose of the study and population size, three criteria usually will need to be specified to determine the appropriate sample size: the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured (Miaoulis and Michener, 1976).

The level of precision, sometimes called sampling error, is the range in which the true value of the population is estimated to be. The confidence or risk level is based on ideas encompassed under the Central Limit Theorem. The key idea encompassed in the Central Limit Theorem is that when a population is repeatedly sampled, the average value of the attribute obtained by those samples is equal to the true population value. The degree of variability in the attributes being measured refers to the distribution of attributes in the population. The more heterogeneous a population, the larger the sample size required to obtain a given level of precision. And the less variable (more homogeneous) a population, the smaller the sample size.

In the paper by (Israel 1992), there is a formula for determining sample size for research. Yamane (1967:886) provides a simplified formula to calculate sample sizes. In cases shown in the paper, which are researches purely quantitative; 95% confidence level and level of precision of 5-10% are assumed. For this research the level of precision is taken to be 10% because the research is dependent mainly on the qualitative data making the need for redundant data and coverage of all residents not as necessary as it is for quantitative research.

n= N/1+N(e)2

The total number of compounds in the study area is 156, by identifying the compounds that are purely manufacturing and storage, 91 compounds are identified from which samples were selected. By using the formula explained above, the sample size for questionnaire survey will be $n=91\div1+91(0.05)^2$

$=91\div1+91(0.0025)$

$=91\div1+0.2275$

$=91\div1.2275$

= 74, will be the sample size of the study.

The distribution of the respondents is scattered through the study area as shown in Figure 10.

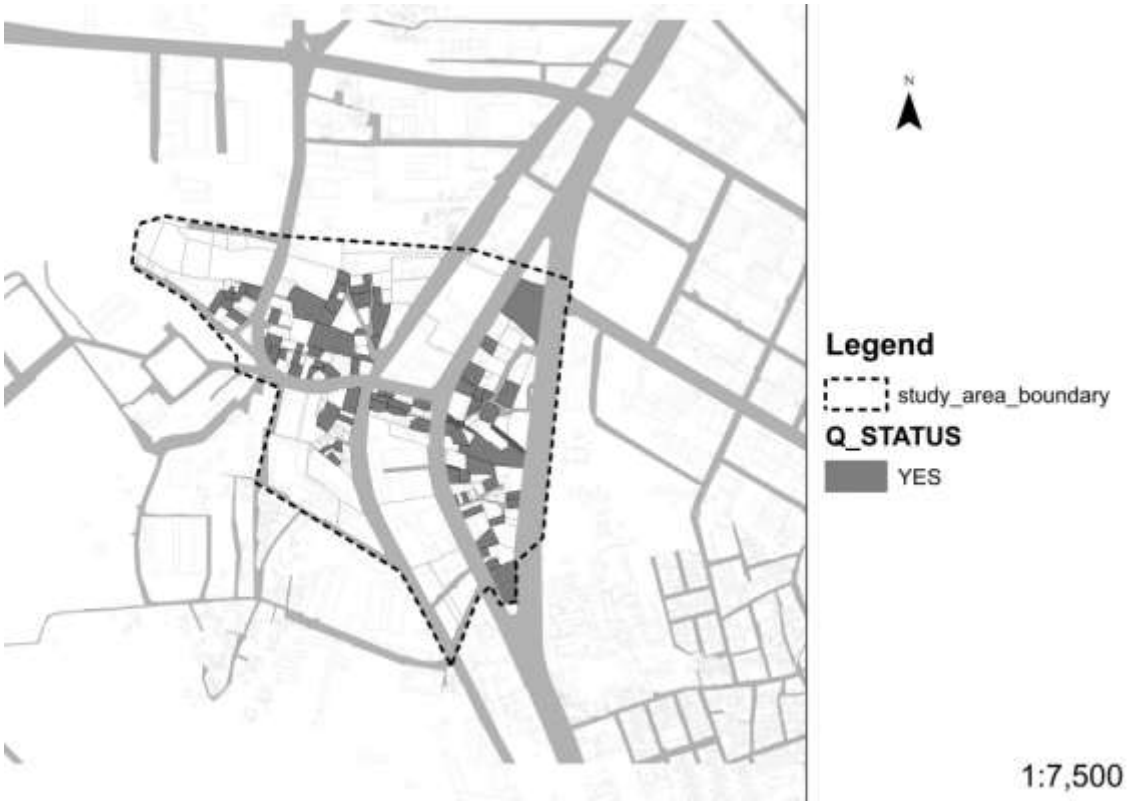


Figure 10 Selected samples

3.5. Selection and description of the study area

Seriti neighborhood, Woreda 07, Akaki Kality; individual private

The reason this area is selected for research is based on observation of transformation in the area that made it interesting to study because transformations of function occur for reasons, and it is always important to know the reason behind through research since every case has its own unique drive. The case of the area selected is a private individual housing type, privately owned areas have more security and they have control and input in the transformations that take place in the area. The area selected isn't in the inner city of Addis Ababa where transformations aren't as drastic and quickly noticeable making it prone to informal settlement and unprecedented density. These areas are also preferred by people who can't afford living in the inner city due to lack of affordable housing and people working in the industries located in the industry zones in Akaki Kality.

Through these transformations, a residential plot is becoming a plot with mixed function; residence and garage, warehouse, spare parts shop and small kiosk/food vendors.

The main/unique reasons for selecting this case can be summarized as follows;

The compounds are not fully transformed such that there are cases where the residential units are still incorporated in the compound either by the owners or it is rented out to other people in cases where the residents no longer live there.

According to the current structural plan of Addis Ababa, the study area is designated as Manufacturing and storage land use where only maximum of 20% of total area of a compound can be built. Making it a case to study because the existing function of the area is residence.

The area has been transforming in past decades from a farm land and now there is a new road connecting the main Debrezeit road with the Ring road Hana Mariam.

Dominantly occupied by private owned parcels, which is the focus of the research.

3.6. Data analysis

Data management/ organization: After collecting the raw data (qualitative and quantitative), these data are reviewed, labeled and sorted.
Qualitative data refers to non-numeric information such as interview transcripts, notes, video and audio recordings, images and text documents. The qualitative data collected for this research is analyzed using both content and narrative analysis.

Content analysis**:** This refers to the process of categorizing verbal or behavioral data to classify, summarize and tabulate the data. The responses of respondents were summarized categorically in a way it answers the research questions of the research.

Narrative analysis: This method involves the reformulation of stories presented by respondents taking into account context of each case and different experiences of each respondent. In other words, narrative analysis is the revision of primary qualitative data by researcher. The housing history and transformation in the area and the experience of respondents is presented based on the context and focus of the research.

Descriptive presentation: After ordering the data, classification and typology are developed by identifying their dimension, range, and diversity, then presenting it in a descriptive way using charts, graphs and maps.
Explanatory description: the collected data will be documented and weighed by the existing theoretical frameworks.

Quantitative data collected through close ended survey was encoded using SPSS software, analyzed and numerical data was presented in percent. And graphically expressive tools such as charts were generated from the software. Cross tabulation and comparison of variables was used to show relations and cause/effect relation.

CHAPTER FOUR

4. Data interpretation and analysis

4.1. Introduction

In this section data collected from household survey, housing history and key informant interview will be presented, interpreted and analyzed in comparison with literature review to answer my research questions. The data is organized into 5 main sections*;*

- *History and introduction of the study area,*
- *Characteristics of respondents' based on survey questionnaire,*
- *Transformation in study area,* and
- *Outcomes/ effects of transformation in study area; challenges and prospects of transformations for income generation.*

4.2. Introduction and history of case study area

As mentioned in previous chapter the case study area is located in Akaki Kality sub city, Woreda 7. The sub city is located in the southern periphery of the city. The study area is designated as an industry zone in the city's current structure plan, that proposes a landuse of manufacturing and storage, which doesn't promote housing and related development. Regardless existing residents are still residing there, building new houses for rental and generating income by renting out compound space for garages, storages and factories.

Seriti neighborhood is located in a sub city with the lowest housing and population density among the other sub cities of Addis Ababa.

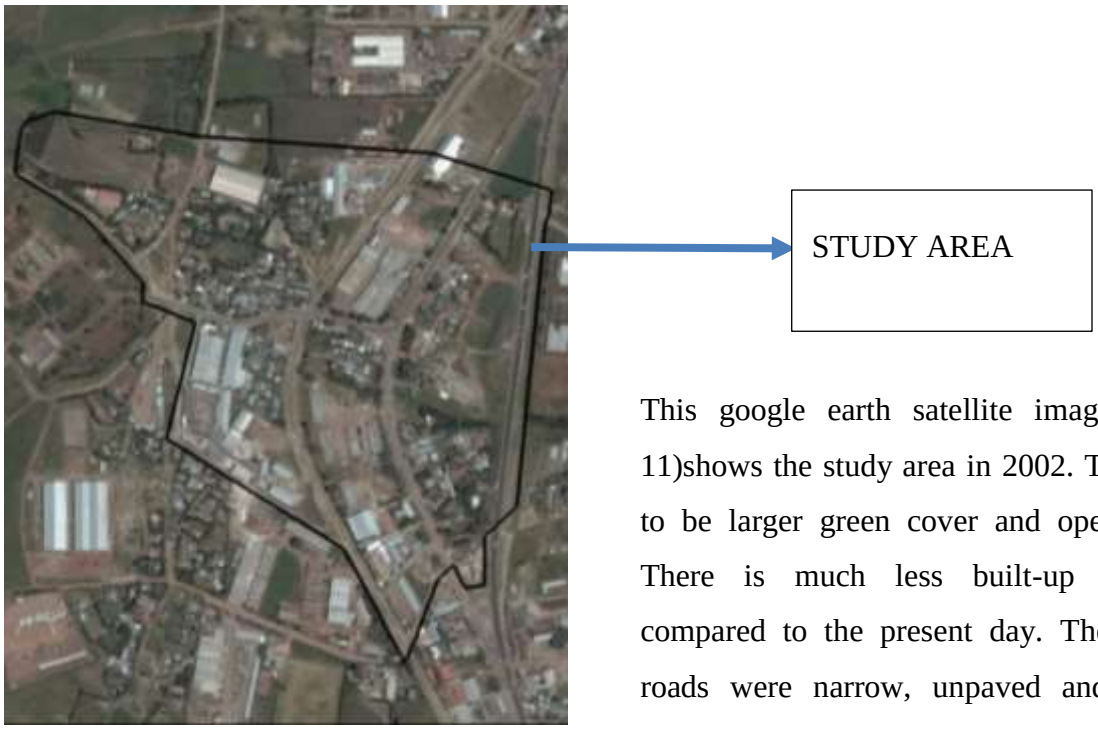


Figure 11 Study area in 2002, source: Google earth

This google earth satellite image (Figure 11)shows the study area in 2002. There used to be larger green cover and open spaces. There is much less built-up structures compared to the present day. The existing roads were narrow, unpaved and had no median

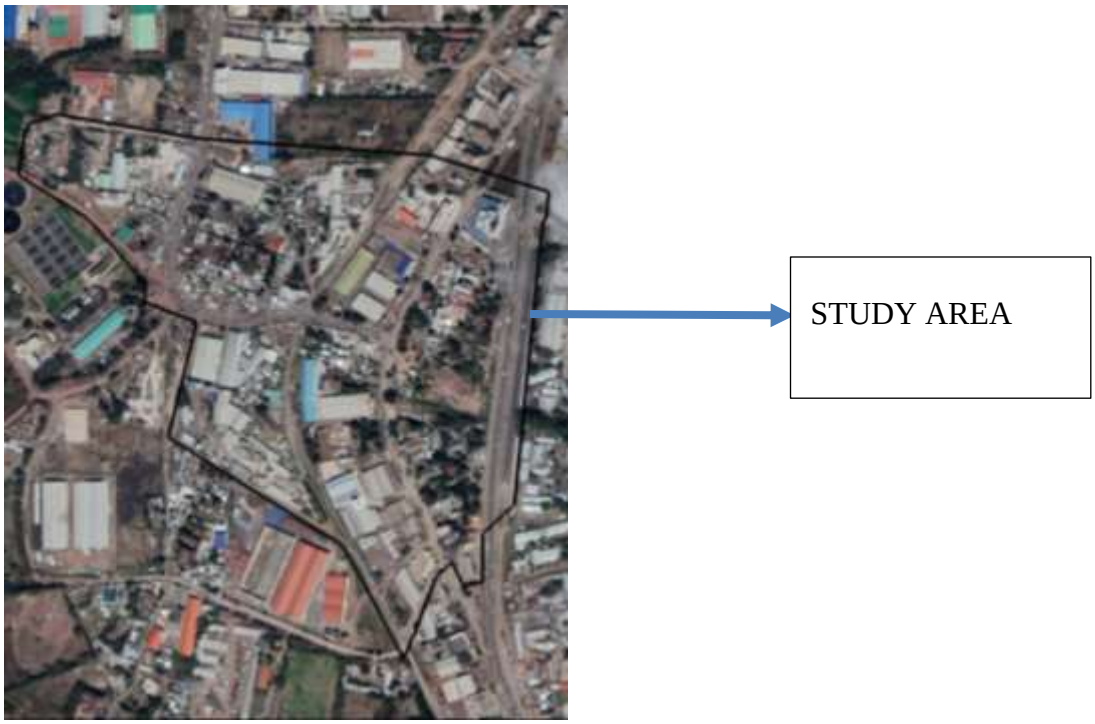


Figure 12 Google Earth satellite image of study area 2021

The Google earth images 20 years apart show (Figure 11 and Figure 12) the drastic transformation that took place in the area, from a green open space dominated area into an industrial area with warehouses and built up elements

As gathered from key informants the area is the settlement has a long history. It's one way to see the need for housing dominantly occupied by residents that have been living in the area for most of their lives as transformation comes through time as needs evolve and family size increases making it important to consider the period of stay in the study area. According to the survey questionnaire administered in the study area; most of the respondents accounting for 40.5% have lived in the study area for more than 10 years and 33.8% of the respondents have lived their whole lives in the study area.

Transformations in an area can be inviting and creates influx of population in an area as it could create job opportunities and offers different services. It is shown from the survey responses 12.2% of the respondents have lived in the area from 1-3 years only, 10.8% have lived there from 6-10 years and 2.7% of the respondents have lived in the study area from 3-6 years.

Years of stay in neighborhood		
Years of stay	**Frequency**	**Percent**
1-3	9	**12.2**
3-6	2	**2.7**
6-10	8	**10.8**
>10	30	**40.5**
Whole life	25	**33.8**
Total	74	100.0

Table 3- Years of stay in neighborhood

Land and housing is mainly acquired through inheritance from parents and grandparents and as gifts from parents. In conformity with information acquired from informants, a substantial number of the households among respondents acquired the housing through inheritance (25.7%). As show in Figure 13 below: Most of them are living there acquired their housing through buying from previous owners accounting for 27%.the rest are acquired as a gift (8.1%).

a. Inheritance- the area was dominated by farmlands during earlier times, and the farmers were able to keep the land during the Dergue regime and as family structures change new houses began to be built. Industries were moved from inner parts of the city to periphery areas which resulted in dramatic change in the landuse and characteristics of the study area.

b. Purchasing/buying land- the area was much less populated but through renting and buying housing units, people started to flow into the study area.

c. Gift- 8.1% of the respondents got their current housing as a gift from their parents and family members who in most cases are still living in the same compound with them.

d. Tenants- 31% of the respondents are tenants living in a transformed compound, tenants are part of the survey questionnaire administered as it can be helpful to understand the

effect of transformation for income generation on residents that are not owners and are not directly affected economically.

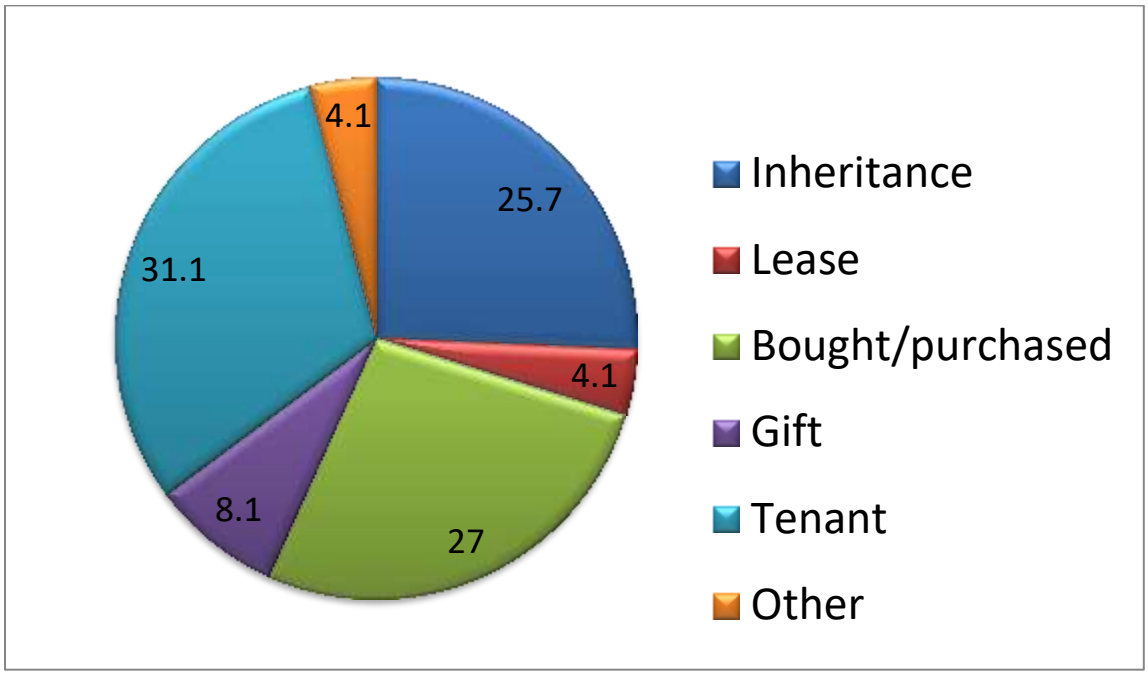


Figure 13 Means of acquiring housing

4.2.1. Changing socio-economic and spatial situation in Seriti neighborhood

The earliest settlement in the area was different from the present

According to a professional in Akaki Kality sub city and building permit authority branch office; the neighborhood is transforming physically through construction/demolition of built up structures and introduction of vehicles and machineries. Even though it's one of the less developed parts of the city in terms of infrastructure and facilities, the area is gradually developing and changing to satisfy the social and economic needs of the residents which are dominantly the owners of land and housing in the area.

He added that; different factors can be attributed for the transformation in the neighborhood; *professionally I can share my observations in regards to construction. The current structural plan dictates that the area is designated for manufacturing and storage landuse and as a long standing neighborhood there still are many housing units within the area and the number is growing as the years go by. As many garages, storages and industries start to move out of the inner city in search for new working space; Akaki Kality became an area where several garages and storage spaces started to settle. It is clearly stated on the strategy of the current structural plan of the city that manufacturing and storage with an area of more than 500 m^2 currently located inside the ring road shall be relocated within five years' time. And manufacturing and storage with an area of more than 2000 m^2 currently located outside the ring road shall be relocated within ten years' time to their respective zone.*

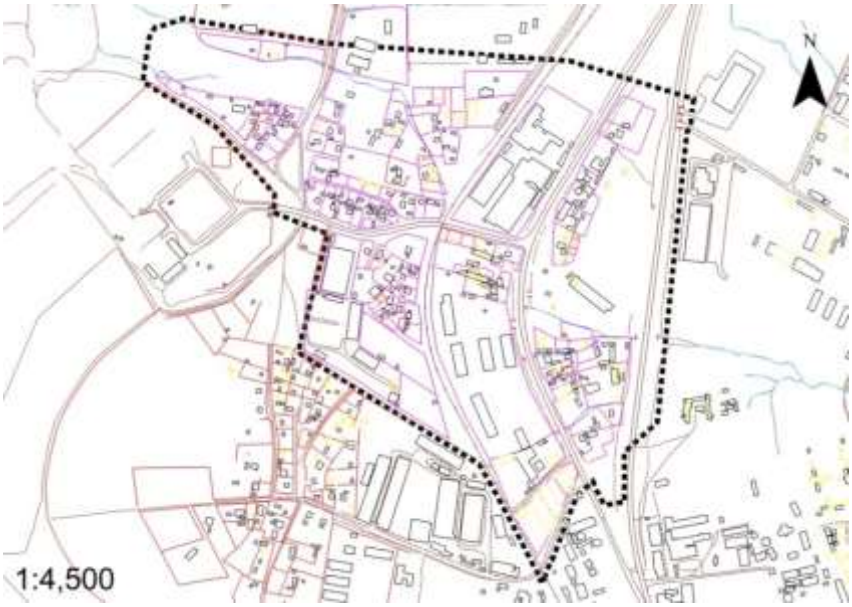
Building permit is given to developments in harmony/conformity with the structural plan, so based on that we don't give permit for construction of new housing units. But considering that most of the existing houses are in deteriorating condition and in order to alleviate the housing shortage in the area as a housing maintenance permit where they are allowed to add 40% of the existing building footprint.

Given that the area is planned to be an industrial zone, the people residing there are still living and planning their future there. The disadvantages are; there are no social services planned to be built in the area since there are no plans for housing development in the study area, the other issue is regarding landuse incompatibility the residents are not unhappy with the garages and industries as most are directly (by renting the space for the activities) or indirectly (as the area beings activities) gaining from it but there are inconveniences posed by the garages and industries. The area has transformed in an unplanned manner making it spatially challenging.

When asked if there is any potential in the owner-initiated transformations, the informant professional responded;

The potential of the transformations taking place is mainly the fact that the residents are the owners of the land and housing. The people are economically gaining the advantages which are a constant source of income. The practice of selling their compounds and leaving the neighborhood is less, relative with other neighborhoods. I believe it's due to the long duration that most of the residents have lived in the neighborhood and they have developed a strong social tie and attachment to the neighborhood.

The morphology of the study area has always been very sparse and collectively the built-up area is very low, even on present day. It is becoming relatively dense through the years. This spatial transformation is shown in Figure 14, Figure 15, Figure 16.

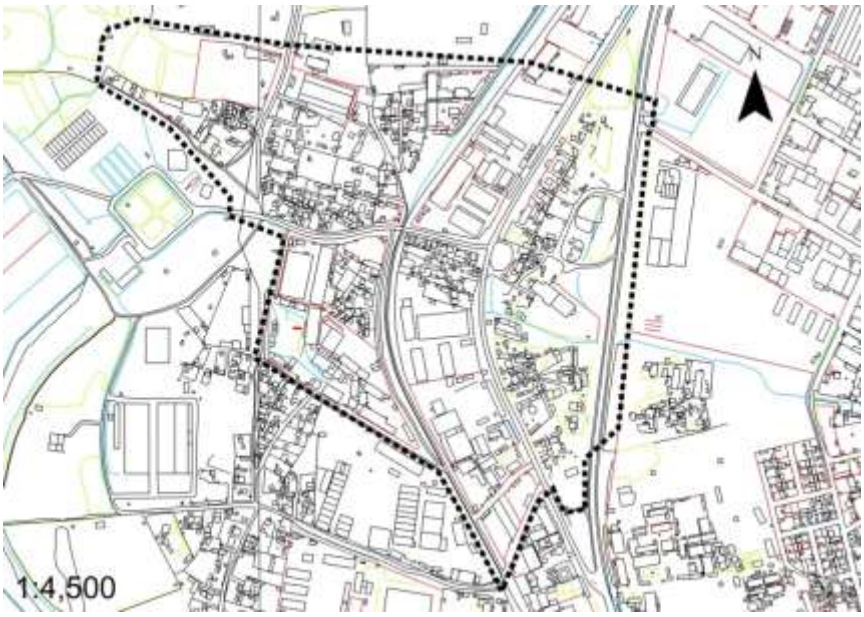


Number of parcels- 151

BAR- 7%(area of built up/area of parcel*100)

Roads and infrastructure- 5%

Figure 14 The study area in 1988 Source: adapted from A.A's 2005 line map by Nortech

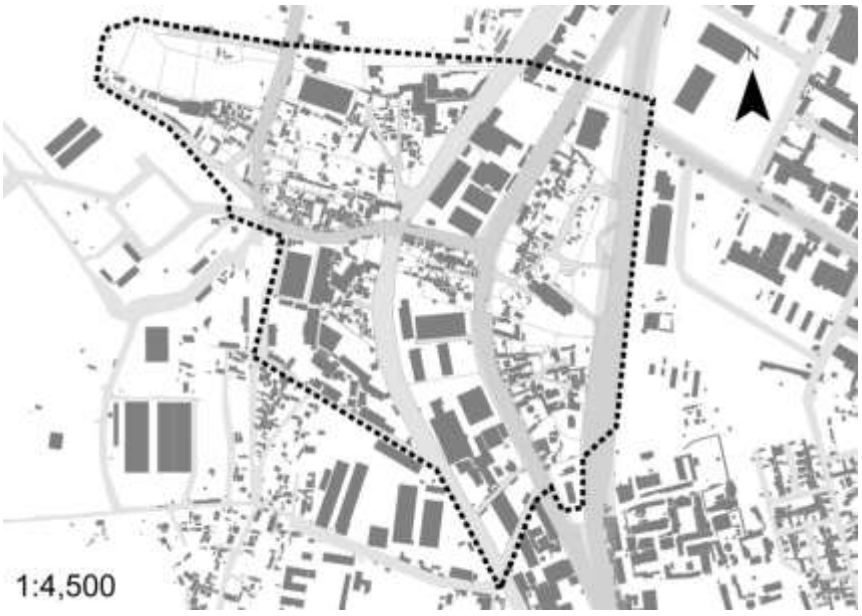


Number of parcels- 205

BAR- 11.2%(area of built up/area of parcel*100)

Roads and infrastructure- 7.4%

Figure 15 The study area Source: adapted from A.A's 2005 line map by Nortech



Number of parcels- 227

BAR- 14.8% (area of built up/area of parcel*100)

Roads and infrastructure- 11%

Figure 16 the study area, present day Source: adapted from A.A's 2012 GIS map database

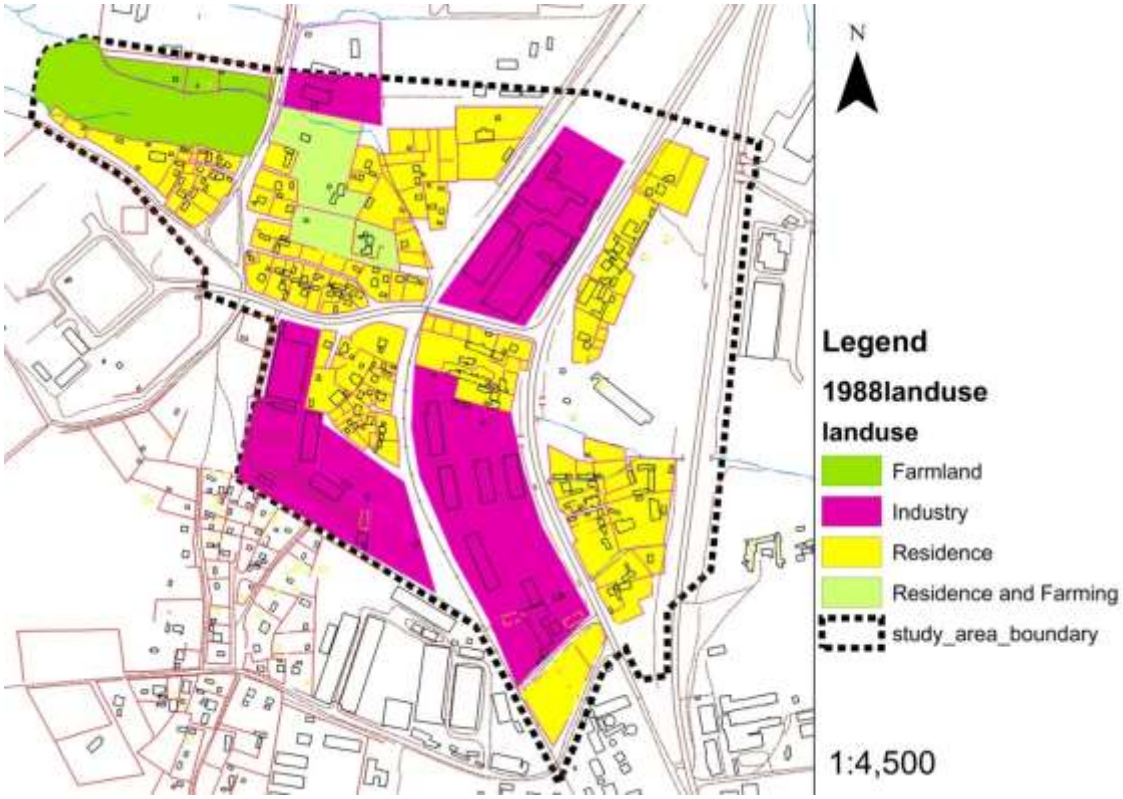


Figure 17 Study area landuse, Source: adapted from A.A's 2005 line map by Nortech

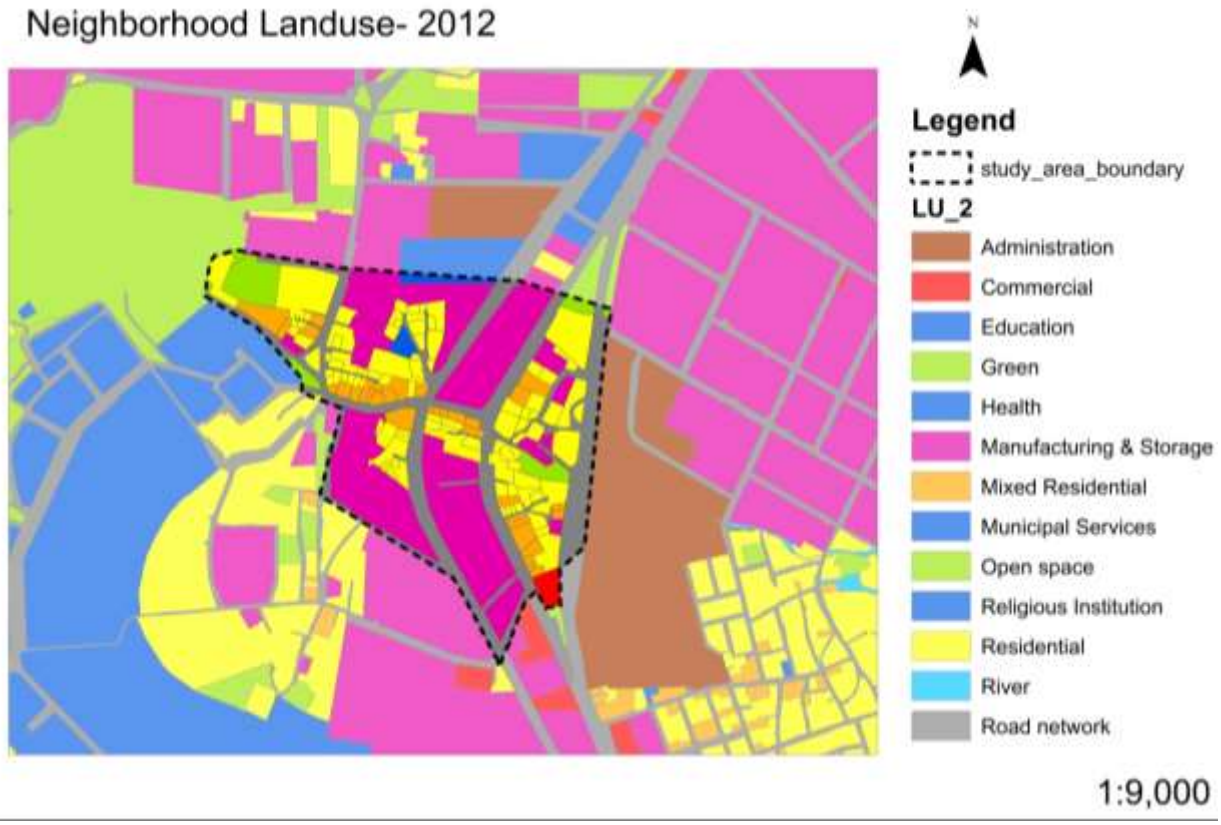


Figure 18 Landuse of study area, present day Source: updated from A.A's 2012 GIS map database

The study area has also transformed in terms of landuse, as mentioned before the area was dominantly farmlands, open spaces and industries. Now the open spaces and farmlands are changed to manufacturing and storage. This is shown in the maps Figure 17 and Figure 18.

4.3. General characteristics from survey

I. Demographic characteristics

The built up elements in Seriti neighborhood has significantly increased in recent years as the farmlands are becoming transformed in size and function. That coupled with the trend of population increase in the city has brought increase in residing population size of the neighborhood. The population increase in the sub city isn't as high as the population increase taking place in the inner parts of the city.

The average household size in a survey by (CSA, 2007) in the sub city is 3.8 people per household, which is the lowest from all the other sub cities in the city. The survey is somehow outdated (undertaken almost 14 years ago) as the urbanization rate of the city is increasing but the figure is taken to show the position of population in relation with other sub cities. It is implied in the survey undertaken for the research that the average household size has shown an increase.

In the selected study area among the respondents the household size ranges from 1-10 people per household; majority fall in the 4-6 people per household category (shown in Table 4) and an average size of 4.4.

Number of residents in the household		
Household size	Frequency	Percent
1-3	24	32.4
4-6	42	56.8
7-10	8	10.8
Total	74	100.0

Table 4 Household size in compound

II. Economic character

Main source of respondents in case study area

As presented in a main source of income 40.5% responded salary from employment, 12.2% responded trade as their main source of income and equal percent as trade is renting house/compound space.

There are respondents that have more than one source of income such as salary and renting houses or renting compound space. Only one respondent source of income is from a home based enterprise, specifically sewing clothes at a shed at the front of his compound.

There are households with more than one source of income, such as salary and renting house, but in the survey the main source of income was asked and most respond income from employment as the main even in cases where amount of income from renting compound space/house is greater than their salary.

Main source of income		
Income source	Frequency	Percent
Salary	30	40.5
Trade	9	12.2
Renting house	9	12.2
HBE	1	1.4
Other	25	33.8
Total	74	100.0

Table 5 Respondents' main source of income

Income generating activities in respondents' compound

There is income generating activity in most of the respondents' compounds (see Table 6), which is a trend of transforming their compounds for various purposes that weren't there before. The presence of income generating activities doesn't only reflect on the residents' need for income but also the demand/population that rents/buys/uses the services provided.

	Frequency	Percent
Yes	45	60.8
No	29	39.2
Total	74	100.0

Table 6 Income generating activity

III. Housing history and characteristic

Tenure of previous home

Among respondents that have lived elsewhere before their current homes, majority(51%) of them lived in a private owned housing followed by private rental housing. All summarized in Table 7 below.

Type of tenure of previous house		
Tenure type	Frequency	Percent
Private	25	51
Kebele	4	8.1
Private rental	16	32.6
AARH	4	8.1
Total	49	100.0

Table 7 Tenure of respondents' previous house

Location of previous home

From where did you move to this area		
From	Frequency	Percent
From the same sub city	13	26.6
From Another sub city in the city	16	32.6
From Out of Addis Ababa	20	40.8
Total	49	100.0

Table 8 Location of previous house

The increase in population has factored in the social, economic and spatial transformation of the neighborhood. The rural-urban migration is also apparent in the study area as 40% of the respondents have moved from outside of the city to the neighborhood (see Table 8). Secondly moving from another sub city/part of the city has contributed to the population increase and transformation of the neighborhood.

Current tenure status

According to CSA (2007) among all the sub cities in Addis Ababa Akaki Kality has the largest share of owner occupied housing. The case study area among the selected respondents reflects the same case.

The survey questionnaire was conducted among the study area randomly among owners and tenants. As shown in below, the tenure status of the survey respondents is dominantly owner occupied accounting for 63.5% of the total respondents. This makes up for 47 out of 74 households.

31.1% of the respondents are tenants; of which 12.2% are living with other tenants in the same compound, 10.8% living with other tenants and owner, 5.4% living alone in the compound and 2.7% living with renter in same compound.

From the total surveyed households 77% of them have the owners living in them, 17.6% are tenant occupied compounds.

61 out of 74 are compounds in which owners are living in it accounting for 82.4% of the selected compounds, this is another implication that the owners are inclined to live in the area, then renting it out for others and live elsewhere.

Tenure status	Frequency	Percent (%)
Owner occupied	47	63.5
Tenant, living with renter in same compound	2	2.7
Tenant living alone in the compound	4	5.4
Tenant living with other tenants and owner	8	10.8
Tenant living with other tenants in the same compound	9	12.2
Other	4	5.4
Total	74	100.0

Table 9 Tenure status

Physical structure of housing

Most houses are attached typologies with additional housings, rental housing or housing extensions; this typology makes up 51.4% of respondents' housing. The remaining hosing are 45.9% detached and 2 houses (2.7%) being semidetached houses(shown below in Table 10).

Physical structure of housing units		
Physical structure	Frequency	Percent
Attached	38	51.4
Detached	34	45.9
Semi-detached	2	2.7
Total	74	100.0

Table 10 Physical structure of housing

Number of rooms of respondents' dwelling

As showin in Table 11 quarter of the respondent's houses are 1room dwellings accounting for 25.7% of the respondents. 20.3% of the respondents' housings are 2 room dwelling units, 24.3% 3room dwellings, 13.5% 4room dwellings,5.4% 5room dwellings, 2.7% 7room dwellings and 8.1% making up 7 out of 74 respondents live in 8room dwelling.

Based on the questionnaire survey administered the average number of room among the respondents is 3.04.

Number of rooms of housing		
No. of rooms	**Frequency**	**Percent**
One	19	25.7
Two	15	20.3
Three	18	24.3
four	10	13.5

five	4	5.4
Seven	2	2.7
Eight and more	6	8.1
Total	74	100.0

Table 11 Number of rooms of respondents' dwelling

Tenure_status * Number_of_rooms_of_your_housing Crosstabulation									
Count		Number of rooms of your housing							Total
		1	2	3	4	5	7	>8	
Tenure status	Owner occupied	2	11	14	10	2	2	6	47
	Tenant, living with renter in same compound	2	0	0	0	0	0	0	2
	Tenant living alone in the compound	0	2	0	0	2	0	0	4
	Tenant living with other tenants and owner	6	2	0	0	0	0	0	8
	Tenant living with other tenants in the same compound	9	0	0	0	0	0	0	9
	Other	0	0	4	0	0	0	0	4
Total		19	15	18	10	4	2	6	74

Table 12 Tenure status, Number of rooms cross tabulation

There are 19 respondents living in a single room dwelling out of which only 2 of them are owners. This shows that owners build single rooms and rent out each for different households as a means of income generation. This is evident as shown in Table 12 that 9 of the singe rooms are found in compounds that are occupied by tenants only and 6 of the dwellings are located in a compound occupied by other tenants while the owner still resides there.

By taking UN Habitat 2007 as a reference, which states a dwelling is overcrowded when more than 2.5 people reside in a single room. As presented in Table 13, there are 14 overcrowded dwellings among the respondents making up only 18.9% of the total respondents.

Number of residents in the household * Number_of_rooms_of_your_housing Crosstabulation									
Count									
		Number_of_rooms_of_your_housing							Total
		1	2	3	4	5	7	>8	
Number of residents in the household	1-3	11	4	5	4	0	0	0	24
	4-6	**8**	9	13	2	4	0	6	42
	7-10	0	**2**	0	**4**	0	2	0	8
Total		19	15	18	10	4	2	6	74

Table 13 Number of residents, number of rooms

IV. Compound/plot character

Size of compounds in study area

There are no compounds sized less than 100 square meters; the minimum plot size is 140sqm. According to the survey and summarized in Table 14, most of the compounds (49) fall in the range 100-500sq.m making up to 66.2%. 20.3% of the respondents' compounds

are 500-100 sq.m in area, 6 accounting for 8.1% of the respondents' compound size ranges from 1001-2000 sq.m. 4 of the respondents' have compound size 3000-5000sq.m.

Plot size in square meters		
Area in sq. meters	**Frequency**	**Percent**
100-500	49	66.2
501-1000	15	20.3
1001-2000	6	8.1
3001-5000	4	5.4
Total	74	100.0

Table 14 Plot size(sq.m)

Number of housing units in compound

Compounds in the study area are mainly private owned, according to the survey, renting housing units in the study area is a common practice. It is considered that the number of housing units in a compound does not only account for rental housing units but the presence of other family members living in the compound after starting their own families.

As shown in Table 15, only 11 of 74 compounds are occupied a single household accounting for only 14.9% of respondents. Similarly 14.9% are occupied by 2 households in their compounds. A dominating percent (20.3%) of the respondents have 3 households in their compounds. The remaining 5.4%, 5.4%, 8.1%, 8.1% and 6.8% have 4, 5, 6, 7 and 8 households in their compounds respectively.

Based on the survey administered in the study area, the average number of households per compound is 3.13.

Number of household in compound		
No. of households	**Frequency**	**Percent**
1	11	14.9
2	11	14.9
3	15	20.3

4	4	5.4
5	4	5.4
6	6	8.1
7	6	8.1
8	5	6.8
>9	12	16.2
Total	74	100.0

Table 15 Number of household

Table 16 Plot size, number of housing unit

Plot_size_in_square_meters * No_of_housing_unit_Household_in_the_plot Crosstabulation											
Count											
		No of housing unit Household in the plot									Total
		1	2	3	4	5	6	7	8	>9	
Plot size in sq.m.	100-500	9	7	13	0	2	6	4	1	7	49
	501-1000	0	0	2	4	2	0	2	2	3	15
	1001-2000	0	4	0	0	0	0	0	0	2	6
	3001-5000	2	0	0	0	0	0	0	2	0	4
Total		11	11	15	4	4	6	6	5	12	74

The size of compounds falls in a wide interval, and comparatively the area covers large compounds. The number of household in each compound ranges from 1household per compound to 12households per compound. As presented in the cross tabulation (Table 16); most single household compounds and compounds with more than 9 households are found in the category of smallest compound size.

There is a tendency of building houses for rent in smaller sized plots than the larger ones. This is mainly due to the potential of renting compound space for garages and storages as the compound size is more preferable for the function.

Use of plot

67% of the plots are used for residence only, the remaining 29% of the studied compounds are mixed use compounds of which 16% include commerce and 13% include garage/manufacturing/storage along with housing.

There were two compounds among the studied plots that practice HBE in their compounds.

There is income generating activities with function other than residence in 32% of compounds among studies plots other than renting houses, as the table below (Table 17) shows compounds with functions/uses other than residence.

Use of the plot		
Uses	**Frequency**	**Percent**
Residence only	50	67.6
Residence and commerce	12	16.2
Residence and storage/garage/manufacturing	10	13.5
Other	2	2.7
Total	74	100.0

Table 17 Use of plot

Almost 68% of the respondents reside in compounds with function of residence only, while the remaining share live in compound with other functions incorporated with housing.

Only 55.4% of the respondents' have vehicular access to their compounds, the remaining 44.6% don't have vehicular access due to different reasons (shown Table 18,Table 19). Most of them don't need vehicular access to their compounds for their personal uses, and they can get their septic tank emptied by the sewer truck because it has extension tubes and if the tank is located close to the gate.

The common reason for the absence of vehicular access to their compounds is the lack of street/narrow Street. Other reasons were level difference between the road and their compound; there are infrastructure lines such as drainage lines at their gates.

Availability of vehicular access		
	Frequency	**Percent**
Yes	41	55.4
No	33	44.6
Total	74	100.0

Table 18 Availability of vehicular access

Reason for absence of vehicular access		
	Frequency	**Percent**
0	41	55.4
Grade/level/ difference	1	1.4
Lack of access street	18	24.3
other	14	18.9
Total	74	100.0

Table 19 Reason for absence of vehicular access

4.4. Transformation in study area

This part will present the changes that have occurred in the compound of respondents starting from the boundary, to the type of transformation and location of transformations that took place.

4.4.1. Compound level transformations

I. Change in boundary of plot

There are changes of plot boundary that took place for different reasons; by the owners initiated and a few through development/infrastructure initiated. The common reason is through sharing of plot among family members to accommodate children that start their own family or sharing the compound through inheritance from family members but they haven't taken a separate deed title for the shared compound space unless they are applying for a building permit for constructing storage . The other reason is selling some part of the compound by the owners.

There has been change in boundary in 17.6% of the respondents' compound.

Change in boundary of compound		
Change in boundary	**Frequency**	**Percent**
Yes	13	17.6
No	58	78.4
The respondent doesn't know/tenants	3	4.1
Total	74	100.0

Table 20 Change in boundary of compound

The main arterial street connecting the study area to the Ring road and Debrezeit road was constructed three years ago. Compounds located along the street were demolished and compensation was given to the owners.

Reason for boundary change		
Reason	**Frequency**	**Percent**
Development; for road development	3	23
Selling some part of the plot	4	31
Sharing plot with family member	6	46
Total	13	100.0

Table 21 Reason for boundary change

Selling part of the land is not a common trend in the area as the compound is expected to accommodate children that start their own family in the same compound (shown in Table 20, Table 21).

II. Trend of transformation

Transforming compound space is a common practice in the case study area as in accounts for almost half of the respondents have made transformations. 47.3% of the respondents have made transformations and the remaining proportions 52.7% haven't made any transformations, see Table 22.

Transformations made in compound		
Presence of transformation	**Frequency**	**Percent**
Yes	35	47.3
No	39	52.7
Total	74	100.0

Table 22 Presence of transformation

Reason for not making transformation		
Reason	**Frequency**	**Percent**
I'm a tenant	22	56.4
I don't see the need	2	5.1
Financial reasons	9	23.1
I don't have enough space	6	15.4
Total	39	100.0

Table 23 Reason for not transforming

The reason respondents gave for not making transformations in compound other than being tenants is mainly financial reasons implying that they want to make changes. The other reasons are not having enough space and not having the need to make transformations.

Respondents disclosed that they wish they could rent out their compounds for garages because (as they described it) it is very profitable and life changing. The reasons for no making transformations are summarized in Table 23.

III. Type of physical transformation in compound

Among the transformations done in surveyed compounds 10 from 35 households built additional rooms for their own use, 9 respondents' built shops, 8 built additional rooms to rent, 4 built additional rooms for HBE and 4 respondents' made transformation for more than one reason as presented in the Table 24 below.

71.5% of the respondents have transformed their housing for income generating purposes.

Table 24 Type of physical transformations that took place

Physical changes that occurred in compound		
Type of transformation	**Frequency**	**Percent**
Addition of rooms for HBE	4	11.5
Addition of rooms for HBE & Addition of rooms for family use	2	5.7
Addition of rooms for family use	10	28.5
Addition of rooms for family use & Addition of rooms for rental housing	2	5.7
Addition of rooms for rental housing	8	22.9
Addition of rooms for shops	9	25.7
Total	35	100.0

Transformations take place at different locations in the compound; Most of the transformations in compounds take place to the sides of the main area, followed by transformations at the front yard of the house and some at the backyard of the house as summarized in Table 25.

Location of changes made in your compound		
Location of transformations	**Frequency**	**Percent**
At the backyard of the main house	6	17.2
To front yard of the main house	11	31.4
To sides of the main house	18	51.4
Total	35	100.0

Table 25 Location of transformation

Changes_that_have_occurred_in_your_compound * Location of _transformation Crosstabulation				
Count				
	Location of transformation			Total
	back of the main house	front of the main house	sides of the main house	

Location of transformation	Addition of rooms for HBE(1)	0	0	4	4
	1,2	0	0	2	2
	Addition of rooms for family use(2)	2	2	6	10
	2,3	0	2	0	2
	Addition of rooms for rental housing(3)	2	0	6	8
	Addition of rooms for shops	2	7	0	9
Total		6	11	18	35

Table 26 Type of physical change, location of transformation

Addition of rooms for renting out for shops is mostly located in from of the existing housing, which is usually at the entrance of the compound and along the street. The transformation that took place in comparison to the loaation it took place are summarized above in Table 26.

4.4.2. Housing transformation

There are transformations taking place within houses of respondents, not only addition of buildings in the compound but modifying and changing the forms in their houses for domestic use, to rent by splitting a room and joining rooms for their own domestic functions. Types of changes made in their homes are shown in Table 27.

According to the survey, there are only 12 compounds in the study area that is occupied only by the owners and doesn't include a transformed quarter or compound space occupied by rented individuals.

Types of changes made in your house		
Changes	**Frequency**	**Percent**
No transformation in the house	60	81.1
Splitting a room for domestic use	10	13.5

Splitting room to rent for housing	2	2.7
Joining rooms	2	2.7
Total	74	100.0

Table 27 Type of change made on houses

I. Transformation process

Respondents that have undergone transformation of compound and transformation in housing re 39 out of 74 respondents which is 52.7%of the total respondents (shown in Table 28).

Most transformations began around 7-10years ago, as collected from key informants the trend of transformations comes with the moving out of garages from the inner parts of the city such as Kera which used to be an area where many garages were located in the city to periphery areas that are designated for industrial and manufacturing.

When the transformations began		
When transformation began	**Frequency**	**Percent**
1 year ago	4	10.2
2 years ago	3	7.8
3-5 years ago	7	18
5-7 years ago	3	7.8
7-10 years ago	10	25.6
10-15 years ago	8	20.4
Over 15 years	4	10.2
Total	39	100.0

Table 28 When transformations began

II. Government permit for transformations

Per survey and shown in Table 29, most of transformers in the area took building permit for transformations they made but they mentioned it was a maintenance permit/የእድሳት/, which

doesn't allow completely new construction of housing but renewing existing house and only allowed 40% additional area to be built attached to the existing house.

Building permit for construction		
Permit for building	**Frequency**	**Percent**
Yes	26	74.2
No	9	25.8
Total	35	100.0

Table 29 Permit for transformation

4.4.3. Income generating activities and space character

The most common income generating activity/practice among respondents' is renting houses accounting for 62.2%, followed by renting for commercial uses such as shops, restaurant and storage/warehouse. As presented in Table 30, there are 6 respondents that rent compound space for garages and 3 respondents' practice HBE; sewing cloths, hair braiding and rearing animals for milk and dairy production. There are the remaining traces that reflect the earlier means of livelihood of residents in the study area such as rearing animals and farming.

Type of income generating activity in compound		
Activity	**Frequency**	**Percent**
HBE	3	6.6
Renting housing units	28	62.2
Renting housing units, Renting compound space	4	8.8
Renting shops	8	17.6
Renting compound space	2	2.7
Total	45	100.0

Table 30 Type of income generating activities taking place

IV. Renting housing units

The frequent practice of transformation for income generation is building housing units for rental purpose. Private rental housing contributes a significant amount to the housing market. 32 respondents out of 74 have transformed to rent housing units as a means of income generation.

There are cases where owners have made transformation for more than one means of income generation. Out of the 32 transformers to rent housing units 4 of them are additionally engaged in renting compound space for income generation.

Renting shops for income generation

The transformation for income generation is noticed in different types of houses; all sizes, income levels

4.5. Outcomes/effects of transformations in the neighborhood on respondents'

The transformations that are occurring in the case study area are resulting in physical as well as functional change. Most of the changes are physical taking up 51.3% of the transformations followed by changes that are both physical and functional 35.9% and only functional change taking 12.8% (summarized in Table 31).

Type of transformation		
Type	**Frequency**	**Percent**
Physical	20	51.3
Functional	5	12.8
Both	14	35.9
Total	39	100.0

Table 31 Type of transformation

The effect of transformations in the study area on the income and expenses of respondents is mostly positive, 2 out of 74 respondents' said negatively while 54.1% of them said it has no effect (see Table 32).

It is important to note here that there are compounds that haven't made any physical transformations yet, are generating income by renting out already existing units for housing.

Effect of transformations on income and expenses		
Effect of transformation	**Frequency**	**Percent**
Positively	32	43.2
Negatively	2	2.7
No effect	40	54.1
Total	74	100.0

Table 32 Effect of transformation economically

The effect of transformations in the study area on the social lives of respondents (shown in Table 33),is positive (35.1%) and the rest responded that it had no effect (64.9). the respondents are mostly people that have lived most of their lives in the area and regardless of the ongoing transformations the trend of moving away from the neighborhood is not there. Therefore the social lives are still intact and not negatively affected by the transformations for income generation.

Effect of transformations on social ties		
Effect on social life	**Frequency**	**Percent**
Positively	26	35.1
No effect	48	64.9
Total	74	100.0

Table 33 Effect of transformations socially

Gains from transformation(transformers)		
Gains	**Frequency**	**Percent**
Income increase	31	79.5
Income increase, social interaction	3	7.7
Income increase, social interaction, better infrastructure	1	2.6
Income increase ,better infrastructure	2	5.1
better infrastructure	2	5.1
Total	39	100.0

Table 34 Gains from transformation

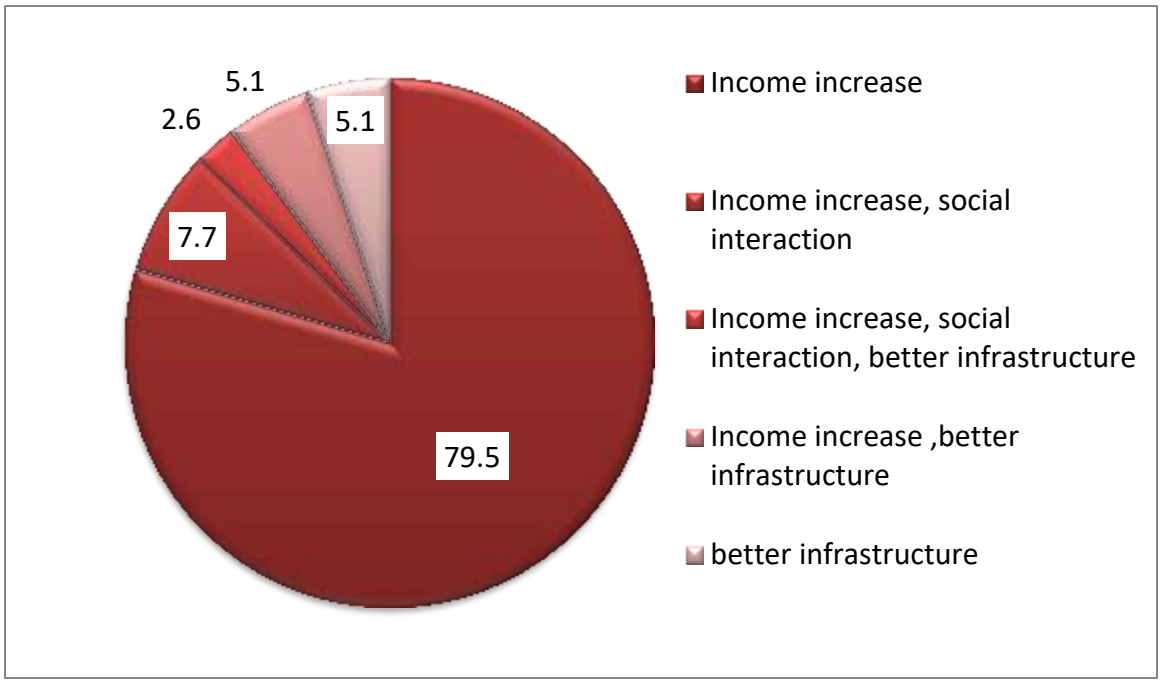


Figure 19 Effect of transformation

The main gain/positive aspect of housing transformation for income generation(shown in Table 34 and Figure 19) is increase of income, implying that they have achieved their goals. The same question was asked to non-transformers and they have reflected that they have benefited from it as well.

- Employment opportunity for their children (increase in household income).
- Due to the employment in garages there are complementary market demand for other services such as food vendors, shops and coffee shops.
- The land and housing value of the area has increased and people can rent their houses at a better price than before.

Change in crime occurrence and safety related issues due to transformations

According to respondents, majority of them (86.5%) responded crime occurrence in the neighborhood hasn't changed since transformation started to take place but 8.1% of them feel like the crime occurrence has increased. Event of crime in the neighborhood ranges from stealing of clothes and household items to robbing of car mirror and only 7 out of 74 respondents have been victim of such deeds.

The respondents disclosed they have safety related issues such as robbery (5.45%) and car accidents (6.7%).

Selected housing histories demonstrating/exemplifying housing transformation for income generation

Example1

Ato Tesfaye was born, raised and still living in his current home his whole life, 64 years old and a few years earlier he was faced with the choice of moving to another neighborhood due to two reasons; the neighborhood is becoming dominated by garages and industries making it inconvenient in many ways. And secondly the soil in his compound is incompatible for construction and he can't build the home he wants due to the nature of the black soil.

*He lived in the same compound(**Error! Reference source not found.**) with his parents, iblings, cousins, nephew/nieces and workers for the farmlands his family used to own.*

Figure 20 Case1- compound in 1988

Ato Tesfaye is a surveyor; he worked at Addis Ababa municipality for many years but retired early for personal reasons and due to bureaucracy and the work environment. He owned a restaurant in Kality which was one of his family's sources of income.

He has witnessed the neighborhood transforming from a sparsely occupied farmland with a sound no other than cattle and farmers to becoming replaced with the bustling of mechanics and machineries.

Housing in earliest stages of his life; there used to be 2 big huts/straw roofed huts (yesar beit) where in the main house serves as their living/dining room and bedroom for his parents.in that room they keep some farming tools.

After their parents passed away and all his sisters moved out when they got married, they sold some part of the compound Mamco paper factory, shown below ***Error! Reference ource not found.***.

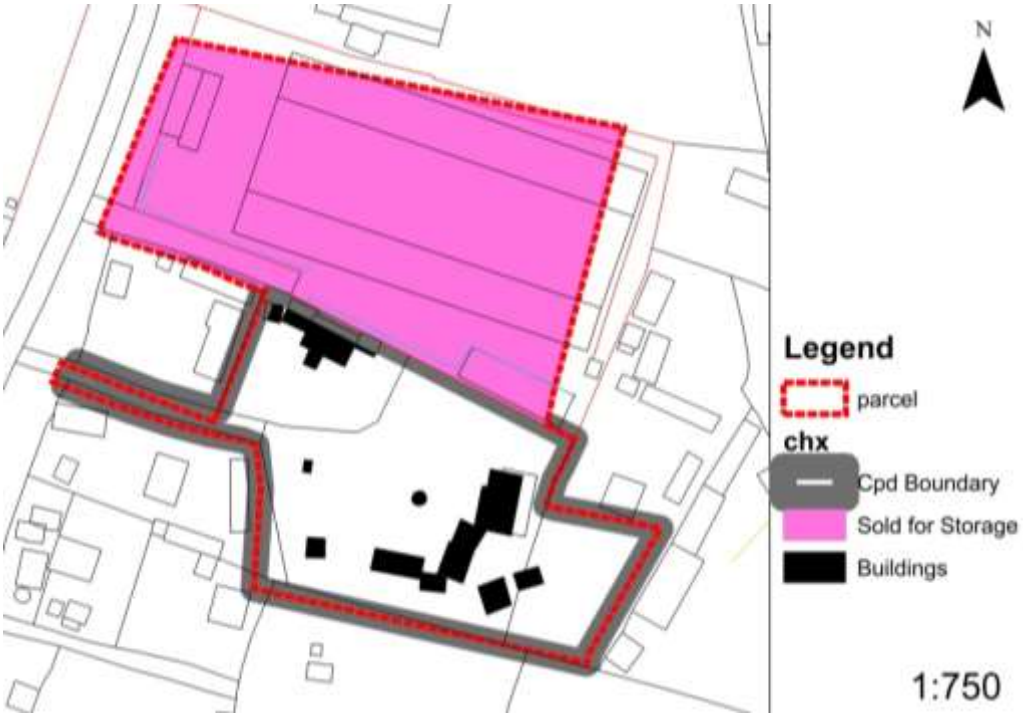


Figure 21 Case1- Compound 1994

And the rest was passed to him and he was left alone to start his own life, he built a modest villa with rock-foundation, chicka, straw, wood and wires for walls and cladded it with cement. The black soil in the neighborhood has a character of expanding and contracting resulting in cracked walls on all houses in the neighborhood. He remarked that "you won't find rocks if you dig 10meters deep".

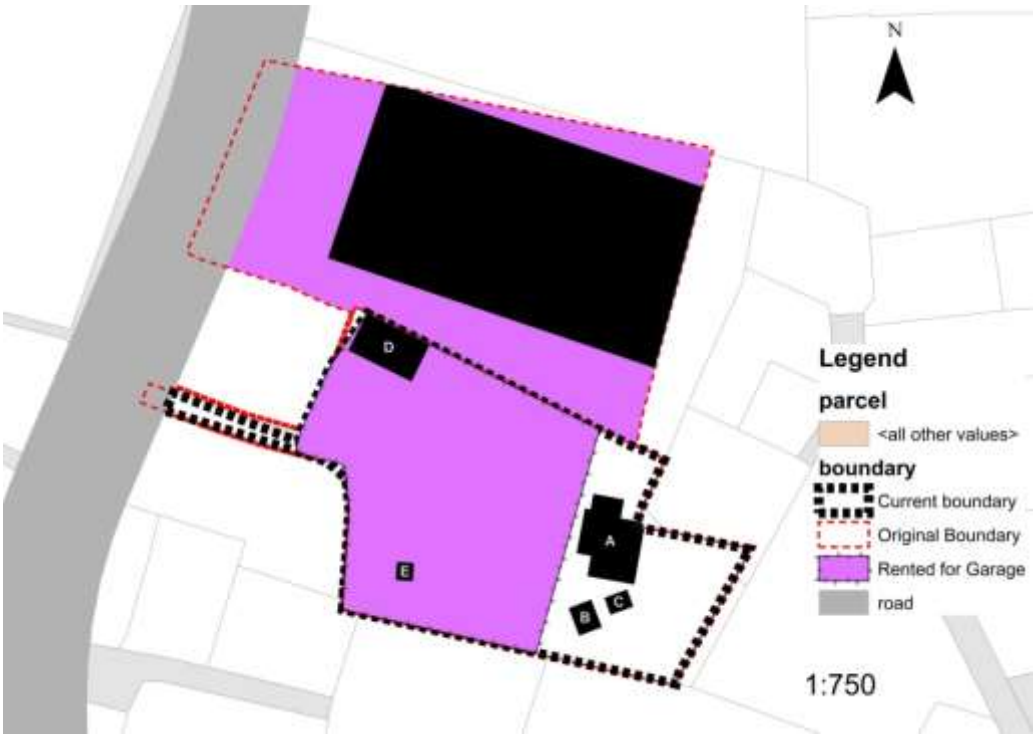


Figure 22 Case1- compound present day

A-Main house

B-Storage house

C-Traditional Kitchen

D-Shed for car painting

E-Toilet

As shown in figure above, he has restored and maintained their house twice in the past decade due to cracking in walls and the cracks keep getting wider. He is building a new

house in which they haven't yet decided to move there with his family. He has no plans of selling the land and if it weren't for the soil he would have built a much better home there.

His income has significantly increased through time he now gets 12,000 birr every month by renting his compound for a garage. The person that has rented the compound from him has rented it to three other mechanics and he gets more than him but it doesn't affect him for now.

The built up area in his compound has decreased as he shifted from renting houses to renting compound space for the garage. There is a good side and a bad side to everything; the garages are a source of income for us but the noise coming from them is at times disturbing especially for new comers. Sometimes the road gets blocked when a car breaks down while entering or exiting a garage and most of the garages work on heavy duty and long trucks. The transformations are summarized below in Figure 23.

Figure 23 Stages of transformation

Example 2

The second case selected for housing history study is Ato Girma; he has transformed his compound for income generation in two ways. The first transformation is through constructing housing units and renting it for income generation. The second transformation is using his compound space as a metal workshop which is his main source of income and job. The transformation is significantly visible in Figure 24 *and* Figure 25.

In addition to the metal workshop he owns; his wife used to have a hair salon shop in their compound, located facing the main road. They have lived in the house sin

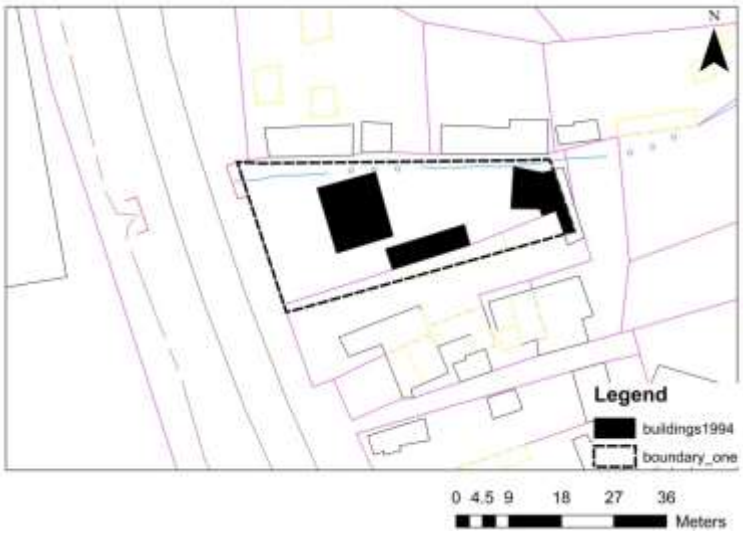


Figure 24 Compound stage 1

The road on the left of the compound was narrrow and earth paved road.
The area of the compound is 1,013m^2. And had 3 buildings used for residence, making up 236m^2 in area. Having a BAR of 23.3%.

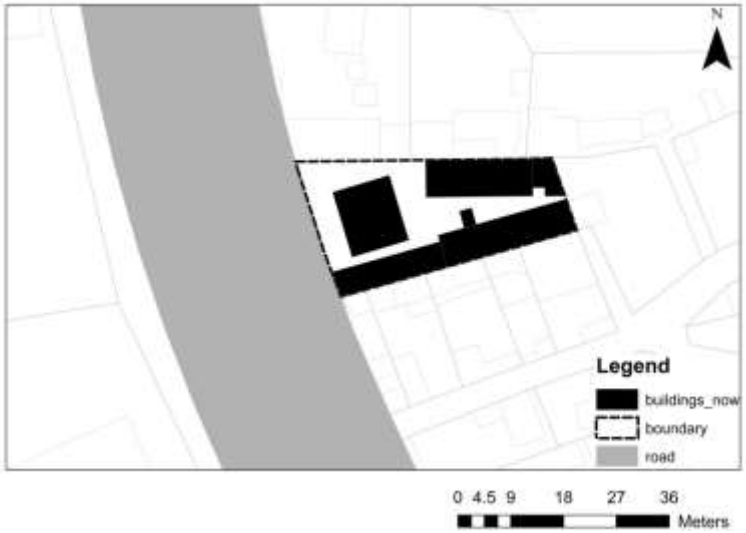


Figure 25 Compound stage 2

During the early days of marriage he was working hired at a metal workshop located in akaki kality. But after some time he started working on contractual projects with other professionals because he didn't own the working tools and machineries. Then started taking on projects on his

own, rented machines and tools and worked at the clients compound/project site. After some time he started buying the tools and machines and started working at his home compound.

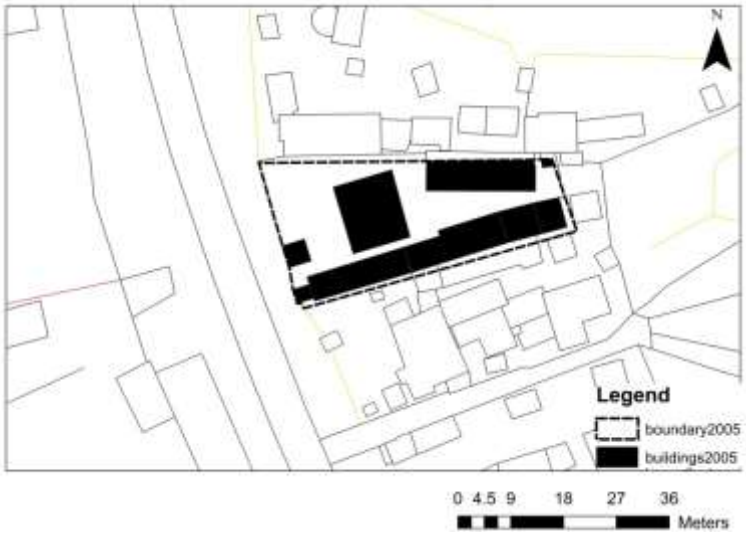


Figure 26 Compound stage 3

He made a shop for his wife(shown in Figure 26*) using metal leftovers from his work in 2007, and he made a small shed using canvas, wood and metal poles.*

After he started working at is home compound, he was able to take on more than one project at a time. He then hired two other people to help with the work due to more work load and he can't do deliveries and installations of the works they produce such as metal gates, hand rails and doors.

Ato Girma says he is glad he is able to convert his compound into his working workshop as renting the space would be very expensive if not affordable and that significant amount of his earning will go to paying for the workshop rental. He thinks that if it wasn't for his compound he might still be working employed for another person and that he wouldn't be leading a live as good as he has now.

Example3

This is a case where adult siblings are living in the same compound which is inherited from their parents. The interviewee is Ato Solomon, who is the youngest of his siblings and is 31 years old. There was construction taking place in the compound as I entered for interview.

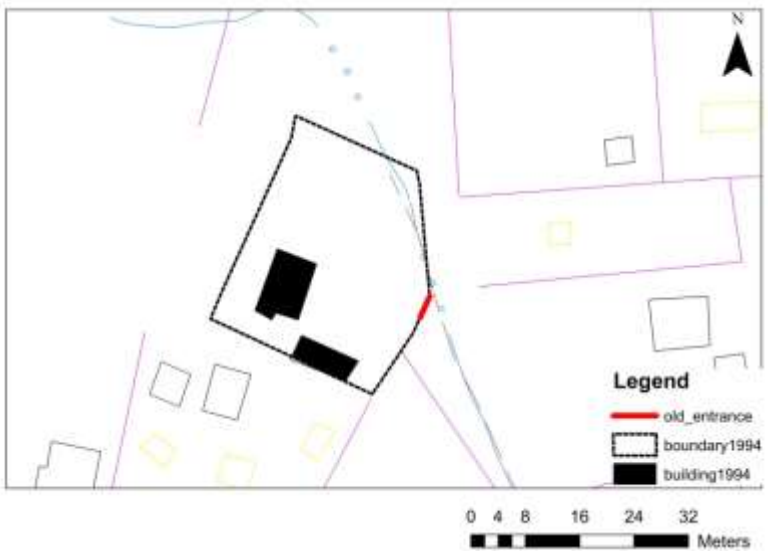


Figure 27 Compound, stage 1

The compound was acquired by Ato Solomon's father from his family; it is also where the Mr. Solomon's parents started living in after getting married and where they raised all 8 children. Their father worked as a day laborer and guard at coffee warehouse (where coffee beans that are collected from harvest are refined by workers hand picking dirt and impurities by hand). Their mother used to make injera and bread at home and sold it at the Gulit every evening. As their children grow up they started selling the baked goods their mother made at the Gulit.

Figure 28 Residence and warehouse

They didn't live a comfortable life as their mother had to do a lot of domestic house work and had to work extra to sell goods and sell money, and their father was gaining minimum wage from his job which was not enough to support the family.

After 11years of marriage, right after Solomon was born their father passed away due to an illness. The challenges of raising the children fell on their mother after that. And they faced all sorts of problems to make sure the children have something to eat, something to put on, have books to go to school and have money to afford taking them to the health center.

Eight years after the passing of the father, their mother planned to construct houses and rent them for generating income. She asked their relatives and neighbors to help them with the construction and they got wood, nails, hay and some money. And built additional three rooms and rented them in 6months. They also had some help from other relatives in raising their children; they received some money and teff. The income from renting houses has helped the family significantly even though it was far from being enough.

They added four rooms in row for additional renting and one to be used by their children as they were growing up and needed more space. Their life was getting better by the years as their children finished school and started working and the ones that were old enough started working after school and during the summer so that they started earning money for school uniforms, exercise books, clothes and try to give some money to help their mother.

They once again built 3 additional rooms and rented them out and used one of them for their second oldest brother.

Figure 29 entrance to warehouse within the compound

In 2008, their oldest brother was going to get married and start living in the compound, he built two-bedroom house beside the main house and moved in with his wife.

In 2010, the family decided to sell some part of the compound, build a modest ware house with the money and rent it for storage or small scale manufacturing to have a continuous and better income for their mother. They sold 250m^2 of their compound for 800,000 birr. Then they built a warehouse using CIS and stone foundation, they also installed 3-phase electric line for the renters to be able to operate machineries.

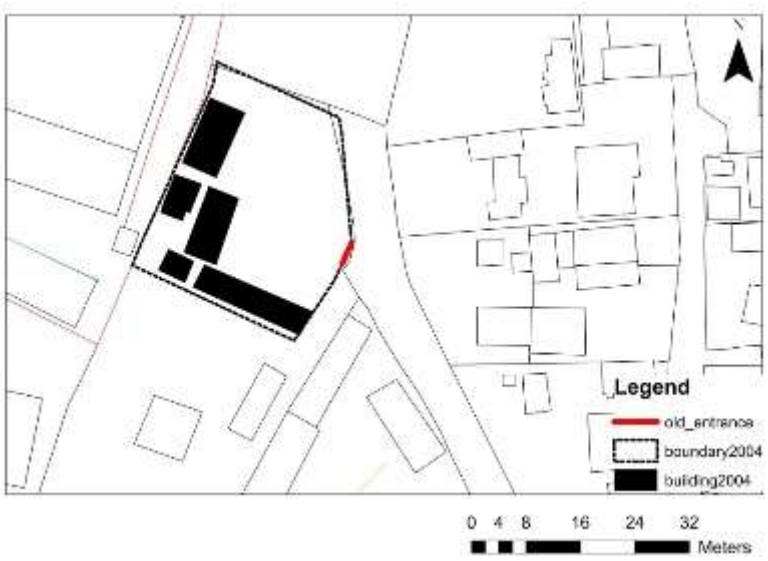


Figure 30 Compound, stage 2

After completion it was rented out for a printing and publishing company who made an agreement to pay 4,000birr per month for 6months and to gradually increase the payment as their business picks up. The company stayed for 2years and decided to move to a larger company space and the warehouse was rented to a small-scale soap factory. And the monthly rent payment rose to 6,000birr and they stayed for another 3years and another renter moved in, they are injera producing company and started paying them 8,000birr monthly. The warehouse generated much more income for the family compared to the single room houses that rented for 400-600 birr per month depending on their size and condition. The increase in their income coupled with the children coming off age and starting to take on jobs and managed to sustain themselves on their individual expenses, life was becoming better and better for the family.

Most of the children shared bedrooms except for two of the oldest brothers and their oldest sister who moved out after marrying. Three of his sisters shared the same bedroom, two of his oldest brothers have their own bedrooms and he shares a bedroom with his immediate older brother until two years ago. His brother built a single room in their compound and started living there.

Mr. Solomon says their home has transformed many times and has changed from how it used to be since he remembers. He himself just completed the construction of three rooms to rent for generating income as he is planning on getting married the coming January and he says "even

though I am now a well-paid electro-mechanical engineer, having a supplementary source of income is very helpful with the current market inflation and high cost of living."

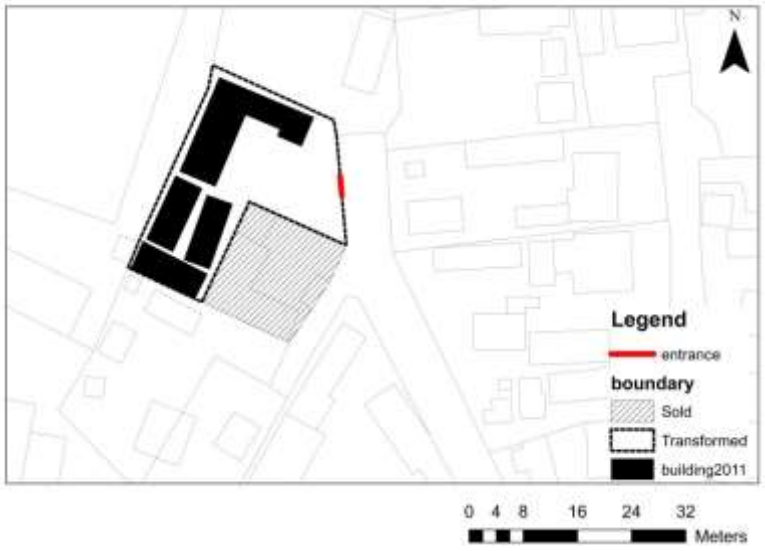


Figure 31 Compound, stage 3

This compound has made transformations at different time(shown in Figure 33*)s for income generation until it reached the current state presented in* Figure 30.

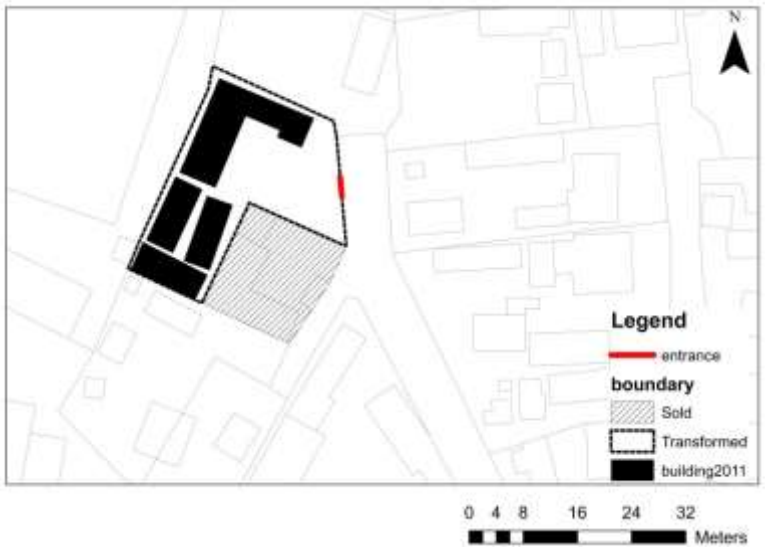


Figure 31

Figure 32 added single- room dwelling units and activities in compound

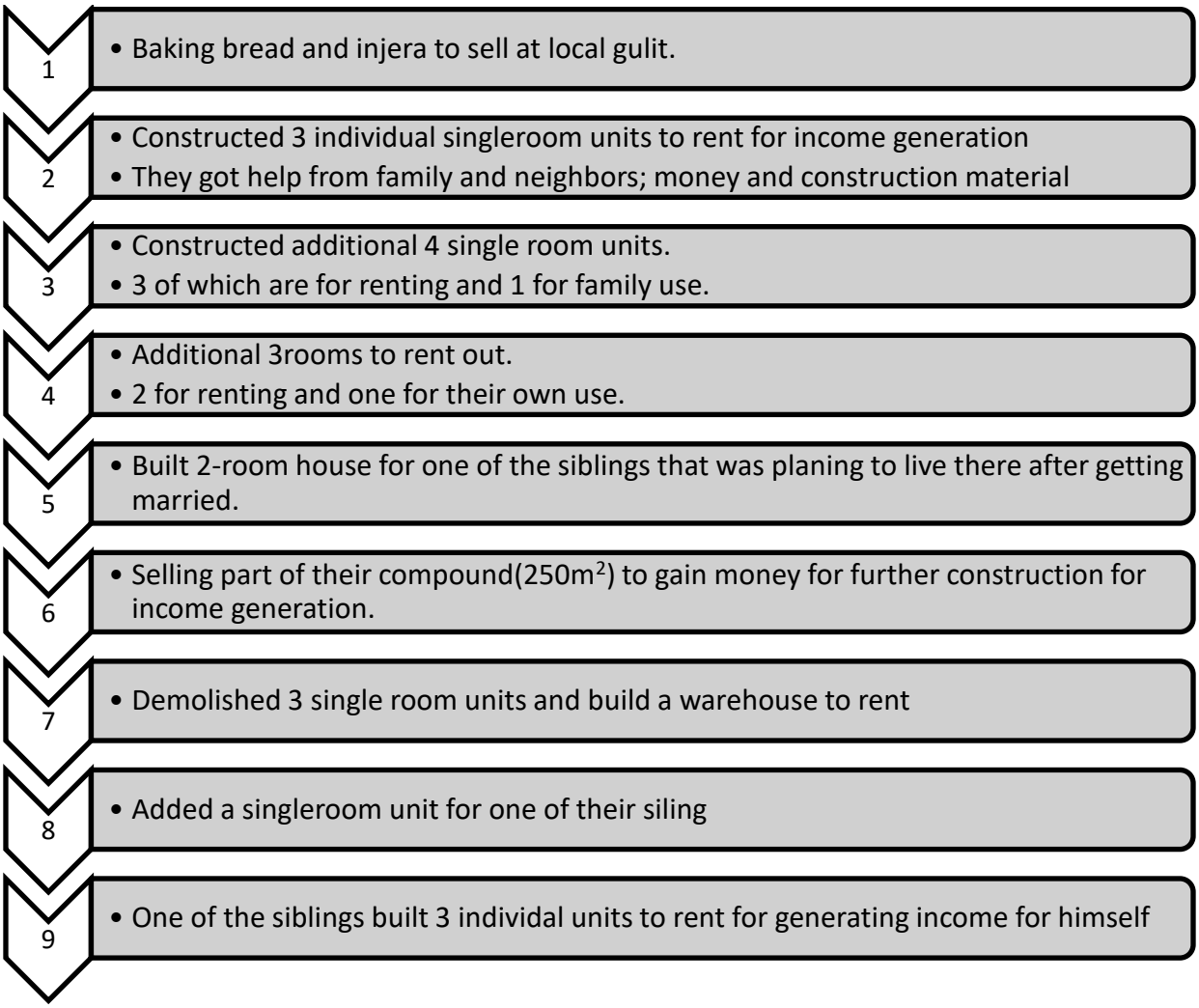


Figure 33 Stages of transformation

The compound's present state is shown in pictures (**Figure 28**, **Figure 29**, **Figure 32**), each described with caption.

Example 4

It has been 10 years since Ato Kibru started living in his current house and his whole life time since he started living in Seriti neighborhood. He lived at is uncle's house, which is adjacent to his current house, since he was 14 years old until he bought the land on which he built his current house on. While he was living there he had his own one room separately from the main house where his uncle lives with his family. He was living there even after he was married and had his two children in the same house but built additional two rooms for living room and kitchen and they had shared toilet.. He had always wanted to stay in the neighborhood because he was very familiar with everyone and it's where all his social and family ties exist.

After buying a land adjacent to his uncle's compound he constructed a five roomed house with an external kitchen.

They moved into the new house after completion and decided to build additional housing units to rent out as an additional source of income. The houses were constructed using stone foundation, wood, hay and mud for walls cladded with cement, CIS roofed and gypsum ceiling. They spent around 6,000birr; they also used leftover material from the construction of the main house.

He worked as a truck driver for contractors that have construction projects out of Addis Ababa at different regions which required him to stay away from his family for 3day to a couple of weeks. His wife started her own food vending café close by, she provided breakfast and lunch for garage workers that work in the garages in the area. After 3 years of moving onto their new house Ato Kibru was diagnosed with diabetes and decided to stop driving trucks and started working as a broker and running errands for some companies.

He is now a widower that lives with his three children, his wife passed away 3 years ago. He wasn't working for a year after she passed away and his only source of income was the rent money from two housing units and his small savings he had left.

Having houses to rent have also supported him and his family while switching between jobs, searching for job and contributed as an additional income when he had a job.

He is now working as an executive manager for a four-star hotel and has a stable income source that helps him support his children and himself. He wants to add more housing units to rent and have an additional income but he doesn't have enough compound space for additional unit.

5. Conclusion and recommendation

5.1. Summary of findings

The summarized findings are presented according to the research questions this research aims to answer.

Transformations for income generation

- Housing transformation for income generation is a common occurrence in the study area where most of housing units/compounds respondents' (60.8%) has undergone transformation to create an additional income for themselves.
- Respondents use their possessions such as land and houses as a means of income generation through renting housing units, renting shops, renting compound space and practicing HBE. The livelihood (specifically income generation) of the residents is directly linked with the physical assets they possess.
- The transformations that took place were both physical and functional as a whole; in some cases there were both physical and functional transformation taking place.
- The built structures resulted from the transformations such as dwelling units and shops are of low quality and size; this can be attributed to the policies that don't allow construction of housing and the soil type that people do not have the confidence to invest in building a decent dwelling. On the contrary, the ones that are constructing a warehouse and manufacturing spaces have put in a a relatively higher capital and have taken a permit for it. This can also be directly connected to the landuse of the area.
- The locations of the transformations that took place are strategically selected in a way that the transformers can benefit financially from them; this is reflected by the types of activities that are taking place. A compound that is located surrounded by garages and workshops is likely to rent it similarly to a garage/workshop or complimentary to those functions, they would rent it to a spare parts shop/ food vender for garage workers rather than renting a dwelling unit.

- The transformations taking place in the study area has positively impacted the economic status and livelihood of the residents. The attitude of tenants towards these transformations is positive as well as they have gained employment and access to services from this transformations.
- Among the transformations types taking place, building housing units for rental purposes is a common practice of transformation for income generation. Private rental housing makes a significant contribution to the housing market.
- The second most common type of transformation is spatial and functional, building and renting out shops. These shops are strategically located accessible along local roads making the transformed compounds' function residence and small scale commerce.
- Following the transformation for income generation through addition of housing units and addition of shops is HBE and renting of compound space. Renting compound space is dependent on size of the compound

Challenges of transformation for income generation

The transformers are practicing it to benefit themselves from it even if the transformations are not planned at a neighborhood level hence are not integrated and cohesive as a whole. And as a result has brought its own challenges and prospects with it.

The challenges faced are summarized in: spatial challenges and policy challenges

Spatial/physical challenges

- Even though the transformers utilize their property in a way they can generate a better income, the transformations are unplanned and spontaneous at a neighborhood/city level resulting in poor spatial design at times making it difficult for residents to access their homes and creating congestion on the local streets of the neighborhood.

- The characteristics of the housing units being constructed in the transformation process for income generation are of poor quality and small in size. As the plans for the study area is to be of manufacturing and storage, it doesn't promote housing development.

- Lack of provision of social services due to the proposed landuse in the structural plan; the neighborhood is slated to be an industrial zone and the social services that are required for people residing is not taken into consideration.

- Nature of the soil is one of the challenges pointed out by residents in the area. This factor is not a planning challenge but it was mentioned as one of the reasons they don't want to spend much capital on the constructions they do.
- The physical challenges posed by the transformations are linked to the transformers preference to utilize the frontage of their compounds by renting It to one of the functions rather than dwelling units.

Policy level challenges

- The structural plan's landuse proposal and the building permit circular: This only allows maintenance on existing housing units and building only an area which is 20% of the existing built up area footprint.
- The structure plan has designated the area to be developed as a 'manufacturing and storage' landuse, which doesn't promote for housing developments to take place.
- The built structures such as dwelling units and shops are of low quality and size; this can be attributed to the policies that don't allow construction of housing and the soil that people do not have the confidence to invest in building a decent dwelling.

On the contrary, the ones that are constructing a warehouse and manufacturing spaces have put a considerable capital and have taken a permit for it. This can also be directly connected to the landuse of the area.

Prospects/potential of housing transformation for income generation

- Economic growth- the transformations taking place have created employment opportunity for people living in the area and a chance for home owners to generate income.

- Even though the policies do not promote construction of houses; people still informally/using maintenance permit manage to build houses and rent them, hence contributing to the provision of housing in the neighborhood.

- The residents don't see relocating as their first option, they still want to live there and create ways for generating income. Even having the knowledge that the area is slated for industries and manufacturing, they

- The transformers are owners of the houses and compounds that is the major strength and don't threaten the lives of the residents.

Recommendations

Based on the multi-level prospects and challenges found from the study, the recommendations are given on different levels/sectors as follows.

Policy level

Policies and regulations play a significant role on the existence and type of transformations taking place.

The existing policy becomes rather hindering as it limits the level of transformation and construction taking place, resulting in low-quality constructions that aren't planned for years ahead, due to the disparity it has with the proposed landuse. There are industrial towns where the industries, housing for the workers/owners, other services and facilities co-exist in harmony. So learning from other cases there can be a policy framework developed for areas of such cases.

- Land use planning is place-based by definition and highly context-specific. For instance, rural communities face very different issues than urban ones. As a consequence, land use planning requires a high level of information on local conditions. Higher levels of government often do not have this information to the degree that local governments do.
- The landuse planning and regulation should be place based and context-specific, that is where LDP/NDP comes in. In preparation of NDP, there will be an indepth analysis of the area. For the specific case of the study area based on the spatial, economic and social

status a regulation that enables residents to generate income while staying in the neighborhood. Although the current landuse of the study area on the currently guiding structure plan doesn't allow development of housing the transfrmations have yielded supply of housing units as the population of the settlement is increasing.

Spatially

On Compound

The owners transforming their compounds have the chance to consider their access to part of the compound they use as residence. This can be achieved through:

- In case where the frontage of the compound is wide they can provide a separate gate for the other function such as garage, warehouse or factory and another for their own residential use.

- In case the transformations are only for commercial shops and the frontage is small, they can open the whole frontage then arrange the shops in a way they are visible and the shops are inside the compound.

- The transformations have a potential of providing an affordable housing in the neighborhood, most of which are of low quality and low rental cost. These housing units can be made in a better quality in terms of material and arrangement in the compound as a whole.

On Neighborhood

- A neighborhood level planning intervention: by taking into account the means of access for the residents in the neighborhood. By proposing a separate local street to serve residents in the neighborhood.
- Introduce green elements as a buffer from the manufacturing, garages and storage to create some level of sound and pollution barrier.
- For new areas that are newly transforming into a mix of industrial and residence, intervention early

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Annexes

Annex1- Article

USER-INITIATED HOUSE TRANSFORMATION FOR INCOME GENERATION; the case of individual private housing in Woreda 07, Akaki Kality, Addis Ababa

Bonny Tesfaye Degefa, Elias Yitbarek Alemayehu

Abstract

As the capital, Addis Ababa struggles to accommodate influx of population, it is apparent that changes on all levels and sectors are taking place. Spatially the city has been densifying and the built-up elements are increasing so as to keep up with the housing demand of the people.

This research focuses on the transformations that took place in a dominantly private owned settlement located in Akaki Kality, Woreda 07, for the purpose of income generation. And the kind of transformations that took place and for what functions these transformed spaces are used, the challenges of the transformations and the prospects. To study these aspects, data was collected from selected households in the study area using semi-structured questionnaires, key informant interviews with sub city office employee and Woreda level building permit office.

According to the data collected the research found that transformation of housing/compound for the purpose of income generation is a trend as more than half of the studies housing units have done it, they are continuing transforming and planning to transform Based on the studied cases the residents were able to accommodate their needs and cope with the spatial transformations that directly impact them socio-economically. These transformations have posed some challenges like landuse incompatibility, accessibility issue due to overflow of activities and in some cases pollution of sound for residents. The transformations are consciously planned activities done by each transformer, although it is an unplanned and spontaneous development at a neighborhood level as it's not planned cohesively and conclusively for the area.

The study finds that the residents' livelihood is directly linked to the housing/compound they own as they derive their significant portion of income from it. Reinforcing the sustainable livelihood framework that entails that livelihood is directly linked to the physical capital and the factors such as policy and regulation being factors mediating the dynamic. The ownership status of the residents has given them a level of freedom and rights in exploring ways in transforming to generate income from the physical capital they possess.

Based on the findings, the recommended points are to regularize the transformations taking place at a compound level and planning intervention at a neighborhood level so as to minimize the challenges caused by the transformations and to maximize the benefit the transformers gain.

Keywords: housing transformation, income generation, private owned housing,

Introduction

Addis Ababa being the capital and accommodating the highest population in the nation struggles to be a home for the increasing flow of people from all over the country, in search for jobs and a better life. This influx of population comes with its set of demands that are fundamental for them to pursue living in the city. This creates pressure on the city economically, socially and physically (infrastructure; housing for this case). Housing as the main necessity for human beings is one the primary sectors that challenges the city faces. In the desperate effort to accommodate the population, the city undergoes multi-layered transformation.

Owner-initiated house/compound transformations are known to create a convenient and usable space that can improve the economic problems faced by the owners. Such unplanned transformations for income generation change the urban fabric/physical aspects/ as well as the socioeconomic aspect of an area. Although it is known that the owners have a motive/drive for transformation, it is not known what challenges the transformations result in or the opportunities that come with it.

The general objective of the study is to identify the challenges and the prospects of transformations for income generation. The effect of transformations will be weighed through the collected data and through the lens of different literature reviewed.

The study is spatially limited on a block located in Seriti neighborhood which is located in Akaki Kality sub city a sub city located at the southern end of the city Addis Ababa, Ethiopia. The selected block is consisted of dominantly private owned compounds that have residential buildings. The location is over 10 kms away from the city center/core of the city/.
The study area falls in one administrative Woreda in the sub city; Woreda 07.

On this research; the primary focus is on housing transformations for income generation, the type of transformations that took place for the purpose of income generation, the challenges for transformation, potential of transformation and the relationship between the physical spaces and the livelihood of the residents. In contrast to the cited cases this research has a narrowed scope within housing transformation and goes in-depth about the types of transformations that are taking place for income generation, in a different location(landuse) and type of housing.

Review of related literature

Housing transformation

According to different researches done in the area of housing transformation, it is defined as follows to help understand the study.

Transformation is synonymous with words such as alteration, adjustment, modification, improvement and change. In this research transformation refers to transformation of physical/spatial elements of housing.(Graham Tipple, 2000)

Bolaane & Kalabamu,(2013) referred Longman Dictionary of Contemporary English (2007), transformation simply means a complete or partial change, usually into something with an improved or disfigured appearance or usefulness. And added in their research “The term ‘housing transformation’ is used here to refer to informal, extra-legal and unplanned processes through which home-owners extend their houses, erect additional rooms or convert part of their homesteads into rental accommodation.” (Bolaane & Kalabamu, 2013, p. 33)

Tipple (1991) defined the transformation of a dwelling as the alteration or extension involving construction activity using locally available materials and technology.

Kim et al. (2005) described the remodeling of completed buildings that results in a change in the look or character of building envelope components is referred to as transformation.

Popkin et al. (2012) also defined housing transformations as actions ranging from rearranging interior furnishings and painting a room to structural changes such as the installation of additional rooms or even the destruction of certain housing units.

Summarizing the definitions into context housing transformation can be defined as the changing of original physical form and spatial arrangement of a dwelling unit/ space to/by occupants to meet their needs and achieve their goals.

Housing and livelihood

People have described livelihood as their jobs, making a living and supporting their families. There are formal definitions of 'livelihood' forwarded by researchers and organizations; DFID (1999) defines it as; 'A livelihood comprises the capabilities, means/assets (including both material and social resources) and activities required for a means of living.

In the context of this definition; housing as a tangible asset falling in the 'stores and resources' component/element/ of livelihood that is required to thrive or make a living.

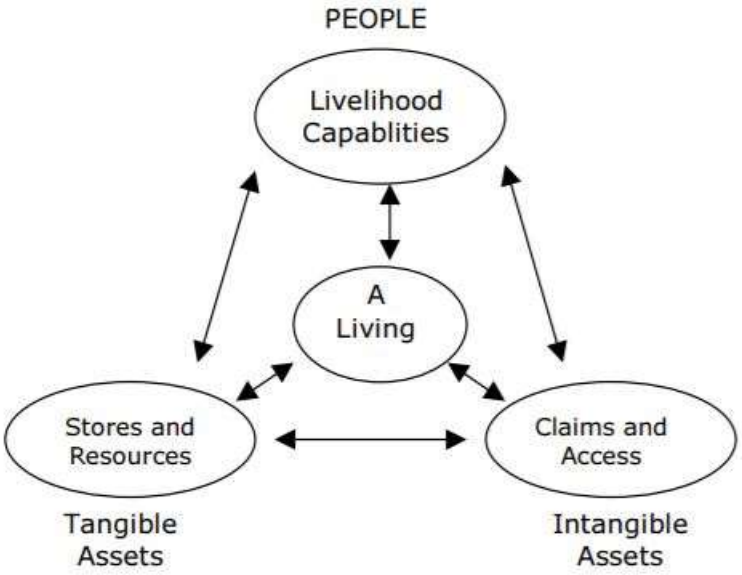

Figure 34 - Components and flows in a Livelihood(Chambers & Conway, 1992)

Housing as a basic necessity for humans is a substantial influencer on the way of life and livelihood of the people residing in it. "The linkage between housing, livelihoods and well-being exists because all the concepts are capable in transforming the socio-economic and political aspects of urban population to the progressive level. While the well-being revolves around a variety of progressive values the population and the city are striving to achieve for better live and urban setting; such level of attainment can be realized by housing as a strong livelihood means"(Kiduanga, 2010).

Sustainable livelihood framework

The livelihood of people is affected by several factors, both directly and indirectly. Livelihood is more than the people and their potentials it is linked with several variables and issues.it incudes all possible/available resources, technologies, knowledge and opportunities through which they support their lives.

The sustainable livelihood framework is based on livelihood approach with core concepts;

People-centered; puts people at the center of development. People rather than the government that rules and the resources they utilize.

Holistic; focus on various issues that consider different variables that considers or give opportunities, as well as how they connect to one another.

Dynamic; seeks to undertand changes that take place in people's lives because people's livelihoods and the institutions are constantly changing. A two-dimensional framework cannot fully represent the real dynamic of livelihoods, but it may be represented in processes and techniques of study.

Building on strength; recognizes the inherent potential of everyone and starts with analyzing the strengths rather than needs. The key objective of the approach is to remove obstacles to realization of potential.

Macro-micro links; unlike different development activities, the livelihood approach tries to bridge the gap of focusing on either micro or macro level by linking both. Policy at macro level is usually developed without the inclusion of communities it affects.

Sustainability;

Among the several aspects discussed in the sustainable livelihood framework, for this research it mainly focuses on income generation as a result of housing transformation, which can be translated in the framework as the physical capital/housing/ resulting in income increase and wellbeing.

The livelihoods framework is a tool to improve our understanding of livelihoods, particularly the livelihoods of the poor. It was developed over a period of several months by the Sustainable Rural Livelihoods Advisory Committee, building on earlier work by the Institute of Development Studies (amongst others).

The livelihoods approach is concerned first and foremost with people. It seeks to gain an accurate and realistic understanding of people's strengths (assets or capital endowments) and how they endeavor to convert these into positive livelihood outcomes. The approach is founded on a belief that people require a range of assets to achieve positive livelihood outcomes; no single category of assets on its own is sufficient to yield all the many and varied livelihood outcomes that people seek. This is particularly true for poor people whose access to any given category of assets tends to be very limited. As a result they have to seek ways of nurturing and combining what assets they do have in innovative ways to ensure survival.(DFID, 1999)

The framework identifies five core asset categories or types of capital upon which livelihoods are built. Increasing access which can take the form of ownership or the right to use to these assets is a primary concern for DFID in its support of livelihoods and poverty elimination; these capitals are also called building blocks of livelihood.

Human capital- are defined as the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives. At a household level human capital is a factor of the amount and quality of labour available; this varies according to household size, skill levels, leadership potential, health status, etc. in the context of this study the capacity of the owners of the housing units/compounds undertaking the transformations.

Social capital- the social resources from which people draw in order to achieve their living goals These are formed through the following processes: networks and connection, participation in more structured groups, and trust, reciprocity, and exchanges.

Natural capital- the natural resource stocks that provide resource flows and services (e.g., nutrient cycling, erosion prevention) that are important for livelihoods Changes and shocks that occur as a result of changes in access and availability of these resources have an impact on people's livelihoods.

Physical capital- Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods. The most essential components of infrastructure that contribute for sustainable livelihood are affordable transport; secure shelter and buildings, adequate water supply and sanitation, clean, affordable energy; and access to information (communications).

Financial capital- is the financial resources that people use to achieve their livelihood objectives.

It is important to note that a single physical asset can generate multiple benefits. If someone has secure access to land (natural capital) they may also be well-endowed with financial capital, as they are able to use the land not only for direct productive activities but also as collateral for loans. (ibid)

Transforming Structures and Processes within the livelihoods framework are the institutions, organizations, policies and legislation that shape livelihoods. The importance of these is very crucial and requires great emphasis. They operate at all levels, from the household to the international arena, and in all spheres, from the most private to the most public.

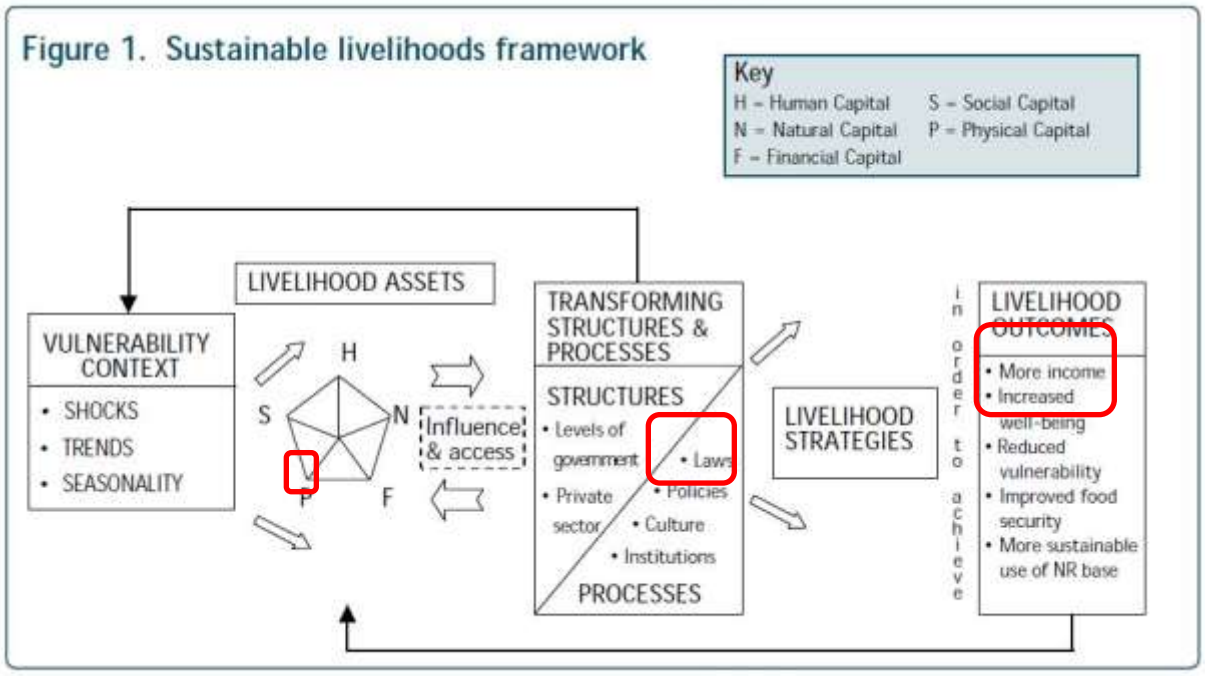

Figure 35 - Sustainable livelihoods framework (DFID, 1999)

Contextual review

Existing housing transformation policies and implementation of the city's plan

The Addis Ababa City Development Plan (2004-2014) had comprised a statutory structure plan, an action oriented strategic development framework and a management reform component. The statutory structure plan had provided an overall framework for the spatial development of the city. The action oriented strategic development plans had prioritized six key urban issues to be implemented in five years (i.e. housing, urban road network and transport, manufacturing)(AAPCO, 2017)

Housing is one of the major issues that is planned to address in the city's structural plan. Addis Ababa city government plan and development commission has the mandate to implement and reinforce the city's plan to be implemented and guide the coming developments in the city.

The Addis Ababa Structure Plan is prepared to guide the development of the city for the coming ten years (2013-2023) cognizant of the fact that the city needs to achieve economic, social, cultural and environmental objectives stipulated by Articles 89-92 of the FDRE Constitution, and the right of the residents to "improved living standards and to sustainable development" by indicating major "development activities ... to enhance the capacity of citizens for development and to meet their basic needs" (FDRE constitution art 43(1) and (4)). The plan recognizes and appreciates the responsibility of the Addis Ababa City Government as an organ of state to abide by and promote the national policy principles and objectives as stipulated under art 85(1) of the FDRE constitution, and is in compliance with national policy principles and objectives as enunciated by the FDRE Constitution and other Federal laws, including the Revised Addis Ababa City Government Charter Proclamation No. 361/2003 and subsidiary legislations. (AAPCO, 2017)

As learned from key informants in this case study area; the permit given in the area is of renewing/improving existing housing, rather than new housing developing license since the proposed landuse of the area in the structural plan of the city is manufacturing and storage and doesn't promote housing development. And such cases where housing and

other functions other than the planned manufacturing and storage are labeled ፕላን ተቃርኖ/plan contradicting (opposing)/ by building permit offices and AAPDC.

The office responsible for giving building and construction permit is Addis Ababa Construction Bureau that has offices at sub city and Woreda levels in addition to the central main office. The bureau has its own directive; Building directive No. 2/2010 comprising of all sections and sub section that guides all issues regarding building process in Addis Ababa. Permits for buildings in the study areas grouped as 'plan contradicting' are /resolved by a directive Section 10.9 existing residential house temporary upgrading permit/የመኖሪያ ቤት ነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ/

Methods

Based on the research objectives and research questions, the type of research to be undertaken is descriptive research. As the research questions to be answered are 'What is/are?" questions and the research tries to describe an aspect/phenomenon. According to a research guide manual published by AAU, Zegeye et al., (2009); Descriptive research, therefore, involves a variety of research methods to achieve its goal. The methods that come under descriptive research are Surveys, correlation studies, observation studies, and case studies. In this research surveys, case studies, observation and correlation study methods are used.

The research is done on a selected block within a neighborhood, and tries to understand; the transformations that are happening which are initiated by the owners motivated by income generation, secondly to understand the type of transformation that took place, challenges of the transformation, and the prospect of the change encountered by the residents and business owners in the study area. This type of data is to be retrieved from the residents/business owners through semi-structured questionnaires/interviews/, through observation of the study area, and by using secondary documented data and maps.

For this research, both primary and secondary data are collected. To understand the conceptual framework and to track the transformations secondary documents such as researches, books, and existing land use maps, master plans are used. The primary data will be gathered from the residents through interviews, questionnaires, and direct observation. By using the combination of both types of data it is important to obtain complete information that is the basis of the study and in answering the questions raised in the research questions.

The research employs a combined data type of qualitative and quantitative data. As the research questions show the research is mainly based on qualitative data as it primarily tries to investigate the individual experience of the residents and business owners in the study area. But since it is always advantageous to get perspective from the quantitative aspect of the issue, a combined method is employed.

Through purposive sampling, the questionnaire was undertaken among residents with transformed housing and non-transformed housing.

The questionnaire was administered majority on owners consisting of at least 75% and the rest on tenants. This constituent will be maintained by the researcher during data collection by keeping the count and keeping the number of tenants interviewed under 25%.

After narrowing down the compounds to the ones that include a housing unit, random sampling is used to select samples from the study area. The compounds in the study area were given parcel codes and using RANDOM.ORG - True Random Number Service 74 samples were selected.

Results and discussion

Land and housing is mainly acquired through inheritance from parents and grandparents and as gifts from parents. In conformity with information acquired from informants, a substantial number of the households among respondents acquired the housing through inheritance (25.7%). Most of them are living there acquired their housing through buying from previous owners accounting for 27%.the rest are acquired as a gift (8.1%).

Transformations taking place

According to a professional in Akaki Kality sub city and building permit authority branch office; the neighborhood is transforming physically through construction/demolition of built up structures and introduction of vehicles and machineries. Even though it's one of the less developed parts of the city in terms of infrastructure and facilities, the area is gradually developing and changing to satisfy the social and economic needs of the residents which are dominantly the owners of land and housing in the area.

He added that; different factors can be attributed for the transformation in the neighborhood; *professionally I can share my observations in regards to construction. The current structural plan dictates that the area is designated for manufacturing and storage landuse and as a long standing neighborhood there still are many housing units within the area and the number is growing as the years go by. As many garages, storages and industries start to move out of the inner city in search for new working space; Akaki Kality became an area where several garages and storage spaces started to settle. It is clearly stated on the strategy of the current structural plan of the city that manufacturing and storage with an area of more than 500 m^2 currently located inside the ring road shall be relocated within five years' time. And manufacturing and storage with an area of more than 2000 m^2 currently located outside the ring road shall be relocated within ten years' time to their respective zone.*

Building permit is given to developments in harmony/conformity with the structural plan, so based on that we don't give permit for construction of new housing units. But considering that most of the existing houses are in deteriorating condition and in order to alleviate the housing shortage in the area as a housing maintenance permit where they are allowed to add 40% of the existing building footprint.

Given that the area is planned to be an industrial zone, the people residing there are still living and planning their future there. The disadvantages are; there are no social services planned to be built in the area since there are no plans for housing development in the study area, the other issue is regarding landuse incompatibility the residents are not unhappy with the garages and industries as most are directly (by renting the space for the activities) or indirectly (as the area beings activities) gaining from it but there are inconveniences posed by the garages and industries. The area has transformed in an unplanned manner making it spatially challenging.

There is income-generating activity in most of the respondents' compounds (60.8%), which is a trend of transforming their compounds for various purposes that weren't there before.

The presence of income generating activities doesn't only reflect on the residents' need for income but also the demand/population that rents/buys/uses the services provided.
67% of the plots are used for residence only, the remaining 29% of the studied compounds are mixed use compounds of which 16% include commerce and 13% include garage/manufacturing/storage along with housing.

Among the transformations done in surveyed compounds 10 from 35 households built additional rooms for their own use, 9 respondents' built shops, 8 built additional rooms to rent, 4 built additional rooms for HBE and 4 respondents' made transformation for more than one reason as presented in the table below.

71.5% of the respondents have transformed their housing for income generating purposes.

The frequent practice of transformation for income generation is building housing units for rental purpose. Private rental housing contributes a significant amount to the housing market. 32 respondents out of 74 have transformed to rent housing units as a means of income generation.

The transformations that are occurring in the case study area are resulting in physical as well as functional change. Most of the changes are physical taking up 51.3% of the transformations followed by changes that are both physical and functional 35.9% and only functional change taking 12.8%.
The effect of transformations in the study area on the income and expenses of respondents is mostly positive, 2 out of 74 respondents' said negatively while 54.1% of them said it has no effect.
It is important to note here that there are compounds that have not made any physical transformations, yet they are generating income by renting out already existing units for housing.
The effect of transformations in the study area on the social lives of respondents is positive (35.1%) and the rest responded that it had no effect (64.9). The respondents are mostly people that have lived most of their lives in the area and regardless of the ongoing transformations the trend of moving away from the neighborhood is not there. Therefore

the social lives are still intact and not negatively affected by the transformations for income generation.

The main gain/positive aspect of housing transformation for income generation is increase of income, implying that they have achieved their goals. The same question was asked to non-transformers and they have reflected that they have benefited from it as well.

As a main source of income 40.5% responded salary from employment, 12.2% responded trade as their main source of income and equal percent as trade is renting house/compound space.

There are respondents that have more than one source of income such as salary and renting houses or renting compound space. Only one respondent source of income is from a home based enterprise, specifically sewing clothes at a shed at the front of his compound.

There are households with more than one source of income, such as salary and renting house, but in the survey, when asked what their main source of income was; most responded income from employment as the main even in cases where amount of income from renting compound space/house is greater than their salary.

- Employment opportunity for their children (increase in household income).
- Due to the employment in garages, there are complementary market demand for other services such as food vendors, shops and coffee shops.
- The land and housing value of the area has increased and people can rent their houses at a better price than before.

Conclusion and recommendation

Conclusion

- Housing transformation for income generation is a common occurrence in the study area where most of housing units/compounds respondents' (60.8%) have undergone transformation to create an additional income for themselves.
- Respondents use their possessions such as land and houses as a means of income generation through renting housing units, renting shops, renting compound space and

practicing HBE. The livelihood (specifically income generation) of the residents is directly linked with the physical assets they possess.

- The transformations that took place were both physical and functional as a whole; in some cases, there were both physical and functional transformation taking place.
- The built structures resulted from the transformations such as dwelling units and shops are of low quality and size; this can be attributed to the policies that does not allow construction of housing and the soil type that people do not have the confidence to invest in building a decent dwelling. On the contrary, the ones that are constructing a warehouse and manufacturing spaces have put in a relatively higher capital and have taken a permit for it; this is linked to the landuse of the area.
- The locations of the transformations that took place are selected strategically in a way that the transformers can benefit financially from them; the types of activities that are taking place reflect this. A compound that is located surrounded by garages and workshops is likely to rent it similarly to a garage/workshop or complimentary to those functions, they would rent it to a spare parts shop/ food vender for garage workers rather than renting a dwelling unit.
- The transformations taking place in the study area has positively impacted the economic status and livelihood of the residents. The attitude of tenants towards these transformations is positive as well as they have gained employment and access to services from this transformations.
- Among the transformations types taking place, building housing units for rental purposes is a common practice of transformation for income generation. Private rental housing makes a significant contribution to the housing market.
- The second most common type of transformation is spatial and functional, building and renting out shops. These shops are strategically located accessible along local roads making the transformed compounds' function residence and small-scale commerce.
- Following the transformation for income generation through addition of housing units and addition of shops is HBE and renting of compound space. Renting compound space is dependent on size of the compound

Recommendation

Based on the multi-level prospects and challenges found from the study, the recommendations are given on different levels/sectors as follows.

Policy level

The existing policy becomes rather hindering as it limits the level of transformation and construction taking place, resulting in low-quality constructions that aren't planned for years ahead, due to the disparity it has with the proposed landuse. There are industrial towns where the industries, housing for the workers/owners, other servies and facilities co-exist in harmony. So learning from other cases there can be a policy framework developed for areas of such cases.

- Land use planning is place-based by definition and highly context-specific. For instance, rural communities face very different issues than urban ones. As a consequence, land use planning requires a high level of information on local conditions. Higher levels of government often do not have this information to the degree that local governments do.
- The landuse planning and regulation should be place based and context-specific, that is where LDP/NDP comes in. In preparation of NDP, there will be an indepth analysis of the area. For the specific case of the study area based on the spatial, economic and social status a regulation that enables residents to generate income while staying in the neighborhood. Although the current landuse of the study area on the currently guiding structure plan doesn't allow development of housing the transfrmations have yielded supply of housing units as the population of the settlement is increasing.

Spatially

On Compound

The owners transforming their compounds have the chance to consider their access to part of the compound they use as residence. This can be achieved through:

- In case where the frontage of the compound is wide they can provide a separate gate for the other function such as garage, warehouse or factory and another for their own residential use.

- In case the transformations are only for commercial shops and the frontage is small, they can open the whole frontage then arrange the shops in a way they are visible and the shops are inside the compound.

- The transformations have a potential of providing an affordable housing in the neighborhood, most of which are of low quality and low rental cost. These housing units can be made in a better quality in terms of material and arrangement in the compound as a whole.

On Neighborhood

- A neighborhood level planning intervention: by taking into account the means of access for the residents in the neighborhood. By proposing a separate local street to serve residents in the neighborhood.
- Introduce green elements as a buffer from the manufacturing, garages and storage to create some level of sound and pollution barrier.
- For new areas that are newly transforming into a mix of industrial and residence, intervention early

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Annex2- Questionnaire

Survey Questionnaire for households

Part I- questionnaire information

1. **Date administered-_____**
2. **Administered by- _____**
3. **Code on map- _____**

Part II- household profile and history

4. **Name of household head-**

- **If answered by another person; name and relation to HH head**
    - **a) □ Child**
    - **b) □ Sibling**
    - **c) □ Parent**
    - **d) □ Relative**
    - **e) □ Other, specify_____**

5. **Sex**
    - **a. □ Female**
    - **b. □ Male**
6. **Age**
    - **a. □ Under 25**
    - **b. □ 26-35**
    - **c. □ 36-50**
    - **d. □ 51-65**
    - **e. □ 66-80**
    - **f. □ Over 80**
7. **Marital status of HH head**
    - **a. □ Single b. □ Married c. □ Widowed d. □ divorced**
8. **House number_____**
9. **Number of residents in the household**
    - **a. □ 1-3**
    - **b. □ 4-6**
    - **c. □ 7-10**
    - **d. □ >10**
10. **Number of male in the household**
    - **a. □1 b. □2 c. □3 d. □4 e. □5 f. □6 g. □7 h. □8 i. □9 j. □10**
11. **Number of female in the household**
    - **b. □1 b. □2 c. □3 d. □4 e. □5 f. □6 g. □7 h. □8 i. □9 j. □10**
12. **Educational status of household members**

LEVEL	**Number of members**

	1	2	3	4	5	6	>6
Not-educated							
Grade 1-8							
10th grade complete							
12th grade complete							
TVET(10+)							
Diploma, degree BSc.							
MSc. Degree and above							

13. Tenure status

- **a) □ Owner occupied**
- **b) □ tenant, living with renter in same compound**
- **c) □ Tenant living alone in the compound**
- **d) □ Tenant living with other tenants and owner in the same compound**
- **e) □ Tenant living with other tenants in the compound**
- **f) □ Keeping property for owners/custodian**
- **g) □ Other_____**

14. Way of land acquisition:

- **a. □ inheritance**
- **b. □ lease**
- **c. □ bought/purchased_____degree**
- **d. □ gift**
- **e. □ tenant**
- **f. □ other _____**

15. What type of tenure was your previous house?

- **a. □ private**
- **b. □ kebele**
- **c. □ AARH**
- **d. □ other_____**

16. How many years have you lived in this neighborhood?

- **a. □ 1-3**
- **b. □ 3-6**
- **c. □ 6-10**
- **d. □ >10**
- **e. □ All my life**

17. From where did you move to this area?

a. □ From the same sub city
b. □ From Another sub city in the city
c. □ From Out of Addis Ababa
d. □ I haven't lived elsewhere

18. What is the main source of income?

a. **□ Salary**
b. **□ Trade**
c. **□ Remittance**
d. **□ Renting house**
e. **□ Renting compound space**
f. **□ HBE**
g. **□other_____**

Part III- plot character

19. **No. of housing unit (Household) in the plot?**

a. □1 b. □2 c. □3 d. □4 e. □5 f. □6 g. □7 h. □8 i. □>8

20. Physical structure of housing units:

a. □ Attached
b. □ Detached
c. □ Semi-detached

21. Use of the plot

a. □ Residence only
b. □ Residence and commerce
c. □ Residence and storage/garage/manufacturing
d. □ Other_____

22. Plot size in square meters

a. □ 100-500
b. □ 501-1000
c. □ 1001-2000
d. □ 2001-3000
e. □ 3001-5000
f. □ >5000

23. Number of rooms of your housing?

a. □1 b. □2 c. □3 d. □4 e. □5 f. □6 g. □7 h. □8 i. □>8

24. Housing material: Wall

a. □ HCB
b. □ Brick
c. □ CIS
d. □ Mud
e. □ Others

25. Housing material: Wall finish

a. □ **Plastered & painted**
b. □ **Unplastered & unpainted HCB**
c. □ **Unplastered & painted HCB**
d. □ **Plastered & unpainted**

26. Housing material: Floor finish

a. □ **Screed**
b. □ **Floor tiles**
c. □ **Wooden tiles**
d. □ **other**

27. Housing material: ceiling

a. □ **plastered**
b. □ **Plywood/ chip wood**
c. □ **Gypsum**
d. □ **PVC**
e. □ **No ceiling**

28. **Housing physical condition**
    a. **Excellent**
    b. **Good**
    c. **Fair**
    d. **Bad**

Part IV- housing transformation history

29. **Have you made any transformations in your compound since you started living here?**
    a. **□ Yes**
    b. **□ No (it's the same as it was when I started living in it)**
30. **If no, what is the reason?**
    a. **□ I'm a tenant**
    b. **□ I don't see the need**
    c. **□ Financial reasons**
    d. **□ I don't have enough space**
    e. **□ Other, specify_____**
31. **What are the changes that have occurred in your compound since you started living there?**
    a. **□ Addition of rooms for HBE**
    b. **□ Addition of rooms for family use**
    c. **□ Addition of rooms for rental housing**
    d. **□ Addition of rooms for shops**
32. **Have you made any transformations in the house you're living in?**
    a. **□ Yes**
    b. **□ no**
33. **If yes, what type of transformation have you made?**
    a. **Splitting a room for domestic use**
    b. **Splitting room to rent for housing**
    c. **Splitting room for shops**
    d. **Joining rooms**

34. **Where inside the plot is your transformation located?**
    a. **At the backyard of the main house**
    b. **To front yard of the main house**
    c. **To sides of the main house**

35. Did you get permission for construction?

- **a. □ Yes**
- **b. □ No**

36. Has the boundary of the property/size of compound/ changed?

- **a. □ yes**
- **b. □ no**

37. If the property boundary has changed, what is the reason?

- **a. □ sharing of plot among siblings or family members due to inheritance**
- **b. □ development; for road development**
- **c. □ selling some part of the plot**
- **d. □other_____**

38. Do you have income generating activity in the house?

a. □ **Yes**
b. □ **No**

39. If yes; what type of income generating activity is it?

a. □ **HBE**
b. □ **Renting housing units**
c. □ **Renting shops**
d. □ **Renting compound space**

Part V- housing transformation process (for compounds that have under gone transformation)

40. **When did transformations start in your compound?**

a. □ **1 year ago**
b. □ **2 years ago**
c. □ **3-5 years ago**
d. □ **5-7 years ago**
e. □ **7-10 years ago**
f. □ **10-15 years ago**
g. □ **Over 15 years**

41. Are the transformations only physical or there are changes in function/use/?

a) □ **Physical**
b) □ **Functional**
c) □ **both**

Part VI- effect of housing transformation

42. **How did the transformations affect your income and expenses?**

a. □ **Positively**
b. □ **Negatively**
c. □ **No effect**

43. How Do the transformations affect your social life?

a. □ **Positively**
b. □ **Negatively**
c. □ **No effect**

44. What have you gained from the transformations you did?

a. □ **Income increase**
b. □ **Social interaction**
c. □ **better infrastructure**
d. □ **other**_____

45. Do you plan to further transform/start transforming your housing?

a. □**yes** **b.** □**no**

Part VII- safety and crime

46. **Has any crime been committed against you in the settlement?**
    - **a.** □ **Yes**
    - **b.** □ **No**

47. Has any crime been committed against people you know in the settlement?
    - **a.** □ **Yes**
    - **b.** □ **No**

48. Has there been a change in crime occurrence in your neighborhood?
    - **a.** □ **No change**
    - **b.** □ **Increase in crime**
    - **c.** □ **Decrease in crime**

49. Are there any safety related issues in your neighborhood?
    - **a.** □ **Yes**
    - **b.** □ **No**

50. If yes, what safety issues do you have in your settlement?
    - a. □ **Fire, burns**
    - b. □ **Car accident**
    - c. □ **Robbery**
    - d. □ **Transmitted diseases**
    - e. □ **other_____**

51. **Is there sufficient vehicular access to your residence?**
    - **a.** □ **Yes**
    - **b.** □ **No**

52. If no; what is the reason for the absence of vehicular access to your home?
    - **a.** □ **Grade/level/ difference**
    - **b.** □ **Lack of access street**
    - **c.** □ **other _____**

Annex-3- Housing maintenance regulation

10.9 የመኖሪያ ቤት ነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ

10.9.1 ከስልታዊ የኢንቨስትመንት ቦታዎች ውጪ ያሉና በአምስት አመትና በላይ በመልሶ ማልማት የተያዙ ቦታዎች ውስጥ ሆነው በሁለት አመት ጊዜ እንደማይፈርሱ በሚመለከተው አካል ከተረጋገጠ፤እራሱን ችሎ በሚለማ ቦታ ላይ ለግል መኖሪያ ቤት ብቻ ከተነፃፃሪ የይዞታ ማረጋገጫ ካርታ ውጪ የነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ ሊሰጥ ይችላል፡፡

10.9.2 የነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ በመሪ ፕላኑ የመሬት አጠቃቀም መስፈርት መሰረት የሚፈቀድ ቢሆንም በመሪ ፕላኑ የህንጻ ከፍታ መሰረት እንዲቀርብ አይገደድም፡፡ የነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ ከምድር በላይ ጀምሮ ከአንድ ወለል በላይ ሊፈቀድ አይችልም፡፡

10.9.3 የመሪ ፕላኑ የወለል ይዞታ ስፋት ምጥን እንደተጠበቀ ሆኖ በአንድ ይዞታ ካለው ነባር ግንባታ የወለል ስፋት እስከ 40% ለማስፋፋት የነባር ግንባታ ጊዜያዊ ማሻሻያ መጠየቅ ይቻላል፤ ይህም በየትኛውም ጊዜ በአንድ ይዞታ ላይ ሊኖር የሚችለው የማስፋፊያ ጥያቄዎች ጥቅል ድምር ጣሪያ ሲሆን አጠቃላይ የወለል ሽፋን ጥምርታ ገደብ እስካላለፈ ድረስ መሆን አለበት፡፡ የነባር ግንባታ ጊዜያዊ ማሻሻያ ፈቃድ የከተማ ፕላን ያስቀመጠውን ከመንገድ መራቅ ያለበትን ርቀት ጠብቆ መፈቀድ አለበት፡፡

Annex-4 – Further tables from analysis

Plans for further transformation		
	Frequency	Percent
Yes	60	81.1
No	14	18.9
Total	74	100.0

Change in crime occurrence in neighborhood after transformation		
	Frequency	Percent
No change	64	86.5
Increase in crime	6	8.1
Decrease in crime	4	5.4
Total	74	100.0

Safety related issues		
	Frequency	Percent
Yes	9	12.2
No	65	87.8
Total	74	100.0