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HOUSING AND SETTLEMENT TRANSFORMATIONS IN THE SURROUNDING PERI-URBAN AREAS OF HOSANNA TOWN:

THE CASES OF AMBICHO AND KIDIGISA, HADIYA ZONE, ETHIOPIA.

BY

ADDISYIHUN ABAYNEH HAMORE

Master's Thesis

MASTER OF SCIENCE IN HOUSING AND SUSTAINABLE DEVELOPMENT (HASD)

ETHIOPIAN INSTITUTE OF ARCHITECTURE, BUILDING CONSTRUCTION AND CITY DEVELOPMENT, ADDISABABA UNIVERSITY

FEBRUARY 2019

ADDIS ABABA, ETHIOPIA

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The cases of Ambicho and Kidigisa, Hadiya Zone, Ethiopia

MASTER'S THESIS

A thesis submitted to the Ethiopian Institute of Architecture, Building Construction, and City Development (EiABC) Postgraduate Program Office in partial fulfilment of all requirements for the Degree of Master of Science in Housing and Sustainable Development.

BY

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FEBRUARY 2019

ADDIS ABABA, ETHIOPIA

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

Title of Thesis: Housing and Settlement Transformations in the surrounding peri-urban areas of Hosanna Town: The cases of Ambicho and Kidigisa, Hadiya Zone, Ethiopia.

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DECLARATION

I declare that, this thesis prepared for the partial fulfilment of the requirements for the degree of Masters of Science in Housing and Sustainable Development **entitled "Housing and Settlement Transformations in the Surrounding peri-urban areas of Hosanna Town: The Cases of Ambicho and Kidigisa, Hadiya Zone, Ethiopia"** is my original research work. It is prepared independently by my own effort with the close advice and guidance of my advisor. I also declare that that this thesis has not been presented in any university and all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

Addisyihun Abayneh Hamore

_____ _____

Signature Date

Confirmation

The thesis can be submitted for examination with my approval as an institute's advisor.

Yonas Alemayehu Soressa

_____ _____

Signature Date

ABSTRACT

Rate of urbanization is high in developing countries like Ethiopia. Subsequently, urban areas have been crowded by population increase due to rural-urban migration and increased need of housing and employment. However, due to lack of comprehensive plan to accommodate emerging needs of urbanization surrounding rural 'peri-urban' areas become vulnerable for unplanned transformations. Although there is little attempt to study socio-economic and policy issues in the peri-urban areas, the area of spatial transformations in the peri-urban Hosanna is not studied so far. Therefore, the objective of this study focuses on investigating characteristics, causes and processes of spatial transformations happening on transitional peri-urban areas. The study also suggest possible recommendations for the future planning.

In order to achieve the esteemed objective, this study used case study method since it is best for descriptive and explanatory analysis. Therefore, two cases, Ambicho and Kidigisa, are selected to have comparative analysis too. In general, the study uses quantitative and qualitative methods to explore the extent and depth of the problem.

The study found out that spatial transformations in the settlements happens due to multiple factors such as 'selling' land informally for economic improvement and fearing expropriation by government program, and land fragmentation due to densification. These factors transform farm land and rural settlement in to informal residential areas. As a result almost all rural land holdings experience fragmentation and use change. Regarding housing type, four typologies of thatch roof houses are identified in these area. These are '*Goye'e', 'Jagara',* and '*Sa'l mine'* and '*ga'p mine'*. Each of these typologies serve different purposes. However, the transformations in the area replaced these traditional thatch roof houses by modern CIS roof houses '*korkoro bet'*. Newly introduced '*korkoro bet'* has two typologies, these are '*amora kinf'* and '*service bet'*. Overall settlement transformations also include socio-economic change in which previous livelihood base of farming have been replaced by commerce and some informal activities. Buying Bajaj for business or sending family member abroad to generate remittance money are the main activities performed after 'selling' of farm land.

Therefore, in order to promote infrastructure and service provision and to formalize informal economic activities, this study recommends local governments, community leaders and urban planners to take planning interventions through participatory approach. Planning should also consider livelihood base, sites context and vernacular building culture of the community.

Key words: Transformations, peri-urban, Hosanna, Hadiya, Ambicho, Kidigisa, settlement, housing

ACKNOWLEDGMENTS

First of all, I would like to thank almighty God for helping me throughout this research work. Then, I would like to acknowledge, my advisor, Yonas Alemayehu Soressa for his encouragement, constructive comments, and useful suggestions. This study has been possible with his valuable assistance and guidance from scratch to final thesis draft.

I also would like to thank officers of Ambicho and Kidigisa kebele, informants and data collectors. Especially data collectors, I thank you for your participation in the intensive field work without hesitating all the challenges and for accomplishing the task beyond my expectation.

I should also acknowledge institutions: Hadiya Zone Urban Development Bureau, Hosanna Town Municipality and Lemo Woreda for their generosity and valuable information. I am also thankful to Wachemo University for sponsorship and EiABC for supporting me during my stay in the campus.

I should not forget to thank my board of examiners, they forwarded important comments which helped to refine the study for the final submission.

Finally, I am grateful to my family, friends and colleagues who have been there to assist me in all my requests. Thank you all, who contributed for successful accomplishment of this study.

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ABBREVIATIONS

CIS	Corrugated Iron Sheet
CSA	Central Statistical Agency
EiABC	Ethiopian institute of Architecture, Building construction and city planning.
EMR	Extended Metropolitan Region
EPRDF	Ethiopian People Revolutionary Democratic Front
ETB	Ethiopian Birr
FDRE	Federal Democratic Republic of Ethiopia
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GRP	Gross Regional Product
HIPP	Hosanna Integrated Planning Program
HTM	Hosanna Town Municipality
IHDP	Integrated Housing Development Program
KG	Kindergarten
MOFED	Ministry of Finance and Economic Development
MOUDHC	Ministry of Urban Development, Housing and Construction
NGO	Non-governmental Organizations
ORAAMP	Organization for the Revision of Addis Ababa Master Plan
PLUREL	Peri-urban Land Use Relationships - Strategies and Sustainability Assessment tools for Urban-Rural Linkages.
SNNPRS	Southern Nations, Nationalities and Peoples Regional State
TTI	Teachers Teaching Institute
UN	United Nations
UNCHs	United Nations Commissions for Human Settlement
UN-HABITAT	United Nations Human Settlements Programme
WCU	Wachemo University
WHO	World health organization

LOCAL TERMS

Amora kinf	Modern house main typology
Ato	Mr. (used to refer man without professional title)
Awraja	Amharic name for 'regional states' during Imperial regime
Bajaj	A three wheel vehicle with carrying capacity of 3 person.
Bega	Winter season
Belg	Spring season
Beyaynet	Ethiopian famous fasting food
Bono	Public water point
Bu'la	Hadiya people traditional food which is produced from enset (floured enset).
Caa'la	Wooden sticks used to construct wall part.
Dana	Community leader
Dufa	Thatch
Ekub	Social institution in which individuals come together to form 'ekub' and collect money in regular interval and they take the money by turn (collected money in one turn is dedicated only for one person).
Enjera	Ethiopian flat bread/common food
Firkita	A House back door
Ga'p mine	Thatch roof house straw store
Gaaba	Straw
Gadira	Cattle's space in traditional thatch roof house
Gaxa	Sitting space in traditional thatch roof house
Giichcho	Community (2^{nd} highest hierarchical unit in social structure of Hadiya people)
Giira	Society (highest hierarchical unit in social structure of Hadiya people)
Gortena	Wall
Goye'e/Lob mine	Thatch roof main house
Hiiro	Sleeping space in traditional thatch roof house
Huguma	Previous traditional house in Hadiya Zone
Hungurame	Name of locality in Kidigisa and name of traditional custom
Huq mine	Name of current traditional house in Hadiya

Idir	Social institution in which group of people from a given community come together to help each other, especially focus on mourning.
Imane	Traditional thatch roof house ceiling/roof.
Jagara	Thatch roof guest house
Jagira	Diagonal wooden truss that support conical thatch roof
Kebele	Smallest unit of local administration
Khat	A stimulant leaves that have a stimulating and euphoric effect when chewed or brewed as tea
Kiremt	Summer season
Korkoro bet	Modern cis roof house
Kosha	Store/kitchen in traditional thatch roof house
Kuraz	Traditional light source that work with kerosene and function as a candle.
Laro	Cattle
Mana	Human
Meegera	Wooden wall tying element
Midecha	Fire place /cooking space in traditional thatch roof house
Mine	House
Mine	A smallest hierarchical unit in social structure of Hadiya people
Mollo	Hierarchical unit in social structure of Hadiya people one higher than 'mine'
Nafara	Front yard wider in size
Olla'a	Locality
Sa'l mine	Thatch roof cooking house/kitchen
Sech duna	Former name of Hosanna which can be translated as "hill of bee hive"
Secho	Hive
Seera / Shengo	Traditional justice system
Shate'e	Pottery
Shoto'o	Traditional house drainage ditch
Sinqixa	Half wall bamboo partition that divide Kosha and Gaxa
Sullo	Third highest hierarchical unit in social structure of Hadiya people
Tsedey	Autumn season
Ulla	Ground

Ulluma	A house entrance door
Utuba	Main pillar/ central post of traditional thatch roof house
Wasa / Kocho	Local name given for the food produced from 'enset' plant
Weesa / Enset	False banana plant
Weizero	Mrs. (used only for married woman)
Weizerit	Miss. (belongs to unmarried women)
Woreda	Local administrative unit one level higher than Kebele
Woxabacha	Rafter
Zaaba/Qoxa	Raised storage in traditional thatch roof house

GENERAL NOTES

- All calendar is based on Gregorian unless specified as Ethiopian Calendar (E.C).
- Unless specified all the pictures, maps, sketches and graphs are taken/done by the researcher.
- All measurements in this study uses metric system (1M=100CM, 1M=0.001KM).
- All currency is based on Ethiopian Birr (ETB). Currently exchange rate of USD1= ETB28.32.
- Most of local terms are stated in Hadiyisa language, which uses Latin alphabets.
- In Ethiopia, all land is owned by the government and 'Selling' land is prohibited by the constitution. However, informal land sell is being practiced under the cover of house sell and inheritance. Even though it is stated in the constitution, this study used the term 'selling land' to address the actual situation.

CHAPTER ONE

1 INTRODUCTION

1.1 Background

The level of urbanization in Africa is low (37.1%) when compared with developed continents like Europe (72.7%) and North America (79.1%) (Leulsegged et al., 2011). However, urbanization in the developing world in general is progressing much faster than in developed countries, which may reach 3% or even 4 % a year (Soubbotina, 2004). The population projection shows that by 2030, about 50% of the population of Africa will inhabit urban centers (UN-Habitat, 2010). The fast rate of urbanization in developing world is attributed to rural–urban migration, economic growth and development, technological change, and rapid population growth (Marshall, 2009). These unprecedented growth of urban population in Africa is causing an exceptionally rapid increase in the demand for urban land. The rising demand for urban land therefore tends to be met primarily by converting peri-urban agricultural land at the periphery of the existing built-up area (UN-Habitat, 2010; Toulmin, 2009).

Ethiopia is one of the least urbanized countries in the world with a population of 90 million (UNDP, 2015). It has only 17% of its population living in urban centers. Some estimates indicate that Ethiopia's urban population will increase three times in the next 20+ years, achieving an extreme urban growth rate of over 5% per year (ARUP, 2016). Furthermore, the country's urban population is expected to grow on average by 3.98% and by 2050, about 42.1% of the total population is expected to be inhabited in urban centers (UN-Habitat, 2012). Even though there are more than 900 urban centers in Ethiopia, Addis Ababa, its capital city, consisted of about 23% of the total urban population in the country (CSA, 2008). Following rapid urbanization housing become the core problem that the national capital and the country as a whole faced. Furthermore, low economic performance together with administrative insufficiency to answer housing need allowed informal urban expansions (Achamyeleh, 2014).

Currently most of urban centers in Ethiopia are concentrated in the four regional states: Oromia, Tigray, Amhara and SNNPRS. Urbanization in SNNPR (21.1) is highest as compared with Oromia (9.2), Tigray (8.0) and Amhara (7.5) (Schmidt and Kedir, 2009). Hosanna is one of the urban centers in SNNPRS and a capital town of Hadiya Zone which is one of the highly populated zone of region. Urbanization in this geographic area starts before hundred years (HTM, 2010). Hosanna town was

formerly called Sech Duna by the local people. Later the name Hosanna was given by Ras Abate in 1904, who was the governor of Lemo and Kembata Awraja[1] in that time and since 1904 the town was a capital for Kembata and Hadiya province during the time of the Imperial regimes (Alebachewu and Samuel, 2009). In 1949, for the first time the town established a municipality administration (HTM, 2010). However, compared to its age and some other recently developed urban areas in the region like Awassa, the growth of the town was not good.

However, in the last few years, urbanization in Hossana town and surrounding areas is growing faster following rural-urban migration (Solomon, 2008). High population density of Hadiya Zone, which is as high as 421.7 inh/sq.km, with rural farm land scarcity become a push factor for rural-urban migration (CSA, 2015). This phenomena together with other factors causes peri-urbanization in the surrounding areas of Hosanna town. Therefore, Hosanna town population doubled with-in a decade from 69,959 in 2006 to 133,764 in 2015 (CSA, 2008; CSA, 2015). The 2014/15 national population abstract reported the population density of Hosanna town as 3305.3 inh/sq.km which is greater than the regional capital's, Awassa's, population density which is 2,654.8 inh/sq.km (CSA, 2015). It also exceeds half of national capital's, Addis Ababa's, population density which is 6,210.7 inh/sq.km or comparable with Bole Sub-City population density which is 3,024.2 inh/sq.km.

Following population increase and high demand for urban land, surrounding peri-urban areas of hosanna town has undergone unplanned transformations. Due to multiple factors (discussed in chapter three in detail) the area already become informal settlement, where original land holders informally transfer part of their farm land. Therefore, farm land is being transformed in to urban areas and previous rural houses are being replaced by *korkoro bet*[2]. The overall transformations also has social, economic and spatial dimensions. Although, there is a need for planning interventions and studies on transformation of surrounding peri-urban areas of Hosanna, no study is done so far specially concerning spatial transformations. Some of the studies conducted before focuses on historical and cultural issues and others raise urbanization and housing issues (discussed in part 1.2 below), however, their studies mostly consider only the extent of the problems in the planned areas. Therefore, this research work mainly focuses on studying spatial transformations of surrounding

[1] Awraja is Amharic name for regional states that had been used during Imperial regime. Regional state structure and boundaries of that time were different from current administration.
[2] Korkoro bet is a local name given for modern corrugated iron sheet (cis) roof houses

peri-urban areas of Hosanna Town by using mixed research method which enable to investigate both the extent and depth of problems.

Generally, this study is conducted considering the outcome of the research work would fill the knowledge gap on the peri-urbanization process and contribute to future development programs of hosanna town and its surroundings.

1.2 Research Question Formulation

As described in background above, despite its low level of urbanization, nowadays, Africa is experiencing high rate of urbanization. However, most of urban expansions are unplanned in which informal settlements are the main character of urbanization. Similarly, Ethiopia whose urbanization level is 17% is urbanizing at rate of 4.4% (ARUP, 2016; MOFED, 2006). Country level estimations show that the urban population of Ethiopia will triple between 2010 and 2040. Preliminary city-level population projections show that some of Ethiopia's large cities will more than triple by 2040 (UN-Habitat, 2010). For instance, Hawassa's 2010 population will grow more than 6-fold by 2040, Mek'ele will almost 5-fold its 2010 population, and Adama and Bahir Dar will almost 4-fold their populations. The built-up areas of these cities can be expected to expand at an even faster rate than their populations (Angel et al., 2013).

Although, there is fast rate of urbanization in Ethiopia, many researches like that of Achamyeleh (2014), and Paul Dorosh and Emily Schmidt (2010) indicated that most urban expansions happen informally without comprehensive plan. High rate of rural-urban migration in the country become the major factor for informal expansion due to housing scarcity and unaffordability in the planned area. In addition due to incapability of government to lead urbanization by plan new migrants settle on the land surrounding pre-existing urban areas (Leulsegged et al., 2011). Therefore, peri-urbanization become a known feature of urbanization in developing countries. According to UNCHS between 20% and 80% of urban growth in developing countries is "informal". This figure is 85% for Addis Ababa City with the housing stock located in unplanned areas or informal settlements (ORAAMP, 2001). The study by Achamyeleh (2014) also shows the case is similar in regional capitals and small towns. They are exposed to informal urban expansion. Involvement of Government officials and land speculators on the transformation process makes it more complicated and inevitable. Furthermore, since such transformations happen on peri-urban agricultural land

which are incubation zones for new unauthorized (informal) settlements. It destructs existing settlement pattern, life style, and socio-economic basis of pre-existing peri-urban land owners.
Similarly, the land surrounding Hosanna Town is being transformed informally without any planning guide. Currently the surrounding agricultural land is part of Lemmo woreda. (See Annex 7E). Following informal urban expansions, the town attempted to re-demarcate and regularize the land in 2011. However, even though the land is changed in to informal settlement by aid of land brokers and speculators; local people and cultural leaders are not willing to cooperate with town administration due to some political and ethnic issues. Their argument is expansion of the town will take majority of Lemmo rural land and that would weaken economic power and will destroy existence of the clan in the area. Due to these reasons, the previous attempts to re-demarcate the town boundary to bring comprehensive plan were failed. Therefore, this administrative 'vacuum' or a zone of administrative pluralism in the surrounding peri-urban areas, opens a door for informal settlement propagation.

In addition to economic and administrative incapability there are multiple social variables which become barrier for planning and a factor for informal transformation. However, so far there is little interest shown to study these areas. For instance, Achameleh (2014) studied urbanization and the struggle for land in peri-urban areas of Ethiopia. However, his study mainly focused on policy issues. Paul Dorosh and Emily Schmidt (2010) studied rural-urban transformation in Ethiopia and Emily Schmidt and Melkamu Kedir (2009) studied urbanization and spatial connectivity in Ethiopia. However, their studies are focused on economic transformations. Regarding Hosanna town, there is no study done on urban transformation so far, especially concerning spatial transformations of the town's surrounding peri-urban areas. However, there was a little attempt to study culture and socio-economic situation of Hadiya zone. For instance; Solomon (2008) conducted socio-economic study of Hadiya Zone and published a book 'Socio-Economic Base Line Survey of Hadiya Zone' in 2008, in collaboration with Children's Home Society and Family Service. Alebachew Keimiso and Samuel Handamo studied history and culture of Hadiya people in 2009. In Addition, Solomon (2014) also published a thesis on 'Housing Problem in Hosanna Town; The Case of Addis Ketema' under Addis Ababa University in 2014. But the area of spatial transformation related with urbanization and housing is not investigated yet. Therefore, this study focuses on spatial transformations in the peri-urban areas to fill the knowledge gap by considering it as one of the critical issues in informal urbanization in Ethiopia in general, and in Hadiya Zone

in particular. Geographically the cases of peri-urban locations surrounding Hosanna town are chosen due to the researcher's living experience in these areas and their proximity to his place of work.

Finally, after identifying spatial and thematic areas, formulation of research questions become the next task on this study. Thus, research questions are designed to answer the 'what' and 'how' questions. First, the research asks the 'what' questions to understand existing characteristics and transformation patterns. Second, the research investigates the process of transformations and factors influencing these processes by answering a 'how' question. Finally, the research explores the consequences of transformations and suggests possible solutions. In general, as outlined in the research objectives and questions, the researcher investigates the characteristics and processes of housing and settlement transformations in the surrounding peri-urban areas of Hosanna Town.

1.3 Research questions

1) What are major characteristics of housing and settlement transformations in surrounding peri-urban areas of Hosanna Town?
2) How does spatial transformation happen in the surrounding peri-urban areas of Hosanna Town?
3) What are the major factors that trigger and affect transformation of housing and settlement in surrounding peri-urban areas of Hosanna Town?
4) What are the major problems and possible solutions concerning housing and settlement transformations in the study area?

1.4 Objectives

1.4.1 General objective

The main objective of these study is investigating the characteristics and processes of housing and settlement transformations in surrounding peri-urban areas of Hosanna Town.

1.4.2 Specific objectives

Under the general objective there are four specific objectives. These are;

- Investigating characteristics of housing and settlement transformations in surrounding peri-urban areas of Hosanna Town.
- Studying process of housing and settlement transformations in surrounding peri-urban areas of Hosanna Town.

- Identifying the factors that causes formation and affect transformations of housing and settlement in the surrounding peri-urban areas of Hosanna Town.
- Suggesting possible solutions by identifying potentials and major problems concerning housing and settlement transformations in the study area.

1.5 Significance of the study

Today, the developing world is urbanizing very fast. Ethiopia as a developing country experiences high rate urbanization, which is 4.4% (MOFED, 2006). Studying the characteristics and processes of housing and settlement transformation is vital to understand existing situation and trend of urbanization. Since this research focuses on housing and settlement issues on the surrounding areas of Hosanna Town; the research outcome can be used as input for different urban development and planning programs such as Hosanna Integrated Planning Program (HIPP)[3]. Studying spatial transformation helps to develop strategies for land regularization and to set criteria for city boundary re-demarcation. In addition the research output can also be used for future upgrading and/or urban renewal interventions of the areas.

Furthermore; this research is highly significant for Hadiya people to document characteristics of urbanization and existing human settlement pattern of the study area. Researchers and scholars can also use this material as reference for further study. As described on part 1.1 of this research, other researchers published their works on Hadiya Zone and Hosanna Town on different thematic issues. However, majority of these studies focuses on issues other than spatial transformations, such as culture, history, housing and socio-economic studies. For this reason the area of spatial planning related with urbanization and housing particularly in the surrounding peri-urban areas of Hosanna Town is not investigated yet. In general, the Hadiya Zone as well as Hosanna Town administrations can use the findings of this research for different development programs as the research work includes the study and possible solutions on urban growth trends and housing conditions of the study areas.

1.6 Scope

1.6.1 Thematic scope

Thematic scope of this research is studying spatial formation and transformation of surrounding peri-urban areas of Hosanna Town. The study includes activity, space and meaning of place at the

[3] HIPP: Hosanna Integrated Planning Program initiated by Wachemo University in 2017.

settlement, compound and house level. So that these tasks involve documentation of spatial elements on the past and present. Issues other than spatial dimensions such as culture, history, environment, economy, demography …etc. are not the main focus areas of these research. However, in some cases they are discussed in relation to space to know their impact on transformation of the places under study.

1.6.2 Geographic scope

Geographic scope of this study covers residential areas of selected two cases in the surrounding peri-urban areas of Hosanna Town. The first case is Ambicho, which is located adjacent to the eastern part of Hosanna Town, and the second case is Kidigisa, which is located next to the northern part of Hosanna Town. These two cases are selected by criteria which are discussed on chapter 2 of this research. Therefore, housing and settlement transformations are studied on these two cases based on representative sample households selected from both cases.

1.7 Limitations

Major limitation of this study was absence of any map that show either the current or previous geo-spatial features of the study areas. This gap is covered by developing new maps by using satellite images from Google Earth Map and key informants' assistance. In addition, the lack of previous studies and documentations was another challenge which is resolved by extensive collection and use of primary data.

Availability of inhabitants, community leaders and kebele [4] leaders for interview was also another difficulty. Most of the interviews were made with appointments and it sometimes interrupt their activities/works. All these inconveniences were handled by the patience of the researcher and data collectors, and by participating on activities of the interviewees which helped to examine their actual situations.

1.8 Organization of the Thesis

This study is organized into five chapters to enable clear understanding and ease of access through contents of each chapters.

[4] Kebele: smallest unit of local administration one level lower than woreda

Chapter 1, is introduction part that discusses background of the study, research problems, research objectives and questions, scope and significance, limitations, and organizations of the study.

Chapter 2, discusses selection of research methodology, data collection and analysis tools, research procedure, case selection criteria, sampling, and research design.

Chapter 3, deals with reviewing definitions of peri-urban area in the context different continents and reviewing related literatures on cause, character, process and actors of peri-urban transformations.

Chapter 4, is case analysis part in which socio-economic, life story and spatial analysis of the two cases are presented. Summary of findings and comparative analysis for the two cases are also discussed in this chapter.

Chapter 5, in this chapter conclusions and recommendations are presented according to the research findings. The conclusion part includes how space, activity and meaning have been transformed in the two cases. And the recommendation part furnish possible suggestions for policy makers, local government, community leaders and spatial planners.

CHAPTER TWO

2 RESEARCH METHODOLOGY

2.1 Introduction

This chapter discusses the researcher's choice of research methodology that best fits with research questions, so as to explore and investigate research problem accordingly. It also explains the different techniques in the methodology and how they are applied in this research. In addition, this chapter also discusses data collection and analysis methods, case selection criteria, sampling and research design. Thus, for this research, mixed method, which includes both qualitative and quantitate methods is selected to explore the depth and extent of the problems. Under the mixed method, case study method is chosen since it is more relevant than other methods for a research addressing a descriptive, causal or an explanatory question (Yin, 2009).

2.2 Research Methodology Selection

Researcher's use three primary methodology types: qualitative, quantitative and mixed methods. Within these broad categories, more specific methods include an array of options, such as case studies, self-reporting and surveys. For this research, mixed method is selected to explore nature of the problem and to quantify extent of the problem using both qualitative and quantitative methodology respectively.

Qualitative methodology enables to explore the character of housing and settlement transformations. It is used to understand the underlying reasons, opinions, and motivations; it provides insights into the problem or helps to develop ideas or hypothesis for potential quantitative research. As J.W. Creswell (2014) described it:

> *Qualitative research is often used to uncover trends in thought and opinions, and dive deeper in to the problem. Generally, qualitative research seeks to explore a specific phenomenon, not prove a prediction. Often used in the social sciences and education, qualitative methods provide rich, contextual exploration of the topic that are often personally or culturally meaningful.*
>
> Creswell (2014)

Whereas quantitative methodology helps to understand the extent of transformation happening on the study area. It is used to quantify attitudes, behaviors, spatial features and other defined variables,

and generalize results from a larger sample population. Regarding this methodology, Creswell (2014) wrote,

> *Quantitative research uses measurable data to formulate facts and uncover patterns in research. Quantitative research is more objective than qualitative methods. In this type of methodology, the researcher crafts a hypothesis and then tests it through structured means instead of exploring or describing a phenomenon, quantitative methods deal with facts and statistics. This type of research is often used in natural science or medicine.*
>
> Creswell (2014)

Therefore, mixed method was selected to apply several different measures that include both contextual understanding like interviews or observations along with facts or statistics. Using mixed methods helped the researcher investigate a topic on multiple levels, gaining different views and a comprehensive look at the subject. Since a mixed methodology meshes more than one philosophical perspective, it allows the integration of different phenomena.

Under mixed method, case study method is selected specifically since it is more relevant than other methods for research addressing explanatory, causal and descriptive questions (Yin, 2009). According to Robert K. Yin (2009), case study method is useful to explain presumed casual links in real life interventions that are too complex for the survey or experimental strategies, and to describe an intervention and the real life context in which it occurred. In addition, he also described, case study method favors the collection of data in natural settings, compared with relying on derived data. Doing some field work using questionnaire or other instruments, as part of a case study, helps to understand the phenomena better. According to Robert K. Yin (2009), types of research questions are important to choose research methods. "What" questions - in case of studying prevalence, it favors survey or analysis of archival records, but in case of exploratory research- favor case studies. "How" and "Why" questions most likely favor case studies, experiments, or histories. Therefore, case study is found to be the best method for this research since all of the research questions are 'what' and 'how' questions which ask characteristics, causes and processes of transformations.

Furthermore, studying more than one cases is important to have comparative analysis that helps to understand impact of the same issue in different case sites. Therefore, two cases Ambicho and Kidigisa are selected based on the criteria discussed in part 2.5.

2.3 Method for data collection

This study uses both quantitative and qualitative method to conduct valid and in-depth study. Quantitative data collection methods are much more structured than qualitative data collection methods. Quantitative data collection methods include various forms of surveys-online surveys, paper surveys, mobile surveys-and kiosk surveys, face to face interviews, telephone interviews, longitudinal studies, website interceptors, online polls, and systematic observation (Creswell, 2014). In this study quantitative data are collected using structured interviews, structured observation and secondary source review such as, published books and reports. See Table 2.1.

Qualitative data collection methods often use unstructured or semi-structured techniques. Some common methods include focus group discussions (FGDs), in-depth interviews, direct or participatory observations, photography, Video recording, sketching, mapping, and review of documents for these types of themes. The sample size is typically small, and respondents are selected to fulfill a given quota (Creswell, 2014). Therefore, qualitative data are collected using multiple tools such as in-depth interview, focus group discussion, sketching, photography, and direct and participatory observation. See Table 2.1.

Qualitative data collection methods	Used	Quantitative data collection methods	Used
In-depth Interview	✓	Self-completion questionnaires	x
Focus group discussion (FGD)	✓	Semi-structured interviews	✓
Sketching	✓	Structured observation	✓
Photography	✓	Secondary source review	✓
Mapping	✓		
Direct observation	✓		

Table 2.1: Summary of data collection tools used for this study

2.3.1 Qualitative data collection methods

A. In-depth interview

This way of asking questions allows the interviewee to have more control of the interview. In this research, the in-depth interview was semi-structured, which used an interview schedule to keep some control of the interview, but also allows for some flexibility in terms of the interviewee's responses. It also includes a life history[5] where the interviewer wants to find out about the whole, or portion of the interviewee's life history.

[5] Life history is the interviewee's whole, or portion of life that the interviewer seeks to find out and use it latter on life story analysis.

B. Focus group discussion (FGD)

This is a form of interviewing conducted where there were several participants selected from the community members. It includes community leaders and kebele administration officials. The discussion topic was predefined by the researcher considering the research objectives and the discussions was led by the researcher in order to guide the discussion to be with in the agenda.

C. Mapping

Mapping is very useful method to collect and analysis spatial transformation patterns at the house, homestead, and settlement levels. It is undertaken by using synchronic analysis (existing situation of the case areas) and diachronic analysis (documentation of events in chronological order). All the data used for synchronic and diachronic analysis are gathered from Google Earth and Hosanna structural plan.

D. Photography

Photography is another important method in this research, used to explain real situation of spatial and physical appearance of the site and the activity that reside within the space. The method is conducted by photo registration technique, which is registering the number of each picture taken at the field work to help the researcher to pick the relevant pictures easily during data analysis and report writing.

E. Sketching

Sketching is another method that resemble with photography. It helped researcher to collect spatial and physical data according to his perception. This method is more important since it includes technical information like measurements, sections, details, layouts, and descriptions about situation (condition) that has to be sketched.

F. Direct observation

This is non participatory observation in which the researcher collects data in a systematic manner by observing and recording things in their naturally occurring setting. In this method, the researcher used different techniques to document his perception such as mapping, field note, Photography, and sketch.

G. Participatory observation

Participatory observation is relevant method to collect data related with inhabitant's activity. It helps to understand space-activity relationship and hierarchical use of space by different

groups. It also enable the interviewer to have deep understanding about the activity in relation with space. In this study, during data collection, this method is used as systematic approach to be familiar with interviewee's.

2.3.2 Quantitative data collection methods

A. Semi-structured interviews

This includes a series of structured questions that are asked by an interviewer to the interviewee. In this research, the researcher used this method by being present at the respondents' location and reading all the questions to them. The questionnaire was a combination of a fixed choice of answers and open-ended questions that allow respondents to answer freely in addition to predetermined fixed choice answers by researcher.

B. Secondary source review

In addition to primary sources, the researcher used secondary sources to collect relevant data. These include published and unpublished researches conducted by Hosanna Town Administration, Hadiya Zone Urban Development Office and other researchers. Triangulation of data collected from multiple primary and secondary sources yields valid research output.

C. Structured observation

The researcher used this technique to identify and count the number of items that exist in the settlements or in the domestic places such as, number of rooms in the house, number of public water points (bono wuha) and numbers of health posts and schools in the settlement.

2.3.3 Method for data analysis

Data collected using quantitative and qualitative methods are analyzed using appropriate methods. Therefore, quantitative data are analyzed using different type of charts, tables and figures. Whereas qualitative data are analyzed using synchronic analysis, diachronic analysis and life story analysis. Table 2 below shows summary of data analysis tools.

Qualitative data analysis tools		Quantitative data analysis tools	
Synchronic analysis	✓	Charts	✓
Diachronic analysis	✓	Tables	✓
Life story analysis	✓	Figures	✓

Table 2.2: Summary of data analysis tools used for this study

2.3.4 Qualitative data analysis methods

A. Synchronic analysis

This method is relevant to analyze spatial configuration of existing situations of specific place. In this study, the researcher used this method to analyze existing situations in the settlement, homestead and house level.

B. Diachronic analysis

Diachronic analysis is relevant method to study transformations through documentation of events in chronological order. In this study, this method is used to explore spatial transformations of settlements, compounds and houses.

C. Life story analysis

Life story is a method of analysis that examine interviewee's whole or portion of history in relation with space and activity. Therefore, in this study, life story analysis of selected sample households are presented using maps, figures and narrations.

2.3.5 Quantitative data analysis methods

Quantitative data analyzing tools are tables, charts, and figures. This tools are relevant to conduct comparative analysis of variables and to present facts using exact figures. Similarly, in this study tables, charts and figures are used to analyze data collected from the field.

2.4 Type and source of data

In order to achieve the objectives of this study both primary and secondary data were used for data collection. All data from primary and secondary sources are triangulated to yield valid output.

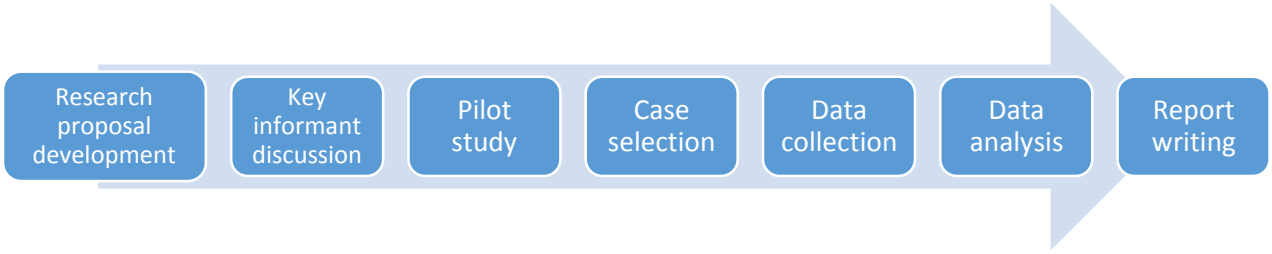
Primary data were collected from different sources such as key informants (community leaders, elders, *kebele* leaders and government officials) and residents of selected sample households in the two cases. All of the primary data were collected by making interview with above mentioned sources and by direct observation of spatial and physical elements.

Whereas, secondary data were collected from published and unpublished reports and socio-economic abstracts which are prepared by Hadiya Zone administration, Hosanna Town administration and Lemmo Woreda administration. Other sources of data are books, articles, and research papers, which were conducted by students and expatriates. Even if there was limited

documentation of the subject in the cases areas, the researcher put maximum effort to collect secondary data from respective kebeles' and Hadiya Zone Urban Development Office.

2.5 Research procedure

This research work started by the research proposal development which include formulation of research question and selection of appropriate research methodology. And then in order to select the case study site key informant discussion and pilot study followed. After the cases are decided research questionnaire is prepared, followed by data collection in the selected two cases. Finally, based on collected data, analysis of data and report writing is conducted. See graph 2.1 below.



Graph 2.1: Research procedure

2.6 Case selection and criteria

Informal settlement is one of the main features of Hosanna Town. The town's surrounding rural areas are being transformed into urban settlements informally, without plan. There are eight recognized informal sites which are extensions of each sub-city of Hosanna. These are Hakmura, Naremo, Bobicho, Kidigisa, Alela, Kalisha, Ambicho and Lebasha. Majority of these sites are dominated by residential units without the provision of proper infrastructure and services. (See Figure 2.1).

A list of selection criteria are used to choose the most appropriate case sites for this study. The criteria focus on extent and rate of transformation, ease of access, convenience and richness of data on the thematic issue (see Table 2.3). Based on these criteria, the two cases, Ambicho and Kidigisa were found best for this study (see Figure 2.2 and 2.3). Each case areas have different characters. The first one; Ambicho, is a settlement located north-east of Hosanna town near the exit to Addis Ababa city. Due to the availability of main road passing through Ambicho, transformations in this area started earlier. Later, establishment of Wachemo University and improvement of services like electricity promoted peri-urbanization in the area. The second one, Kidigisa, is located north of

Hosanna town near the exit to Jimma town. Relative to Ambicho, peri-urbanization in Kidigisa started recently.

No	Case areas	Settlement age	Dominant Existing Land use	Activity/ liveliness	Variety of building typology	Accessibility And Security	Rate and extent of Transfor-mations
1	Hakmura	recent	residence	high	medium	Fair	High
2	Naremo	Old	residence	moderate	medium	Fair	High
3	Bobicho	Old	residence	low	medium	difficult	Moderate
4	Kidigisa	recent	residence	moderate	high	Fair	High
5	Alela	new	residence	low	low	difficult	Low
6	Kalisha	recent	residence	moderate	medium	difficult	moderate
7	Ambicho	Old	residence	high	high	easy	High
8	Lebasha	new	residence	low	low	difficult	Low

Table 2.3: case selection criteria

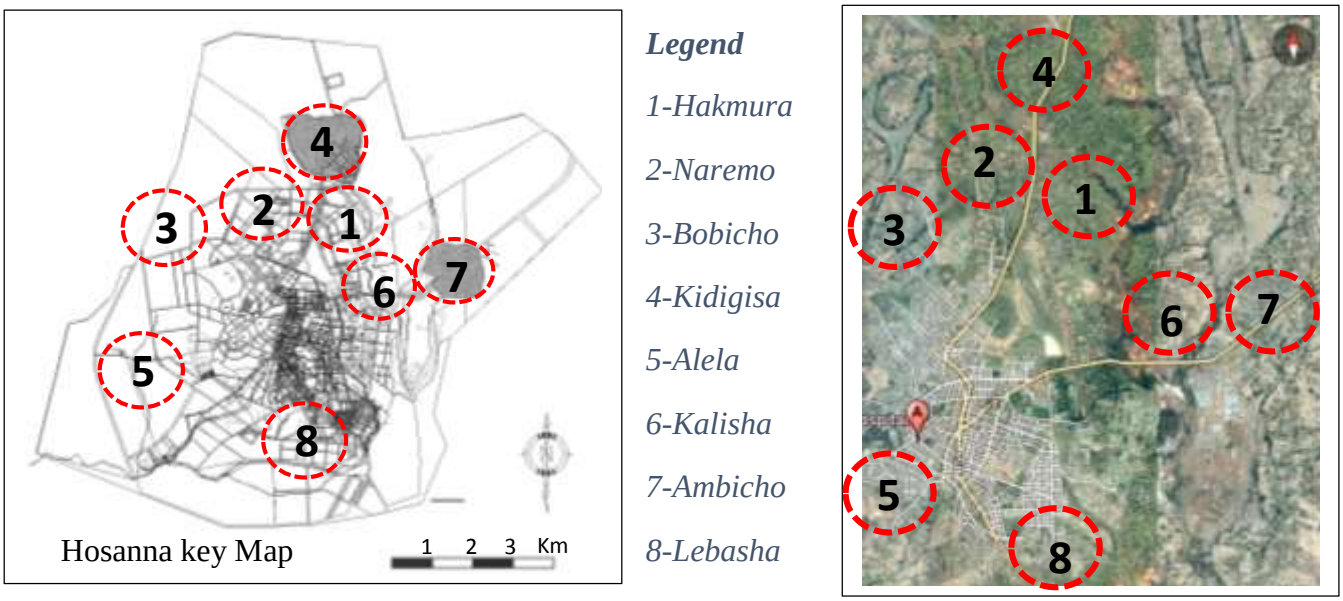


Figure 2.1: Hosanna key Map; potential cases: Peri-urban informal sites

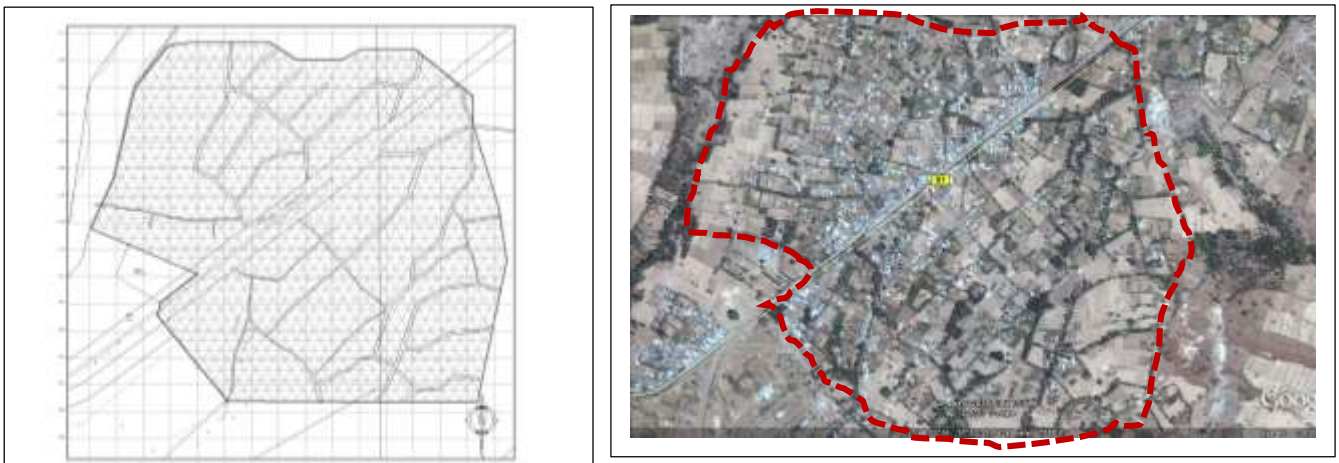


Figure 2.2: Case study 1: Ambicho map

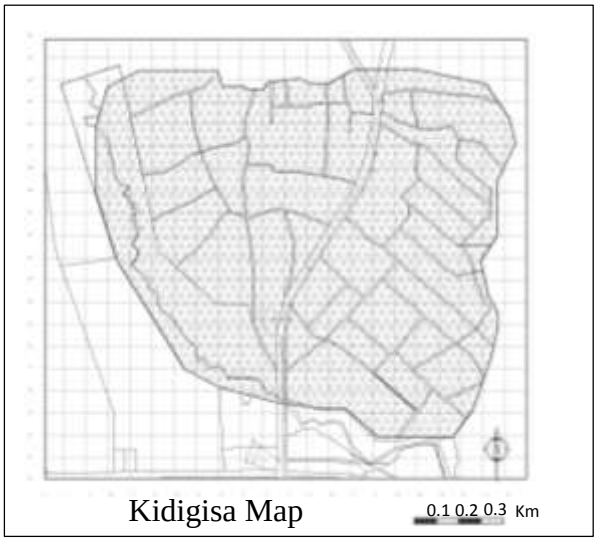


Figure 2.3: Case study 2: Kidigisa map

2.7 Sampling technique and population

2.7.1 Sample Population

Data collected from respective kebele's shows that total population of Ambicho and Kidigisa is 4283 and 4979 respectively. Accordingly, number of households are 630 and 1016 respectively. However, due to its wider and dispersed spatial extent, study in Kidigisa is conducted on central part which include Hungurame, Lemesela and Batena localities (neighborhoods) whose population is estimated to exceed 60% of the total population in kidigisa, therefore it approximately comprise 620 households. Similarly the study in Ambicho is conducted on Central Ambicho (Ambicho Gode) whose household number is 630.

This study uses case study method which is conducted by both qualitative and quantitative methodology, in which case the study uses appropriate number of sample population in order to employ in-depth study on the respective cases. Due to the in-depth-interview, this study expect high level of confidence and low percentage error occurrence. Therefore, 5% of the total households are selected for data collection, which is 32 and 31 for Ambicho and Kidigisa respectively. Extended time usage for in-depth interview and limited research budget are also considered for determining sample size. In addition, life story analysis is done in twelve selected households.

2.7.2 Sampling technique and procedures

During the pilot study households with different characteristics are noticed in the two case areas. Therefore, stratified random sampling technique is selected for this study. Stratified random

sampling is effective sampling technique when population is heterogeneous and embraces a number of distinct categories, the frame can be organized into separate "strata." Each stratum is then sampled as an independent sub-population, out of which individual elements can be randomly selected (Mohsin, 2016). To stratify means to classify or to separate people into groups according to some characteristics, such as position, rank, income, education, sex, or ethnic background (Kanupriya, 2017). Since the case sites are scattered settlements having households with different characteristics, this sampling technique helped to have fair and even distribution of samples from all groups. Generally, the field work is conducted based on the following techniques and steps.

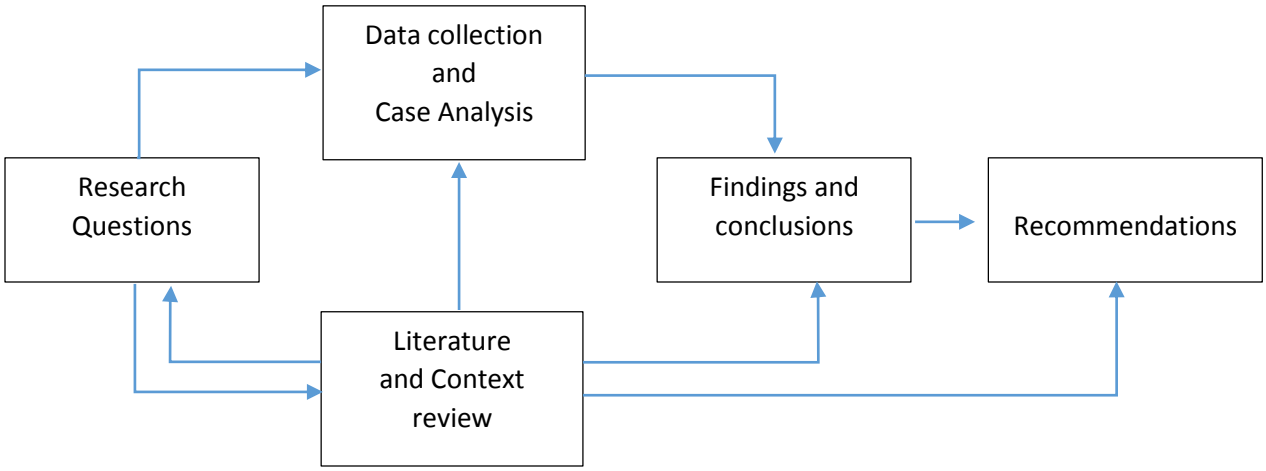
1) First two case sites Ambicho and Kidigisa are selected based on case selection criteria. (See part 2.6). And then training on research methodology, systematic approach and research question briefing was given for eight data collectors.
2) Before collecting data using questionnaire, physical scanning of case sites is done by walking through local roads, communicating with inhabitants, and taking pictures of settlements and houses. During physical scanning three groups (generations) of households are identified during physical scanning of the case sites. These are old generations (original land holders), recent generations (who inherit land from family), and new generations (peri-urban land holders who acquire land through informal transaction). These generations are identified based on their plot size and housing type; old generations are mostly native settlers who have wider plot of land and traditional house types while new generations have modern CIS roof modern houses over smaller plots. Recent generations comprise the characters of old and new generations, so those in the intermediate are categorized in this group.
3) During physical scanning of the case sites pilot test was conducted on two households from each cases. In line with testing of research questionnaire, practical training was given for eight data collectors. After the pilot test, some corrections are done on research questions and systematic approach towards interviewee.
4) Sample households, thirty two from Ambicho and thirty one from Kidigisa are selected by stratified random sampling. In order to have fair distribution over each generations of households, first the site is divided in to different neighbors and then sample households comprising equal amount from each generations are selected randomly. Selected sample households which consist at least ten households from each generations are marked in print out Google map to support data collection. During the field work some of sample households are

substituted by other household from the next door on the same group when they are not available or willing to respond.

5) In-depth interview is done on twelve households from samples. These house are selected based on willingness/patience of households and richness of data they give.
6) Totally ten key informants are interviewed for general information. Key informants were community leaders, *kebele* leaders and elders who have enough knowledge about the settlement.

2.8 Research design

The research work started by refining research questions through inputs from literature and contextual review. It was followed by data collection and analysis. Findings of research helped to draw conclusion. Recommendations comes at the end after proper conclusion is made, to come up with appropriate solution. (See Graph. 2.2).



Graph 2.2: Research Design

2.9 Validity of data

Validity and reliability of data is assured by crosschecking and triangulation of data collected from different sources. In addition to cross checking, data collected from multiple sources such as community leaders, elders, kebele leaders and residents is supported by direct observation and systematic approaches. Setting systematic approaches to communicate with inhabitants helped the researcher to collect reliable data. For example, conducting pilot test helped the researcher to refine the research questions and to set systematic approach during interview.

The most important thing to get valid data from respondents is getting their trust, and this was achieved by employing skilled data collectors who knows the culture very well and use local

language. In addition, the trust is built by following legal procedure such as showing legal letters written by EiABC Chair of Housing and Wachemo University, and by briefing the aim of the data collection to the interviewees before the interview.

2.10 Reflections on the method

Some predesigned methods might not work for different reasons. For instance, respondents bored to answer lengthy interview, some interrupt interview to continue their usual activity in the compound and others resist to give interview or give unrelated answers losing trust and considering the interview as part of a government program to expropriate and develop their land. Therefore, using local languages and participating on their activities created better communication between the respondents and the data collectors and helped to get reliable data.

Sometimes complexity of research subject and questions has its own contribution on the feeling and willingness of respondents. For example studying transformations is a complex task where respondents were unable to answer questions on "transformation of time diary". All respondents were bored and unable to answer by remembering daily activities in the past. Therefore, the researcher choose to rely on other analysis methods.

In general, building trust and using systematic approach is very important for successful implementation of data collection method, especially in the peri-urban areas where there is tenure insecurity and fear of losing land by expropriation. Therefore, testing the method by pilot study is very important to take corrections on the methods, research questionnaires, and systematic approaches.

CHAPTER THREE

3 LITERATURE REVIEW

3.1 Conceptual definitions

Several researches so far conducted in different parts of the world on specific issues related to urbanization, urban growth and sprawl tried to put their own operational and contextual definitions for the peri- urban areas. There are diverse literatures from the USA, Canada, Asia -Pacific, South and South East Asia, Europe, Africa and Latin America. Different terminologies are used by researchers in different parts of the world for the same area or place. But still no clear resolution is made to know which name to use of if any of the following terms interchangeably to represent the same spatial context: rural-urban fringe, peripheries, urban fringe, dynamic edge outskirt, peri-urban, city edge, rural-urban interface, extended metropolitan region, *desakota*, metropolitan fringe. The term peri-urban is often used in literature and policy discussions, the definition employed are situational and case specific and thus providing little basis for a unified understanding of what constitutes a peri-urban area (Iaquinta and Drescher, 2000).

Among earlier scholars Bryant Christopher and Pryor Robin works contributed much for describing and demarcating of peri-urban areas (rural - urban fringe). Pryor (1969), one of the pioneer scholars who contributed to peri-urban study, described the peri-urban area (rural - urban fringe) as a 'zone of transition in land use social and demographic characteristics between the built-up area and the rural hinterland.' He distinguished the peri-urban area as two components:

> *The urban fringe – that subzone of the peri-urban area (rural-urban fringe) in contact and contiguous relations with the central city, exhibiting a dense of occupied dwelling higher than the median density of the total rural-urban fringe a high proportion of residential, commercial, industrial and vacant as distinct from farmland, and a higher rate of increase in population density, land use conversion and commuting. The rural fringe – represents the sub-zone of peri-urban area (rural-urban fringe) contiguous with the urban fringe, exhibiting a density of occupied dwellings lower than the median density of the rural-urban fringe, a high proportion of farm as distinct from non-farm and vacant land, and a lower rate of increase in population density, land use conversion and commuting.*
>
> (Pryor, 1969).

Bryant (1982) developed Pryor's definition and scheme and he came up with the division of 'inner fringe' and 'outer fringe' in which in the inner fringe transition to urban use is advanced while in

the outer fringe the rural landscape dominates (Bryant, Russwurm and McLellan, 1982). In spatial terms, (Rakodi, 1999) defines the peri-urban area as "……*the transition zone between fully urbanized land in cities and areas in predominantly agricultural use. It is characterized by mixed land uses and intermediate inner and outer boundaries, and typically is split between administrative areas*".

Recently a project in Europe, PLUREL (Peri-urban Land Use Relationships - Strategies and Sustainability Assessment Tools for Urban-Rural Linkages) used nearly similar definitions with that of Rakodi to demarcate peri-urban areas (Ravetz, Fertner and Nielsen, 2013). According to PLUREL peri-urban is a zone of transition between urban and rural areas. In many cases, this zone changes rapidly as the urban area expands and restructures, while in some regions it is carefully managed and preserved. Increasingly, the peri-urban is also recognized as a spatial type and territory in itself, characterized by a dispersed and non-contiguous fabric of built-up and open spaces surrounding core areas.

In addition, in PLUREL project different zones of urban spaces from urban core to rural-hinterland are clearly identified and defined as follows. (The zoning and relationship among each zone is presented in figure 2.1):

- *Urban Core- a region which includes the Central Business District and other civic functions;*
- *Inner Urban area- generally high density built development (built-up areas);*
- *Suburban area- generally low density contiguous built-up areas that are attached to inner urban areas and where houses are typically not more than 200 meters apart.*
- *Urban fringe- a zone along the edges of the built-up area, which consists of scattered pattern of lower density settlement areas, urban concentrations at transport hubs and large green open spaces.*
- *Urban periphery- a zone surrounding the main built-up areas with lower population density, but belonging to the Functional Urban Area as described in fig below. This can include smaller settlements, industrial areas and other urban land uses.*
- *Rural Hinter land – rural areas surrounding the peri-urban area, but within rural-urban region.*

(Ravetz, Fertner and Nielsen, 2013).

Therefore, According to PLUREL peri-urban area includes both urban fringe and urban periphery (see fig 2.1). Loibl and Kostl (2008) cited on Ravetz et al (2013) defined peri-urban area as *discontinuous built development containing settlements of each less than 20,000 population, with an average density at least 40 persons per hectare* (Ravetz, Fertner and Nielsen, 2013). Rural-urban regions ('RUR') are the overall territorial unit for the PLUREL project as this area contain both the zone of daily commuting and the rural surrounding rural hinterland. The peri-urban areas suffer from urban pressures, but such areas also gain from proximity to urban areas, markets and culture. The direct impact of uncontrolled expansion of the built development are focused on urban sprawl-defined by European Environment Agency as unplanned incremental urban development characterized by a low density mix of land uses on the urban fringe.

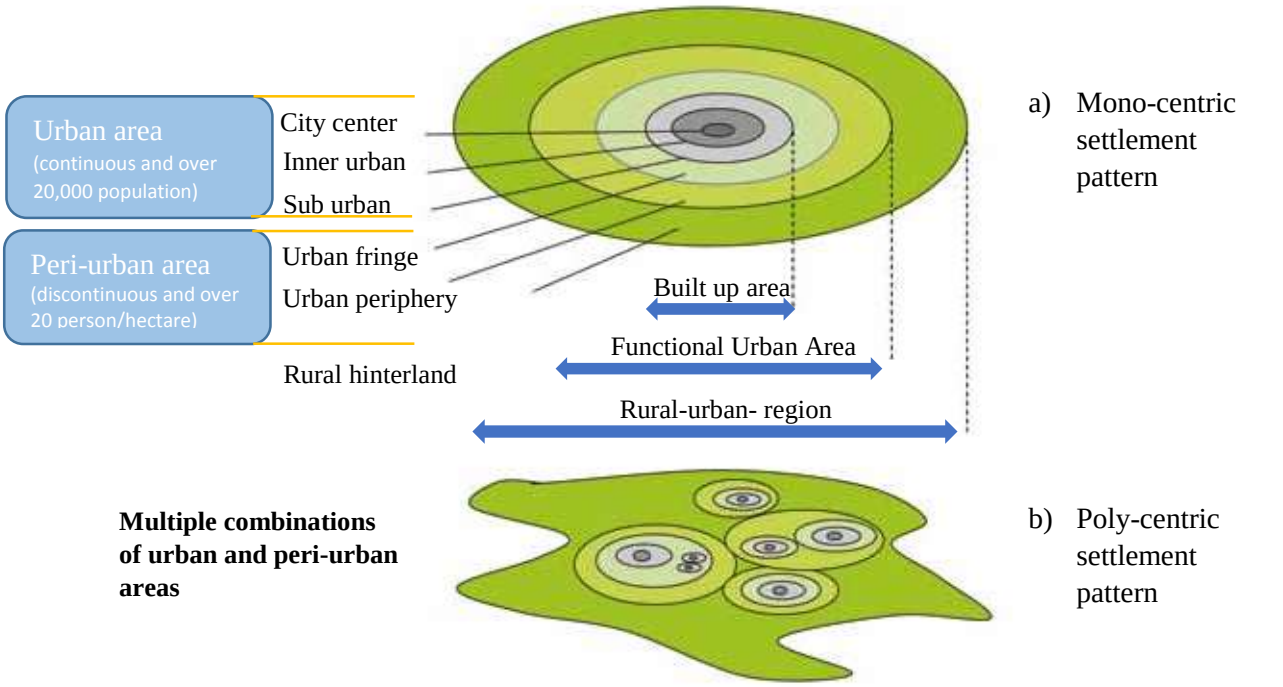


Figure 3.1: Peri-urban areas and the 'rural-urban-region' Geographic concepts and definitions as used in PLUREL project. Source UOM, ZALF, MRI

3.2 Peri-Urbanization and Related Concepts

There are various terminologies given for urbanization of the fringe zone, commonly known as peri urbanization, in Africa and the other developing countries of Asia and the Pacific region. Like the terminologies, the character of transformations at peri-urban areas also vary from place to place in relation with socio-economic condition of the region. Among these the first one is the concept of **Extended Metropolitan Region (EMR)** (Smith, 1937). According to Smith (2001), the concept of

EMR has often been used to describe a complex system of cities, towns and semi-urban or rural settlements in Asia pacific .It represents a fusion of urban and regional development in which the distinction between urban and rural has become blurred as cities expand along corridor of communications.

The Asia Pacific's EMR, some of which consist of extensive urban agglomerations spanning national boundaries, are part of emerging national and international growth corridors that integrate the region into the global economic systems (McGregor, Simon and Thompson, 2006). According to McGee, three major economic forces have combined effect to create the EMR. These are *transactional revolution* (improvements in transportations and communication infrastructures and technologies), *globalization* (penetration of global capital and market forces and the importance of the region in the global economy), and *structural change* (transformations of the structure of national economies from agricultural to industrial and service based activities). Therefore, one of the features of Asia-Pacific EMR that differentiated it from the peri-urbanization in Africa is the fact that Asia pacific urban system is very complex. It involves network of cities and rural areas over a larger area. peri-urbanization in Africa usually describes the changing interface between a single dominant urban center and the rural and semirural areas that surround it (Oduro, 2010).

In addition to complexity of transformations driving forces behind them are also important indicators for to see the distinction between the two forms of urban transition. In Asia-Pacific the cities are really engines of growth whereas in Africa, where economic development is in general is low, peri-urbanization has been driven by natural population growth and internal (rural-urban and urban-urban) migrations.

The second concept is **suburbanization**, which is common in western world and there is a confusion is related to peri-urbanization and suburbanization. The term suburbanization describes the movement of residents and business from inner city to the suburban ring, i.e., the spatial dispersal or de concentration of population and economic activities in a metropolitan area, particularly in the USA and Canada. There are some authors in Africa who attempted to associate the increased car ownership and commuting movements with sub urbanization. However, there is fundamental difference between the concepts of sub-urbanization and peri-urbanization in Africa. The so called '*suburbanization*' in Africa is related to the situations in which in some metropolitan areas, relocation from the central city outskirts which involves both the rich and poor.

The other very similar development compared with peri-urbanization is **urban sprawl**. Urban sprawl usually has a negative connotation due to its consumption of huge land with a low density, and inefficient land use in the urban peripheries. Sprawl is a common phenomenon in both the developing and developed countries. Sprawl development causes the formation of peri-urban (urban fringe) areas.

There are two major attributes of urban sprawl which have negative connotations related to the pattern of land use in the fringe of cities. Low-density development is one of the major characteristics of urban sprawl in which the number of people or dwelling units per a given area of land is drastically smaller than the central city. Leapfrog development is another attribute of sprawl where the tendency for development skips tracts of land, leaving scattered empty space between the existing built-up area and new developments. Leapfrog refers to the occurrence of urban settlement in places separated from denser areas by open space and land under agricultural production and this development is characterized by 'jumped' land.

3.2.1 Peri-urbanization in Western world context

There are significant variations in the nature and characteristics of urban fringe areas even among the western world of USA and Europe. Most European cities retain strong cores, and as in most other cities outside the USA, Australia and Canada, the urban and rural zones are separated with a 'hard' rather than a 'graduated' edge. Rapid population growth is perhaps the most common characteristics of peri-urban regions. Growing populations may be characterized as 'forced relocator' or 'free agents'.

Following growing populations and others factors suburbanization has a long history or tradition in the western world in general. Sources indicate that it began in Europe in the 17/18 Century in England and was exported to America (Bahrenberg, 2011). It was the economically successful middle class, namely traders and bankers, later also industrial entrepreneurs who turned their weekend cottage in the rural villages surrounding the cities in to permanent residences commuted each day in to the city.

This type of development started in Germany and many other countries both in the developed and developing countries are subject to urban growth and suburbanization simultaneously than it was the situation in Britain and American cities. In fact there is a negative migration balance of the city with its rural hinterland which is more of residence oriented migration to the hinterlands.

According to Steinberg (2011) France knows peri-urbanization or rur-banization for over thirty years. This represents an increasing important spreading of urbanization, which is not a continuous "oil patches" but resembles rather a "leopard skin" where the agglomerations are scattered in a more or less preserved rural territory. Peri-urbanization corresponds either to the old meaning of suburb, or to a new suburb, or something entirely different. It is in fact a discontinuous urban growth, generally joined to the old towns and villages on the outer skirt of the agglomeration.

Friedberger (2000) in his paper on "rural-urban fringe in the late 20th century America" defined the rural-urban fringe (peri- urban area) as land extending from 10 – 15 miles outside the city center of the nation's major city. He described it as an area in transition, where land as well as occupational and social structures awaits transformation into suburbia. In this area expected development potential than agricultural value determines land value (Friedberger, 2000).

Peri- urban areas of cities are dynamic areas and the focus of significant non-metropolitan growth, both in Australia and internationally (Buxton et al., 2006). Peri-urban areas in Australia have no universally accepted definitions, but these areas share the characteristics of change and growth relative to the core being located closer to the metropolitan region. Peri-urban regions have been defined spatially by their physical structure and form, functionally or by a combination of spatial and spatial factor and still they can be defined in relation to a nearby metropolitan area on their inner boundaries. Therefore, in Australian perspective a peri-urban area can be defined simply as land adjacent to the edge of an urban area, that area of land extending from the built up edge to the city to the truly rural land (Buxton, Goodman and Tieman, 2006).

In Canada peri- urban (fringe) studies has been there since urban civilization first emerged and settlements gradually began to expand at the expense of the surrounding rural lands (Thomas, 1974 as quoted in Starchenko, 2005). Like it was mentioned by many scholars on the emergence of the urban fringe, Starchenko also notes that the rural-urban fringe became the focus of more intense attention in the urban planning, sociological and geographic research during the 1940s and 1970s, especially in the North America where the most outstanding attempts at defining fringe areas were made during this period.

The urban fringe is defined by Statistics of Canada as urbanized nodes within the metropolitan area that are not contiguous to the urban core. The remainder of the area that is neither a part of the urban core nor of the urban fringe is classified as the rural fringe. There is always much confusion between the conceptual understanding of rural-urban fringe (peri- urban area) and suburbs. Evenden Walker

(1993) explains that the two concepts are distinct while Johnson (1974) on his part argued they are related concepts.

In Europe, there is a huge project underway on the management of peri-urban areas or fringe areas. PLUREL (Peri-urban Land Use Relationships - Strategies and Sustainability Assessment Tools for Urban-Rural Linkages) is a European integrated research project within the European Commission's sixth framework program. This project quantifies the trends, risks, and potentials for the peri-urban regions and provides recommendations for targeted policies and new concepts of urban-rural linkages. According to this project peri-urban is the area between urban settlement and their rural hinterlands. Such areas are often fast changing, with complex patterns of land uses and landscape, fragmented between local or regional boundaries. Peri-urban areas are defined by PLUREL as *'discontinuous built development containing settlements of less than 20,000 with average density of 40 persons per square kilometers'* (Ravetz et al., 2013).

3.2.2 Peri-urbanization in Asian and Pacific Region context

In east and parts of south Asia, a new form of Extended Metropolitan Region (EMR) is emerging as a process called by McGee (1991) *desakota* (city-village) which reflects phenomenal economic buoyancy of the Pacific Asian region and the rise of newly industrialized countries.

Many scholars conducted research in different countries with different names for the same part of the cities, the outskirts of the city dominantly in India and other south East Asian countries. Among these are (rural hinterland of the city by (Kundu, 1989); Rural-urban fringe by (Nangia, 1976); peri-urban area by (Dupont, 1997); urban fringe by(Kabra, 1980); (Hill, 1986); *desakota* regions by (McGee, 1991); metropolitan region by (Saini, 1989) and (Rao, 1970)). The land surrounding a town (city) but not considered as part of it whose use is influenced directly by the city is defined as an urban fringe (Richard R. Mayers and J. Allen Beegle, 1947; Richard B. Andrews (1942 as cited in Gopi, 1957).

Díaz-Caravantes (2012) citing McGregor, Simon and Thompson (2006) in his study of the geographies of peri-urban area in Mexico indicated that peri-urban regions resist easy definitions but it refers to the immediate zone that surrounds a city's existing boundaries. He also mentions that since each peri-urban has properties unique to its context, this definition alone does not satisfy all.

According to Lal (1987) an important development in the urban settlement during the past few decades has been the rapid growth of population and expansion of built up areas in to the unincorporated suburbs and to the areas surrounding larger towns and cities. Gradually the addition

of population and related developments generates a zone of transition between the main urban settlement and the deep rural landscape. This phenomenon may take place both in the urban territory and outside it within easy reach of the urbanization influence. This zone which enjoys continuous change due to the centrifugal forces from the city proper and in – migration from other places to the area is usually an amorphous territory around the larger cities.

Agustin and Kubota (2012) defined the rural-urban fringe (peri- urban area) as the landscape located just outside of established cities and towns where the countryside begins. The urban fringe according to them is that sub-zone of the rural-urban fringe in contact and contiguous with the central city. This study also reveals that there has been an agricultural conflict because of the different commitment of the farmers in the rural-urban fringe: the inner fringe farmers wanting to abandon agriculture and the outer fringe farmers still want to maintain agriculture.

Singh (1966) has made a significant contribution to the study of fringe of cities by adopting different techniques to delineate the fringe of five towns in one of the present states of India. He delimited the fringe of 'Kaval' towns in Uttar Pradesh by overlaying several maps depicting desirable geographical factors including changes in land use, changes in the built-up area, occupational characteristics, limits of essential services, distribution of educational institutions and many others. Singh (1966) has described fringe as "the rural land with urban phenomenon". He also argued that the rural-urban fringe (peri-urban area) is really an extension of the city itself, actually and potentially. Gopi (1978) has been the first scholar to make an exclusive fringe study examining the phenomenon of the transformation of the fringe of Hyderabad city in the light of structural changes in its economy (Dass, 1997). He noted that the fringe is a distinct stage in the natural process of suburbanization and its evolution, under normal condition is gradual change. From the transformation of Uppal village he identified that there is a gradual transformation from agriculture to the situation where agriculture is no more important economic activity in the village. Socially, he asserted that there is a transition from culturally homogeneous structure to heterogeneous urban society.

Lal (1987) has examined the gradient of urban influences on rural settlements with the distance from the center of the city of Bareilly. These urban influences include density of houses, population, and proportion of built-up area and the nature of settlements which together are expressed as dwelling gradients in relation to gradient from the city. Lal also contributed much to the urban fringe literature in India in his book '*the city and urban fringe with a case study of Bareilly'* in 1987. In

this particular contribution he focused on the determinants of urban fringe delimitation in which he considered the spatial determinants, occupational determinants, and demographic determinants among others.

Camur (2009) in his article on rural-urban transformation through urban sprawl in Turkey revealed that an increase in population, the fast growth of cities in order to provide the requirements of increasing population and the effects of expansion of cities on the fringe areas, are still common problems of several countries in the 21century. Transformation has caused the integration of rural areas with metropolitan cities and change of rural settlements in to urban like districts or in some cases into municipalities of the metropolitan area. He also argued that decentralization has triggered the growth at the peripheries.

For Tewari (2011), the urban fringe, also called the rural-urban fringe (Peri- urban area), the city edge, the city periphery, the city's outskirt, the city outlying area, etc., is the area that lies immediately outside the designated limits of a city or town. The peri- urban area essentially consists of the spill over urban land uses and activities that could not be accommodated in the city itself due to various cost and other constraints, in to the surrounding areas. According to Tewari the urban activities advancing to the peri- urban area of cities are normally seeking relatively inexpensive land close to the city to make advantage of its markets and other infrastructure facilities. Land values, taxes and service charges are relatively higher in the city than in the peri- urban areas and therefore industrial activities get located in the peri- urban area. Tewari further noted that village settlements, new residential layouts carved out from the agricultural land, commercial and industrial activities, vegetables and flower cultivation and so forth are combined in the haphazard manner giving rise to an unplanned development and mixed land use patterns in the peri- urban area.

Nengroo and Bhat (2012) explains that as the peri- urban is a bridge between the rural areas on the one side and the urban center on the other, all the characteristics of urbanity and rurality are medium in the fringe area. But the main challenge in the peri-urban area is related to land use where the land use in the area is dynamic and changes from rural land use to urban land use over a short period of time and distance.

Buxton, Goodman and Tieman (2006), defined peri-urban area as interface areas, neither rural nor urban transitional zone, in state of rapid change from rural to urban, usually irreversible. In Australian peri-urban experience the peri-urban area is located within the sphere of influence of adjacent urban areas. These authors mention that peri-urban areas are among the fastest growing

regions in many countries, too and hold high strategic spatial, economic and environmental significance.

Dutta (2012) studied territorial integration of urbanizing villages around Delhi Metropolitan Area and mentioned that the rural-urban interface (peri-urban) is the most dynamic spatial feature of any mega city. This area is a territory in transition spatially located in the urban periphery.

P.Srinivas (2011) in his study of urban analysis of Siddipet town argued that urban fringe is an extension of urban growth into the rural areas and due to contiguous or proximal locations to the city, one of the manifestations of impact of urbanization is visible in the form of land transformation.

Latin American megacities are known for their hyper-urbanization and peri-urbanization. Latin America is one of the world regions where there is high degree of Rural-urban influx without the parallel growth of infrastructure. Webster and Muller have put the issue of peri urbanization in the Latin America as;

> *Suburbanization, including the relocation of slum communities, and to a lesser extent, step-wise migration from smaller towns and cities has become the principal drivers of residential peri urbanization*
>
> (Webster and Muller, 2002)

De Martínez, (2007) studied poverty situation in peri-urban areas of Mexico City. She defined the peri-urban areas as areas located in the periphery of large cities which exhibit a mix of rural and urban characteristics in a process of transformation to becoming predominantly urban. This study also demonstrated that the households living in peri-urban areas are also in rapid transition be it passively or negatively.

3.2.3 Peri-urbanization in African Context

Before the 1990s interest in the peri urban area study in Africa was minimal. Simon, McGregor and Nsiah-Gyabaah (2004) assert that before 1980s the term ‘peri-urban’ or ‘urban fringe’ did not appear in any literature of African cities. However, since the 1980s the importance of peri-urban areas as a source of urban food supply was underlined by the growing body of research on urban agriculture. Even though it is difficult to exactly know the extent of the peri-urban zone, Simon and colleagues indicated that 30-50 kilometers beyond the urban edge is a reasonable generalization for larger cities. But for the bigger metropolis of the South East Asian cities it even extends for more than 150 kilometers.

Simon, McGregor and Nsiah-Gyabaah (2004) indicated that there is no neat divide line between what is perceived to be 'urban' and 'rural'. The team also asserted that cities of the global South are rapidly growing to the surrounding rural agricultural lands but the pattern may vary from one city to another. The pace and pattern of urbanization especially in the rural-urban interface is changing but there is no uniform pattern among all countries. It depends on the size and structure of the existing city, the composition of the urban and migrant populations, in terms of age, sex, family and household structure, cultural and religious diversity, educational and income levels, urban experience and so forth; physical terrain and environmental barriers beyond the existing built-up area; the orientation, accessibility and affordability of transport networks; land tenure systems, land values and land uses surrounding the city. One of the major consequences associated with rapid urbanization and particularly movements of people from within cities to peri- urban areas; has been the socio-economic transformations it has brought to livelihoods of both migrants and local communities. Studies on peri-urban interface in Tanzania and elsewhere indicate that migrations to peri-urban areas have created a varied opportunities and threats among members of various social classes within the peri-urban interface (Briggs and Mwamfupe, 2000; Mbiba and Huchzermeyer, 2002).

In fact, one of the positive sides in peri-urban interactions has been flow of resources from urban to peri- urban areas, where the resources have been a major catalyst in construction of livelihoods (Chembo, 2011). It is thought that a flow of resources has positive impact in creation of non-farm activities (Kamete, 1998) quoted in Chembo (2011).

Thuo (2010) in studying the rural-urban fringe (peri- urban area) of Nairobi indicated that land conversion in the city's rural-urban fringe is eating into agricultural land and thus leading to the reduction in the quantity and quality of land for farming.

A study conducted by Nicodemus and Ness (2010) on one of the peri-urban areas of Kenya, the Nyahururu, has shown that peri-urban development has attracted increased attention in recent years particularly due to conflict/competition between the new(urban) and traditional (rural) land uses as a result of peri-urban expansion. In the same study it was found that owing to the expansion of the city to the lands of the households in the study area, there is a significant change in the livelihood and household income. But, this study has only addressed the physical expansion of the city over times and its impact on the change of livelihood than including what type of land uses are changing from one to the other.

Kombe (2005) examines recent trends in land use transformation taking place in the peri- urban areas of Dar es Salaam, Tanzania. He found out that urbanization in poverty is the key factor underpinning and catalyzing changes in land use, land transactions, increased rural–urban immigration and the overall transformation of land use in the peri-urban areas. Unregulated peri-urban land development has given rise to complex organic urban structures which predominantly expanding horizontally. The emerging land use pattern, by and large, indicates a mismatch with the widely cherished planning norms and standards and land value theories which, underpin urban land use planning instruments such as zoning and density distribution and principles like equitable provision of basic services and complementarity in urban land development.

Olujimi and Gbadamosi (2007) in their study of urbanization of settlements in Nigeria, they have referred to peri-urban zones as city's immediate surrounding rural hinterland (after the boundary of urban settlement showing an overlap of the rural and urban land use).

Peri-urban interfaces - the zones where urban and rural areas meet - suffer from the greatest problems to humans caused by rapid urbanization, including intense pressures on resources, slum formation, lack of adequate services such as water and sanitation, poor planning and degradation of farmland (McGregor, Simon and Thompson, 2006).

One of the most important contributions to fringe studies in Africa is made by Oduro (2010) who studied the effect of urban expansion on the livelihood of peri-urban areas of Accra, Ghana. He defined peri-urban as a 'zone' and a transitional belt between the city and the countryside, a zone undergoing various kinds of transformations, where urban and rural attributes exist side by side. Explaining that rapid urbanization in the Third World as one of the major developmental issues that have attracted the attention of policy makers at international, national and sub-national levels, Oduro has revealed in his study that several changes in the livelihood assets residents in the peri-urban areas of Accra. In his study he found out that an increase in the range of uses and value of land and other forms of natural capital, extension of urban infrastructure like roads, electricity, schools and others to peri-urban areas. Urban expansion came up with both positive and negative effects. To encourage the positive effects and decrease the negative effects concerned policy makers should incorporate peri-urban livelihood issues into urban policy making planning.

3.2.4 Peri- urbanization in Ethiopian context

The concept of 'peri-urban' or simply 'urban fringe' is not new to researchers in Ethiopia. But some studies use the term to describe any peripheral settlements located out of the inner city and others

simply adopted the term from other studies abroad. In fact, there is no definition for such geographic unit in the census of Ethiopia. Therefore, the very limited researches so far conducted related to urban studies around the city of Addis Ababa used this terminology in a common sense. But for growing cities of magnificent impact on the surrounding rural areas, it urges for identification and detail analysis of the developments encouraging the formation of this spatial unit and the transformations happening in the area. Regardless of the limitations mentioned some of the few studies conducted are discussed below.

Achamyeleh Gashu (2014) studied peri-urban land tenure in Ethiopia. According to him peri-urban areas are transition zones, where there is administrative power vacuum due to unclear land policy and developing strategy over peri-urban areas. This condition allowed different actors to acquire land through informal means and stay with tenure insecurity hoping title-deed would be given in the future. He also discussed the formal channel, in which peri-urban informal land right transfer in to urban formal land right through expropriation by government. Sisay Habtamu (2012) also studied tenure in-security issue around Addis Ababa city and discussed the contribution of urban land policy gap to insure secure tenure over peri-urban land rights.

Feleke Tadele (1999) conducted a graduate research on the impact of urban development on a peasant community in Ethiopia with a case of Yeka Tafo peasant community which is located in the periphery of Addis Ababa city. He examined the consequences of displacement and the risk of impoverishment that are being caused by the Ayat real estate development project on the lives of the people who have been evicted from or dispossessed off their lands and homes. The study has shown that urban expansion program of the city government which gave chance to the real estate market has negatively affected the livelihood of the rural community in the Yaka Tafo Peasant Association. This peasant association was one of the most productive agricultural lands. Continuous expansion pressure of the city has put enormous pressure on the conversion of agricultural land far beyond this peasant community. The then agricultural land area is now completely invaded by construction of residential.

Chalachew Getahun (2005) examined the impact of settlement expansion and population growth on the livelihood of residents in one of the peripheral sub-cities of the city government of Addis Ababa. In his study he revealed that continuous and rapid settlement expansion to the outskirt of Bole sub-city with a specific site of kebele 15, is affecting agricultural community through agricultural land conversion and forced change of livelihood.

Dandena Tufa (1995), arguing there is a major controversy between the proposal of 1986 master plan of Addis Ababa and the development realities after, explained that road infrastructure has the most important contribution to the sprawled development of Addis Ababa. He also indicated that with still great potential for the urban growth to continue along the major outlet from the city, there is pressure on agricultural activities due to excessive land consumption. He further added that the general structure of the city is loose which gave the city a sense of over expansion and sprawl.

Mekonen and Alemu (2011) in their study 'impact of urbanization of Addis Ababa city on peri-urban environment and livelihood' assessed the spatio-temporal expansion of Addis Ababa to the peripheries (peri-urban areas). The result of their study portrays that there is horizontal physical expansion of the city boundary which affected the per-urban farm community of *Summit, Beshalle, Endode* and *Jarso* settlements which are found in the outskirt of the city.

Ahmed Abduletif (2011) in his study of the sprawl of Addis Ababa city and its problems emphasized that the sprawl case in Addis Ababa city is more of a horizontal stretching and it has a direct impact on agricultural lands and the ecosystem in general. He also mentioned that there are hotspot areas in the Addis Ababa city and its environs where land grabbing practice encouraged illegal land occupation (*Burayu, Kara Kore, Lagatafo, Kaliti, Ashewa Meda* and others) has consumed fertile agricultural land and caused strain to the environment.

One of the recent studies conducted in Ethiopia on the issue of impact of urban expansion is contributed by (Dejene, 2011). Dejene has studied the rapid urban expansion of one of the small towns in the vicinity of Addis Ababa and its implications taking some peri-urban farm communities of the town called *Sabata*. In his micro level study he revealed that expansion of the town from recent times has affected the livelihood of the farming community (shortage of farmland due to land conversion for urban use, land tenure insecurity and loss of assets). The implication of such developments is in overall deterioration of the living condition of the farming community which leads to poverty and impoverishment.

3.3 Peri- urban Dynamics: rural-urban transformations

According to UN-HABITAT (2016), 54 percent of the world's population live in cities. This high concentration of people in cities and towns implies that the economic contribution of urban regions to gross regional product (GRP) is becoming dominant. Thus, with just 54 percent of the world's population, cities account for over 80 percent of global GDP (UN-HABITAT, 2016). The economic potential of urban areas also suggests that proper approach to growth can bring real change in the

economy and the benefits of development can be more widely dispersed. On the other hand, rapid urbanization is creating mounting pressure on infrastructure, service provision and management capacity of governments. As a result, more than a billion people — one-sixth of humanity — live in slums, and the figure is expected to rise to nearly one third in 30 years, according to UN-HABITAT (2010).

Urban centers across Africa are becoming the future habitat for the majority of Africans. The population projection shows that by 2030, about 50% of the population of Africa will inhabit urban centers (Habitat, 2010). The unprecedented growth of urban population in Africa is causing an exceptionally rapid increase in the demand for urban land. The rising demand for urban land therefore tends to be met primarily by converting peri-urban agricultural land at the periphery of the existing built-up area (UN-Habitat, 2010). Peri-urban areas, where there is a rising demand of land for non-agricultural or urban land uses and located at the receiving end of urbanization, form tenure hotspots. It is increasingly evident that peri-urban areas are now becoming places where a lot of changes and activities are taking place due to rapid urbanization and population growth (Wehrmann, 2008).

Rapid urbanization in most developing countries makes the formal housing and land market unable to work efficiently. These manifested by; According to Durand-Lasserve (2011), between 30 and 70 percent population of developing countries live in informal settlements. Moreover, According to the UNCHS (1996), 64 per cent of the housing stock in low-income countries, and up to 85 per cent of new housing, is unauthorized. According to Doebele (1977), urbanization becomes root cause for the motivation of residential houses development and transformation particularly in newly invaded land. Hence, the newly invaded land provides the opportunities for exceptional profits as the number of inhabitants increasing.

Rapid urbanization consequences informal housing developments, mostly undertaken by low income urban residents, have usually contradict with government standards and result in so many disagreements in enforcing regulations as well as in legal issues (Ezeadichie, 2012). According to Berner (2000), informal house settlement termed as substandard (slum) often even squalid, by conventional judgments, and by most governments rather than observing the good sides these housing contribute to the housing demand and economic value adding to the whole country.

Many researches across the world regions now identified that the peri-urban area is the dominant urban form and spatial planning challenges of the twenty-first century (Ravetz, Fertner and Nielsen,

2013). When seen from the wider regional perspective the rural-urban region extends from the urban core through the urban fringe to the rural area. Therefore, even if the dynamics begins from within the core city boundary, there is a system of interconnectedness of activities and thus the transformations in and around the urban core stretches far away to the rural surroundings. The factors for the peri-urban dynamics and overall transformations of the region are a function of numerous aspects than one.

Ravetz and colleagues have identified five major factors or dimensional framework which reflects the complex processes of the development and changes at the fringe areas. The first aspect is urban expansion which occurs as a direct result of growth in population, economy and space demands. Then when cities expand they form regional agglomerations, with step changes in economies of scale taking place, and new type of peri- urban territory developing. Thirdly, underlying these developments are the effects of various deeper political and cultural forces which shape the peri-urban territory. The whole urban system can go through rapid transitions with radical change and restructuring and finally policy responses to these changes and transitions which often feedback into the mix, and becomes 'dynamics' themselves.

3.4 Characteristics of peri-urban transformations

3.4.1 Peri-urban socio-economic transformations

3.4.1.1 Livelihood change

In the older industrial or post-industrial countries peri-urban is a zone of social and economic changes and spatial restructuring. These countries have long history and experience of peri-urbanization. On the other hand, in the newly emerging economies and most of the developing countries the peri-urban zone is often observed to be an area of chaotic urbanization with multiple effects of sprawl (Ravetz, Fertner and Nielsen, 2013). Peri-urban according to these authors is not just a fringe in between the city and the countryside (zone of transition), rather it is a new kind of multi-functional territory.

Urbanization presents many challenges for farmers on the urban fringe. Luck and Wu (2002) has studied land use changes and the impacts in USA from the economic, social and environmental impacts point of view and he asserted that urbanization being the cause for land use change produces a number of socio-economic and environmental impacts on the peri-urban area and its residents. Conversion of farmlands and forests to urban development reduces the amount of land available for food and other biotic resources. Urban development has encroached to rural communities in many

of the cities of the world to such an extent that the community's identity vanishes. Urbanization may also cause the "impermanence syndrome" leading to idling of farmlands and farmers (Adelaja, Sullivan and Lake, 2005).

Cities today are spreading into their surrounding landscapes sucking food, energy, water and resources from the natural environment without taking in to account the social, economic and environmental consequences generated at all levels by their 'urban footprint'.

While current peri-urban studies acknowledge the complexity of peri- urban transformation processes, less attention has been put on peoples' own account about transformation processes, and particularly how they react to such complex processes and solve the challenges associated with resource imbalances and changing livelihood.

Rao (1970) in his paper "a rural community on the Delhi Metro fringe" distinguished three kinds of situations of social change in the rural areas resulting from urban influences (villages near an industrial town, villages with a number of emigrants seeking for employment in far-off cities and villages of an expanding metropolitan city). Rao has shown in his study how the different social changes are affected by urban influences with a case from Yadavapur- the then fringe village found outside the built-up suburb of Delhi.

Sofer (2013) in his study of the rural-urban space of Israel argued that while the dynamism contributing to the contested urbanization of the rural-urban fringe and the ever increasing need for land is too many, the changes in general can be perceived as transition from dependence on farming to more diversifies but week economic base for the ex-rural people. He also identified that because of dominance of external and internal capitalist forces, land based investment (industry, real estates, commercial developments) all are consuming large amount of agricultural lands.

In Ethiopia, as in several other African countries, urbanization is occurring at a more rapid rate and the competition for land between agriculture and non-agriculture is becoming intense in the peri-urban areas. The growing demand of land for urbanization is primarily intended to be supplied by expropriation and reallocation of peri-urban land through lease contract. This shows that land acquisition and delivery for urban expansion and development purposes is completely state controlled on the rational that all land belongs to the state and peoples of Ethiopia (FDRE, 1995). As urban territory extends into the peri-urban areas adjacent to the municipal boundaries, the existing land tenure relation is expected to cease compulsorily (Achamyeleh, 2014). Therefore, land issues in the peri-urban areas of Ethiopia in the process of urbanization involve at least three parties:

1) land provider or the government; 2) land acquirer which is generally a private or joint company and 3) land losers who are local peri-urban landholders or small farmers (Achamyeleh, 2014). Thus, local peri-urban landholders or indigenous small farmers are largely vulnerable to loss their land where their livelihood is based upon in the process of urbanization.

3.4.1.2 Insecure tenure and informality

Peri-urban areas are characterized by uncertain land tenure, inferior infrastructure, low incomes, and lack of recognition by formal governments. Peri-urban areas are outside formal urban boundaries and urban jurisdictions which are in a process of urbanization and which therefore progressively assume many of the characteristics of urban areas (Oloto and Adebayo, 2010). Ravetz, Fertner and Nielsen (2013) characterized the peri-urban areas in the developing countries as often a zone of chaotic urbanization leading to sprawl. They also describe the peri-urban areas as not only a zone of transition but also it is a new kind of multi-functional territory.

A peri-urban area is a distinct settlement pattern neither urban nor rural but an interface, a transitional zone. Change is endemic to this interface region with a blurring of uses and urban and rural activities. Change can be regarded as orderly or chaotic, threatening or opportune; change from rural to urban in the peri-urban region is usually irreversible. Conflicts between land uses are usually regarded as key characteristics of peri-urban regions. Regardless of this, little attention areas to have been given to the long term planning and management of land and resource base in this region. The (peri-urban) rural-urban fringe offers the greatest challenge to the urban planners. It is an area of rapid change in utilization of land and population characteristics.

According to Dutta (2012) peri-urban interface along the rural-urban boundary forms a dynamic semi-natural ecosystem, from where the intact natural resources of natural landscapes are sourced into the growing city, transforming the peri-urban area in return. He also characterizes the area that it is subject to multiple transformations (physical, morphological, socio demographic, cultural, economic and functional).

In Ethiopia, the inability of the formal land tenure system to fit to the requirements of the current rapid rate of urbanization opened informal channels of land transaction. For instance, all land including peri-urban in Ethiopia is state or national property (FDRE, 1995). Formal private property does not exist; likewise neither does customary tenure as Ethiopia went through a monarchy, feudalism and socialism to a market economy based on national land ownership. Since 1993, individuals have been granted access to urban land largely from peri-urban areas based on 99-years

leasehold contracts for residential housing. The introduction of this leasehold market was supposed to replace the inefficient socialist allocation system. However, the state controlled expropriation and reallocation of urban land through lease contract seems to be inefficient and corrupted. The poor have not been able to afford land for housing. Even for the middle class, it is increasingly becoming difficult to acquire land through formal lease system.

On the other hand, there is a great demand for cheap and easily available land, which is being intensified by in-migration from rural areas and other urban areas. This demand is partly indeed met by the supply of land from peri-urban areas through the informal channels such as forced occupation on state land and purchase of illegally subdivided agricultural plots. Peri-urban farmers fearing expropriation (revocation of their agricultural use rights/holding rights) by the state without adequate compensation prefer to subdivide their farm land into building pieces and transfer their land in the informal (black) market. Local peri-urban land holders have also been involved in the unauthorized construction of substandard residential house for sell or rent. Moreover, different groups of actors such as brokers, speculators, corrupt government officials, peri-urban residents have been involving in the process of informal transaction and development of land in the peri-urban areas (Achamyeleh, 2014).

In general sense, peri-urban area can be described as conflicting land uses, (residential and non-residential), rapidly growing residential expansion, (new and more spacious housing), the population is mobile and low or moderate density, speculative building and subdivision of land, the provision of services and public utilities is incomplete, changing pattern of land occupancy, poor network of public transport, crop production is intensive.

3.4.2 Peri- urban Environmental and Spatial transformations

3.4.2.1 Environmental degradation and pollution

Urban settlements account for only two per cent of the earth's land surface; however, over half of the world's population resides in cities (UN-Habitat, 2010). High population density in urban areas has resulted in a large scale modification of the environment in the peri-urban areas. Rapid urban expansion due to large scale land use/cover change, particularly in developing countries becomes a matter of concern since urbanization drives environmental change at multiple scales (Bandyopadhyay, 2018). Urbanization is a complex process of converting peri-urban area and rural land to urban land use and has caused various impacts on ecosystem structures function and dynamics (Luck and Wu, 2002).

Urbanization causes the exploitation of agricultural and forest land and open spaces by towns and cities. In many cases there is premature urban development i.e., urban sprawl which accelerates the expansion of urban areas in to rural hinterlands. Urban sprawl is mainly caused by constraints in urban management, inappropriate phasing of development, absence of integrated conversion of agricultural and forest lands to urban land use and informal holdings. This phenomenon promotes deforestation and highly contributes to environmental resource depletion and coupled with the inability of providing basic services in newly developed areas and the low level of environmental quality in the already developed areas create an overall impoverished urban environment.

In Ethiopia, according to Edessa (2010) Oromia is the land of fertile soils, immense mineral resources, source of biodiversity, forest ecosystem, and many rivers that serve as sources of urban agricultural and industrial uses. Edessa elucidates that currently many of these fertile lands surrounding Addis Ababa, the capital city of the country are now showing a paradigm shift from agricultural food production in to horizontally protracted urbanization and non-food production that anchored the dismantling of the local family, starvation and other environmental hazards. The study also revealed that Ministry of Health has announced through media that 30 per cent of the people suffer from diseases caused by flora farm chemicals, which have polluted the air, the soil and water as well.

3.4.2.2 Land fragmentation and use change

Several structural changes are producing environmental degradation on the peri-urban areas. Allen (2003) identified three processes of environmental changes in the peri-urban interface, including a change in land use, such as from agricultural to residential or industrial uses; a transfer of natural resources such as forest, water, and pollution from peri-urban to urban areas; and thirdly a change in the generation of waste and use of environmental services such as increased solid and liquid waste in the peri-urban zone. The rural-urban fringe is the frontier of urban land expansion, which has active socio-economic activities, serious man-land relationship, sharp contradiction, sensitive and fragile ecological environment, and is known as "*natural laboratory*" for the research of environmental effects (Msangi, 2011).

The process of transformation in the peri-urban is accompanied by many problems of which the degradation of land and water resources is among the most serious ones. Narayanan and Hanjagi (2009) in their work on “land transformation in Bangalore‘s ecology” defined land transformation as quantitative change in land, the act of change of form, shape, structure, appearance or nature of

land that have put in to some use. They described that loss of ecology is primarily traceable to land transformation through fragmentation of natural habitat and has often vandalized by urban sprawl. The authors have assessed the transformation of forests lakes and agricultural lands and concluded that urbanization is a threat to ecology and loss of ecology also alters climate of an area. In their analysis they also found that rate of change in ecological spaces and bio-geography of the area is also faster and negative.

Urbanization and consequent formation of peri-urban areas have resulted in extensive exploitation of agricultural land and land from water bodies and wasteland, which were maintaining an ecological balance for centuries around bigger cities.

Sharma (1991) in his article on '*land grab, Bombay style'*, explained that urban development in India, especially in and around large cities, is today largely oriented to the expansion of the private business with the government having little say in the control and direction of the use of the main resource, the land. He further indicated that several conscious citizens of the area around hinterland of the city through their voluntary organizations are protesting the indiscriminate urbanization of the region will adversely affect its ecology.

3.5 Process of peri-urban transformations

The process of acquiring a plot of land in the informal way is not chaotic, but follows its own process. The key activities or behavioral patterns of key actors as well as rule structuring processes through which actors acquire and retain a plot of land from the informal market follow more or less predetermined procedures and activities (Achamyeleh, 2014).These key activities/stages in the process of informal acquisition and development of land are: 1) identifying a plot for sale; 2) showing an interest in the plot; 3) studying the behavior of the seller; 4) undertaking price negotiations; and 5) concluding and evidencing the transaction by traditional agreement or contract.

Even though the contracts signed by transacting parties in front of community elders are not valid and have no legal ground, these documents/contracts play a significant role in avoiding future land-related conflicts between the transacting parties. Moreover, the behavior of the seller also plays a significant role for the conclusion of land transaction. It is only after the informal buyer has developed trust in the behavior and reliability of the seller that the process of negotiation for transaction will start. As a result, it is possible to say that informal land transaction in the area is mainly built on trust, with no legal documents involved. In the case study area, social norms like

trust play a prominent role in the regulation of the behavior of transacting parties (Rakodi and Leduka, 2003, Berner, 2000).

Achamyeleh (2014) have also shown that traditional social institutions such as *Idir and Iqub* play a significant role in creating stability in the informal settlement areas. Land-related conflicts in this area are mainly solved by the intervention of elders and/or leaders of traditional social institutions in the village. As neither party has legal grounds to seek justice in the formal judiciary system, land-related disputes cannot be brought to court. The conflicting parties prefer to take their cases to the socially respected elders and leaders of *Idir* in the village, who are quite efficient in solving such conflicts even in the formal settlements. When conflict arises in a village, leaders of traditional social institutions or elders in the village act as mediators and are expected to bring the conflicting parties together face to face and urge them to reach an agreement by proposing solutions. If the conflicting parties cannot reach an agreement or if one of the conflicting parties does not accept the solutions suggested by the mediators, the declining party may face problems like being excluded from social affairs in the community. Therefore, Berner's (2000) idea that social sanction measures play a highly significant role in maintaining social stability in informal settlement areas where the system is apparently outside the formal regulatory framework.

Moreover, traditional social institutions play a significant role in mobilizing the community for shared societal benefits. Informal settlers in the area also use the local social institutions *(*e.g. *Idir* and *Iqub)* to act together and pursue shared objectives and interests. These local institutions play a significant role in negotiating with government bodies to claim formalization or in organizing resistance against forced eviction.

Ramachandran (1992), one of the authors on fringe areas in India, has observed the gradual phase wise development of rural-urban fringe and presented the transformation processes which is taking place using a model called stages model. He postulates that the villages beyond the limit of a rapidly growing city like Indian cities undergo a process of change that ultimately result in the complete absorption with in the physical city. This shows that the mechanism of change involves primarily a land use change and then the socio-economic setup of the community. The nature and magnitude of the change, in fact, depends on the interaction between the surrounding villages and the city. Therefore, Ramachandran has identified five distinct stages in the process of fringe development and maturity (see Figure 3.2 below).

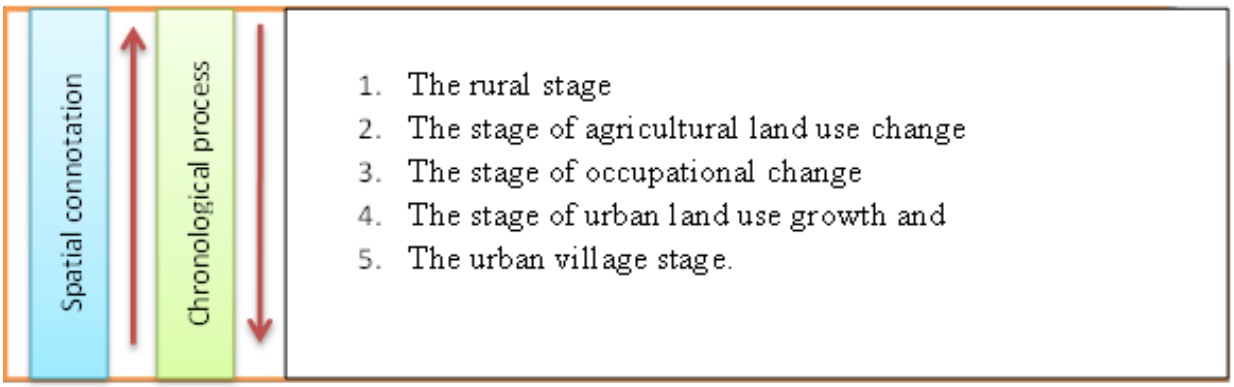


Figure 3.2: Stages of Urbanization of villages in the urban fringe, Source: Adopted from J.V. Bentinck (2000) quoting R. Ramachandran (1989)

3.5.1 Formal (Institutional) channel

The process of land supply for urban development in Ethiopia is largely based on land reacquisition from local peri-urban farmers and reallocation of land to private developers and others by the government. Therefore, the urban growth and development process in Ethiopia is a four-step phenomena. The first step of urban growth and development requires incorporating the peri-urban area into the city administration's master plan and jurisdiction. The major activities in the second and third steps of urban growth in Ethiopia are expropriation and redevelopment of the area by providing basic infrastructure. The final step in the process of urbanization in Ethiopia covers mainly those activities related to reallocation of the redeveloped land to private developers, investors, and other urban groups through lease contracts on the basis of annual ground rent for a specified lease period (See Figure 3.3)

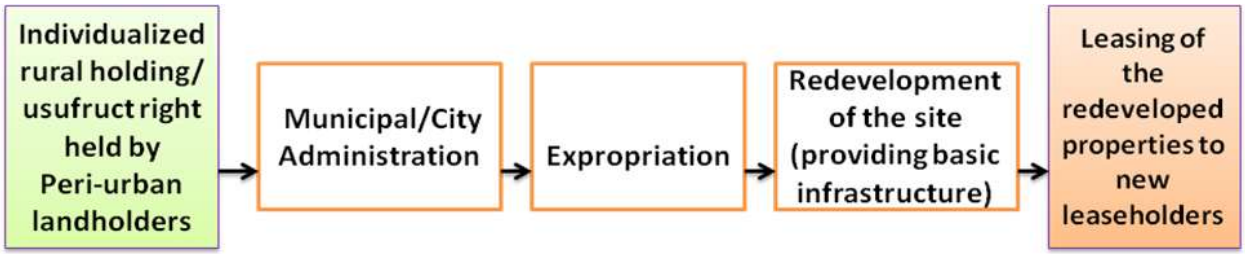


Figure 3.3: Urban land development process in Ethiopia. Source: Achamyeleh (2014)

Land rights held by local peri-urban communities are at risk of further erosion as a result of the growing demand for land for urban purposes (Achamyeleh, 2014). The land rights formerly exercised by local peri-urban landholders could no longer be exercised after the land became part of the urban territory. As the peri-urban land is needed for urban expansion purposes, local landholders are left with smaller portions of land or none at all. Usually, the new recipients of land

from peri-urban areas through lease contract are not from local communities, but rather urban-oriented people engaged in non-agricultural activities. As a result, local agricultural communities appear to hold land temporarily. However, evidence from other African countries shows that neglecting the land rights of the local peri-urban people is an important factor undermining tenure security, which fosters land conflicts (Tibaijuka, 2004).

Thus, the impossibility of converting the rights of local peri-urban communities into urban land rights is a critical deficiency in the urban land development process in Ethiopia, which has triggered tenure insecurity in the area. As urban boundaries approach peri-urban territories, local landholders in these territories are assumed to be subject to expropriation. As a consequence, a sense of land tenure insecurity is a more prevalent problem in the transitional peri-urban areas than any other geographic areas in Ethiopia.

3.5.2 Informal channel

The peri-urban areas located at the receiving end of urban expansion are most often associated with unregulated urban expansion and development (Home, 2004; Kombe, 2005; Nkwae, 2006). Transitional peri-urban areas are therefore fertile grounds for the mushrooming of new informal settlements, which will also be accompanied by the formation of new built-up property rights. Informal settlements from the perspective of this study refer to those housing units which have been constructed on land to which occupants have no legal claim or those constructed housing units that are not in compliance with the land use planning and building permit requirements of a given country (UN-HABITAT, 2003). In other words, "informal settlements" refers to the contravention of official law with regards to occupation of land, its use, subdivision standards, and ways of transferring or bypassing official requirements for building permits.

In the Ethiopian context, peri-urban land which has been used predominantly for agricultural purpose and held by local farmers is a potential target area for informal development (Achamyeleh, 2014). From the point of plot acquisition and construction, there are three possible ways which may lead to the creation of new built-up interests and rights outside the formal regulatory framework. The three aspects of informal settlements typical to the peri-urban areas of Ethiopia that can lead to the formation of new rights are: 1) forceful occupation of vacant state land; 2) illegal purchase from the rightful local landholders; and 3) unauthorized subdivision and construction by the rightful local landholders themselves.

After plot acquisition or occupation and construction of a sub-standard structure, people will settle in the structure and start to request the local government to provide basic facilities such as water, electricity, school, and community police and so on. The last, very critical and challenging, request to the local government from the settlers will be formalization or legalization of their occupation and construction. The government's response to this request can take on two contrasting guises. The first response would be accepting the request and concluding a leasehold agreement with the informal settlers, while the second response would be rejecting the request of the settlers and demolishing their houses (see Figure 3.4).

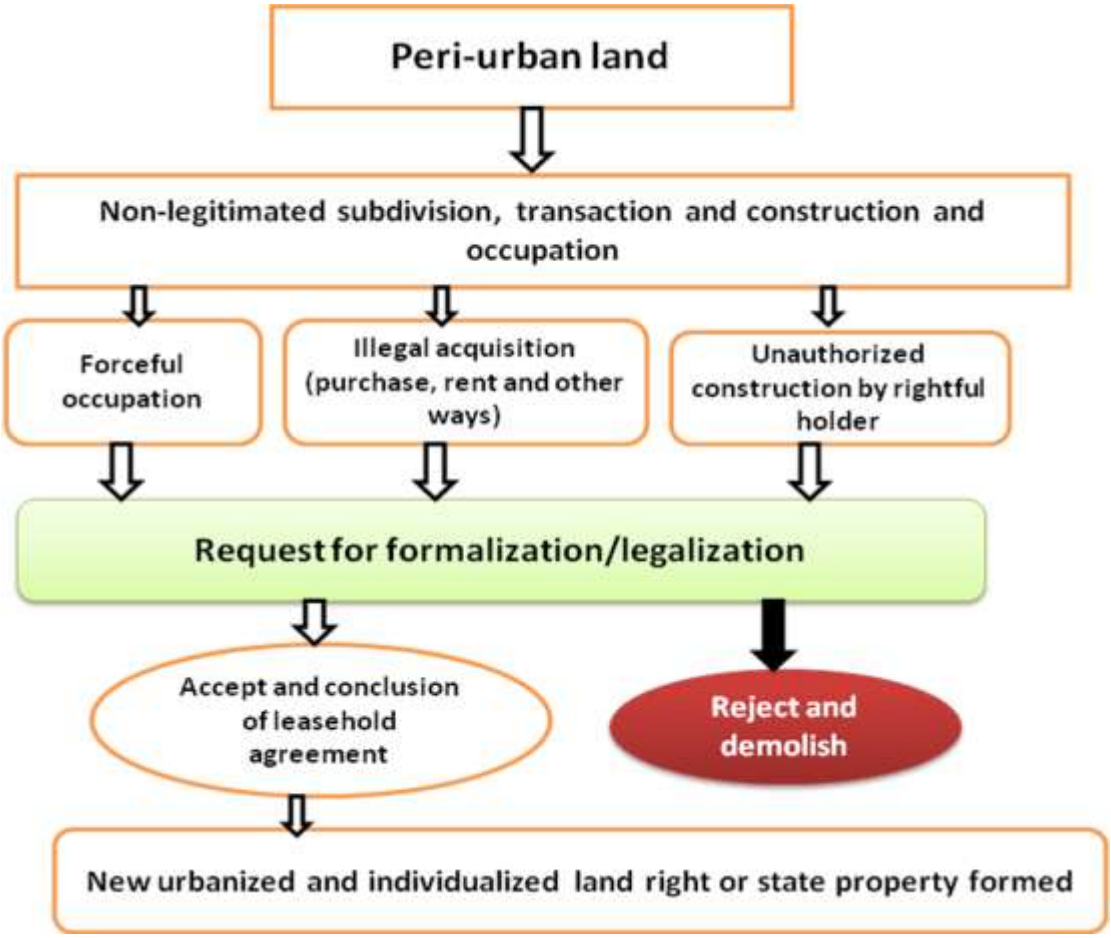


Figure 3.4:Built-up property right formation process through the informal channel: Source: Achamyeleh (2014)

3.5.3 Binary continuum (new channel)

Achamyeleh (2014) formation and emergence of new land rights in peri-urban areas of Ethiopia in the process of urbanization occur in the binary continuum of land rights paths i.e. between informal and formal (see Figure 3.5). The first path is the process of institutionalized conversion of the formal usufruct system to the formal urban leasehold right system via expropriation and reallocation

measures. The second path of new land rights formation is the move from informal to formal urban leasehold rights after legalization and formalization of the informal rights by the state. Originally, the informal rights or interests were formally recognized rural usufruct rights which had been converted into different levels of informality by local peri-urban landholders or other actors, mainly due to the increasing pressure from urbanization.

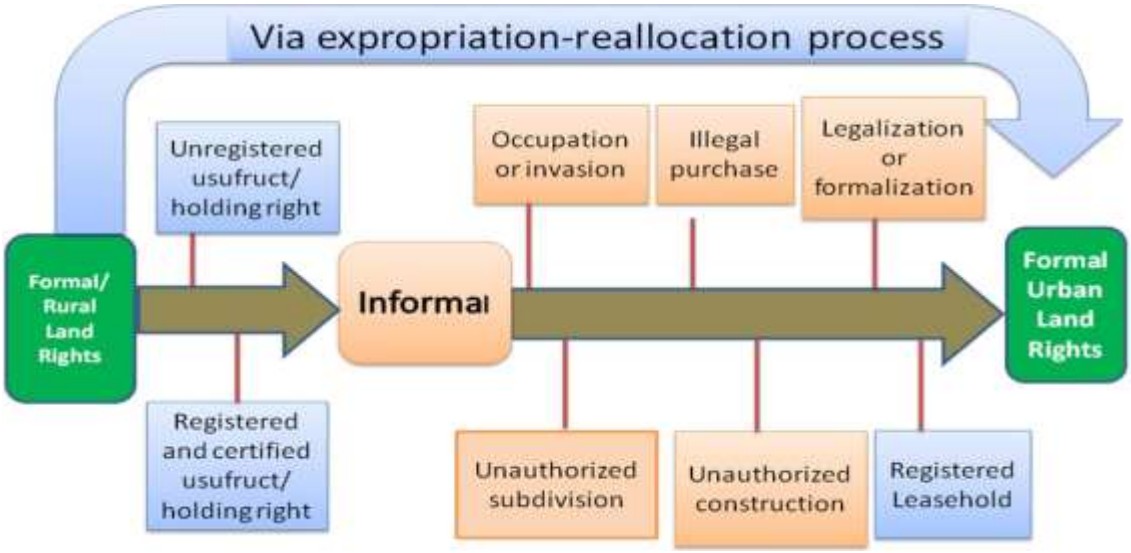


Figure 3.5: The binary continuum of land rights path in the peri-urban areas of Ethiopia. Source. Achamyeleh (2014).

3.6 Factors of Peri-urban transformations

3.6.1 Population Growth (rural-urban migration)

Population growth is one of the main factor for urban expansions. Urban researches predict that, due to population growth, by 2030, generally urban areas will expand by more than 463,000 square miles, or 1.2 million square kilometers. Africa's urban land cover will grow the fastest, at 590 per cent above the 2000 level of 16,000 square miles. Urban expansion will be concentrated in Africa's five regions: the Nile Delta in Egypt; the coast of West Africa on the Gulf of Guinea; the northern shores of Lake Victoria in Kenya and Uganda and extending into Rwanda and Burundi; the Kano region in northern Nigeria; and Greater Addis Ababa, Ethiopia (Herlitz, 2012).

A study conducted in China regarding the driving forces of urban land expansion by Liu, Zhan and Deng (2005), taking case studies of 13 mega cities in China indicated that urban expansion had been largely driven by demographic change, economic growth and change in land use policies and regulations. In the study it is found that while demography and economies are the most important

driving forces for urban expansion, social and economic behavior dominates the processes of urban growth and expansion.

According to Shuaib (2009), several drivers explain urbanization in sub-Saharan Africa. The drivers include both underlying and proximate factors. The underlying drivers of urbanization include population dynamics or urban population growth and rural to urban migration. These factors are the most significant driving forces of urbanization. Through natural increase due to high fertility rates across the region, coupled internal migration and international migration. The urban population has steadily grown in the last three decades faster than the pace at which urban services and housing are provided but also increasing the demand for services.

Ethiopia is the second largely populated African country with an estimated population of 84.7 million inhabitants in 2011 (UN-HABITAT, 2012). However, the country currently sees high urban growth rate. Ethiopia, still being one of the least urbanized countries in the world (17 per cent), has one of the fastest rates of urbanization (4.34 per cent) higher than the average growth rates of the Sub-Saharan Africa (3.95 per cent) (Wondimu, 2012).

Most rural people in Ethiopia tend to move to urban areas either because they are attracted by the settings and situations in urban areas such as better standard of living, better chance for employment opportunities, sufficient provision of social services or because they are forced by the conditions in rural areas such as scarcity of agricultural land, stagnation of the agricultural sector and rural poverty. In Ethiopia, rural-urban migration is closely linked to environmental degradation and rural poverty. This phenomenon has been exacerbating because of the continuing ecological degradation, drought, famine and other natural catastrophes put much pressure on urban areas in socio-economic, legal, political and environmental terms.

As a result of high incidence of net migration, the growth of urban centers is exceeding the rate of population growth at national level. Obviously without socio-economic development along side with the rapid urbanization process, there will not be a balance between the increasing urban population and available economic opportunities and social services. However, rural-urban migration in Ethiopia has been significantly a response to push factors related to ecological degradation and poverty in rural areas than the availability of opportunities in cities that pulls the migrants to join the city. For instance, according to the 2007 Population and Housing Census about 48 percent of the residents of the Addis Ababa were migrants. Moreover, during the census period nearly 14 percent of the migrants had stayed only a year or less in the city (CSA, 2007). One study

conducted in 2008 showed that unlike earlier reasons of rural-urban migration in Ethiopia i.e. negative rural-push factors, it is search for an educational opportunity which is urban pull factor that drive them to the city as reported by the majority of the migrants (World Bank report, 2008).

3.6.2 Housing Shortage

Housing accounts 70 percent of land use in most cities and determines urban form and densities, also providing employment and contributing to growth. However, over the last 20 years, housing has not been central to national and international development agendas and this is evident in the chaotic and dysfunctional spread of many cities and towns (UN-HABITAT, 2016).

According to UN-HABITAT (2016), housing shortfalls represent a challenge that is hard to measure. In 2010, as many as 980 million urban households lacked decent housing, as will another 600 million between 2010 and 2030. One billion new homes are needed worldwide by 2025, costing an estimated $650 billion per year, or US$9-11 trillion overall. In addition shortages in qualitative deficiency are much larger than those in quantity.

City-ward migration is contributing much for the problem. People migrate to the capital in search of job from different corners of Ethiopia. Housing is a basic requirement for any social class. But the housing condition of the city is by far inadequate in quantity and quality terms to meet the needs of the residents. In the past open spaces have been separating the compounds of the dignitaries from the subordinates. This original settlements supported by the prevailing social, cultural and economic conditions eventually led to the gradual filling up of those vacant spaces. Later, residential structures emerged and this condition continued until the recent times which affected the very structure of the city and hence residential development structures of the city for the latter periods (UN HABITAT, 2007).

One of the major historical causes for the shortage of housing in Ethiopia is nationalization of urban land and housing with the proclamation No. 47/1975 which banned on the private sector housing production. The public sector on the other hand was neither willing nor capable of producing affordable rental accommodation. This condition paved a way for the proliferation of squatter settlements and informal occupancy of land in the fringe areas.

According to the household survey conducted in 1996, the projected housing demand in Addis Ababa was estimated to be over 22,000 units per year on the average. The existing shortage of houses is expected to increase in the city since the effort exerted to construct more houses is limited. The problem could even be more challenging, considering the provision of site and services.

Housing crisis of the city of Addis Ababa highly affected the low-income group which accounts more than 90 per cent of the city's population. The existing housing shortage which is the main problem of the city is created as a result of rapid population growth and insufficient housing supply to satisfy the newly forming households.

According to the UN estimate, by the year 2050 Addis Ababa's population will grow from 4 million to 12 million. Even massive housing programs like the on-going condominium housing project may not be able to keep with this type of the demand. This condition forced the low income households to be engaged in informal settlements and squatter settlements around the fringe of the city. Others who are not able to afford for the ever increasing housing rent in the centre of the city are escaping to the peri-urban areas even beyond the boundary limit of the city administration. The concentration of such people including the new migrant population who temporarily stay in the fringe areas caused the expansion of both formal and informal settlements over the agricultural fields (Azeb, 2007).

3.6.3 Economy (Market Failure and Informal Access to Land)

Government policies and delays and inefficiencies with the formal land delivery process drive many people to access land through an informal system. Some empirical sources, for example, (Tendayi, 2009) ascertains that deficiencies of the public land management system (especially the land allocation process) have led to the evolution of informal land markets. He further added that the demise of formal land supply has subsequently seen the emergence of opportunistic and informal land supply tendencies. Many households have turned to the informal land markets to compensate for the deficits of the formal land supply market.

The growth of informal settlements in the transitional peri-urban areas was driven by both pull and push factors. As a pull factor, the local peri-urban landholders' behavior and interest in selling their land on the informal market has attracted large numbers of low-income households from the inner city and other parts, seeking an alternative source of shelter. Informal plots which were subdivided illegally by local landholders are relatively cheap and affordable to low-income groups, which has drawn these groups of people to the peri-urban areas (Achamyeleh, 2014). The deficiency of the formal land and housing delivery system in the urban areas is an important factor which has been pushing low-income groups to peri-urban areas to find shelter. According to Achamyeleh (2014) large number of the urban residents, mainly the urban poor, have been pushed to the unplanned peri-urban areas due to the inability in paying rent, paying for land leases or paying for condominium housing programs. In general, the idea that informal settlements in the peri-urban areas are both

responses and witnesses to extensive urban poverty and signal for the failure of urban governance (Huchzermeyer, 2011).

Land value according to Pendall (1999) is one of the most significant drivers of peri-urban development. Increase in land value in the centre of city and relatively the presence of cheap land value in the outskirts of the city and surrounding villages drive the people to leave the city centre for fringe areas. The aim of such middle and low income residents is to establish their own house by accessing land for low price as they are not able to afford the land cost in the centre of the city.

In the case of Ethiopia, Addis Ababa, for collecting huge amount of revenue from the selling of land on leasehold basis the government purposefully displaces the original residents in the inner city for the sake of urban regeneration or urban redevelopment. Those newly prepared lands in the centre are very difficult for any ordinary person to buy or to access as the prices are very high making totally the housing market and land market in the city boundary unaffordable for the low and middle income residents of the city. Sisay (2012) explains that such practice shows that the main customers of private sector real-estate developers are rich Ethiopian diaspora who can afford for the inflated market price. Even in the peri-urban areas the low and middle income households are not able to get land and housing in an affordable price because of the influence of the real estate developers who deliberately in collaboration with some government officials hike the price. Therefore, the low and middle income households are sandwiched between the rich business people both in the inner city and the rich real estate owners in the suburbs. Thus, the poor are pushed away further deep into the rural areas in order to get access to land and housing. This in fact has double problems. One is the fact that urbanization is going farther in to the rural areas and in the second case still the poor are put in the problem of high transportation cost because their residence and work place are separated.

3.6.4 Intergovernmental Land Ownership Rights and Land use Planning Practices

There are three land tenure regimes in Ethiopia so far including the current government on power i.e., the pre- 1975 (the Feudal regime), between 1975 – 1991 (the Socialist *Derg*[6] regime*)* and the post 1991 (the current EPRDF[7] in power). Before the nationalization of urban land in 1975, both urban and rural lands could be sold, rented, leased, inherited or transferred as a gift. Proclamation 47/1975, which introduced the monopoly of land ownership by the state, abolished private

[6] *Derg* is a military junta that ruled Ethiopia from 1974-1991

[7] *EPRDF*- Ethiopian People Revolutionary Democratic Front

ownership of land and banned any form of transaction in land. The reform brought to an end the exploitative type of relationship that existed between tenants and landlords. Tenants became own operators with use rights, but with no rights to sell, mortgage or exchange of land. The state took over total responsibility for land provision, development, and control. Accordingly, urban land management became a highly centralized operation under the then Ministry of Housing and Urban Development that oversaw the implementation of the policy through its regional branches and urban dwellers associations established at the city and neighborhood levels.

The socialist urban land management permitted the acquisition of land with nominal payments and annual land rent that did not reflect the market value of land. This is reckoned to have resulted in the sub-optimal use of urban land and competition for the mere grabbing of urban land by public agencies, individuals, and businessmen, especially after the introduction of the mixed economic policy in the late 1980s. In the meantime, the development of urban land had been largely neglected as municipalities were deprived of their revenue basis and the government was preoccupied with the drive for the socialization of the whole economy, heavily investing on state enterprises. In more general terms, a workable cost recovery system that could have otherwise ensured sustainability in land provision was not in place. This had invariably led to an ever-increasing gap between the supply and demand for developed land, which, in turn, gave rise to speculation in illicit transaction of land (Bacry, Admit and Sileshi, 2011).

By 1991, came the EPRDF who overthrown the socialist government and took power. The EPRDF introduced new policies regarding urban land, but state ownership of land has continued as under the previous regime. Proclamation No. 80/1993 of the Transitional Government of Ethiopia introduced urban land use through leasehold system (under rental regulation). The EPRDF government revised the urban land lease proclamations series of times with the fundamental principle of land ownership right and leasehold rights were unchanged.

In principle the urban land policy of Ethiopia since 1993 has prohibited the illegal invasion of urban land as well as the marketing and exchange of land as a private property. However, the urban land proclamation opened a space for land speculators to transfer the land leasehold right for a third party with a big profit without significant development added on the land.

Basically urban land leasehold proclamation No. 721/2011 has incorporated a system to control the transferring of undeveloped leasehold land to a third party. However, the leasehold land can as stipulated under Article 24 sub Article (2) and (3) still be transferred to a third party even without

any value added on the land, but through the responsible authority. In that case the land lease holder is entitled to get the cost of any developments on the land. The amount paid for the leasehold including interest as calculated with a bank rate as well as 5 per cent of the transferred lease value. This proclamation still offers an opportunity for the so called investors (who are now playing the role of land speculators) and sharing their speculation benefit with government.

One major problem reflected in the present land ownership and land market issue is the flourishing of private sector housing production either through cooperatives of real estate business. Land is largely been abused by the investors especially those who obtained land through lease contract for real estate business. The government regulations are biased to the investors who are now playing the role of speculators. Thousands of hectares of lands are brought under the real estate market where the owners first agree to start the construction soon but they keep the land idle for a number of years which intensified land speculation in the peri-urban areas.

3.6.5 Urban growth strategy: expropriation

Currently, urban centers or cities in Ethiopia are struggling with the increasing demand for land for different urban development purposes, which makes the urban land delivery process a critical land policy matter in Ethiopia. As a response to the growing demand for land for rapid urbanization and the need for modernized infrastructures, the government has been implementing expropriation and reallocation of land mainly from peri-urban areas (FDRE, 2013). The affected peri-urban landholders who cease to possess their land due to urbanization are entitled to substitute land or cash compensation. The federal legislation dealing with expropriation has rationalized the process based on a sense of public purpose (FDRE, 2005).

However, the real practice shows that expropriation in Ethiopia is the main tool that supports urban expansion and makes land available to private developments such as residential complexes, commercial centers and other investments. These private developments are wrongly perceived by local authorities as developments in line with the public interest (Deininger, Selod and Burns, 2012; World-Bank, 2012). The World Bank's 2007 research covering selected peri-urban/rural sites revealed that more than one-third (almost 37 percent) of households lost their holdings to private investments or urban expansion through expropriation. It was also estimated that more than 50 percent of the expropriated land in the past three years is used for private purposes (Deininger et al., 2012).

Moreover, the process of urban expansion and large-scale private development in peri-urban areas through expropriation does not entail participation and negotiation between the affected local peri-urban landholders and private developers (Achamyeleh, 2014). The amount of compensation actually received upon expropriation over the past few years indicates that the system is generally characterized by unfair and inconsistent valuation methods, leading to inadequate compensation (Alemu, 2013; Anteneh, 2007). The widespread applicability of expropriation of peri-urban land and reallocation of expropriated land to the urbanities through lease contracts clearly reveals that there is no mechanism for converting the land rights of local peri-urban farmers into urban rights during the process of urbanization (Achamyeleh, 2014). Thus, the urban growth strategy of Ethiopia is quite backward and lacking adherence to good international practices. Good international practices on land acquisition and development facilitate the conversion of the rights of local or original landholders into urban land rights (World-Bank, 2012).

3.6.6 Land governance and administration

The overall mandate to enact laws for the utilization and management of land and other natural resources in Ethiopia is given to the federal government (FDRE, 1995). Simultaneously, the responsibility to administer land and other natural resources is given to regional states within their jurisdictions. Institutions responsible for administration of land are divided for rural and urban land despite the fact that there is an overlap, leading to conflict of interest and lack of clarity on the matters related to peri-urban land. Responsibilities are also shared between the federal and regional level, with large differences in structure and capacity between the regional states (Achamyeleh, 2014).

The bifurcation of the land administration institutions into urban and rural, typical to the Ethiopian context, has created a favorable ground for the emergence of informal settlements in the transitional peri-urban areas. The loose coordination between the two land administration institutions and lack of clarity on the matters of peri-urban land has created room for local peri-urban landholders to subdivide and sell their land on the informal market (Achamyeleh, 2014). For instance, when the urban administration adapts a revised master plan that includes the periphery in the urban center, without expropriating and putting the land into its land bank, the newly created zone falls under neither urban nor rural jurisdiction. In other words, this may lead to the creation of a power vacuum zone, with the peri-urban areas falling under no one's jurisdiction. The creation of a power vacuum peri-urban zone would entail an opportunity for peri-urban farmers to transform their agricultural

lands into residential plots by subdividing and then selling the plots without any interference from government bodies.

In general, lack of policy instrument for the development and management of peri-urban areas is a major challenge for the administration of cities and their surrounding peri-urban areas.

3.7 Actors of peri-urban transformations

In an attempt to understand the most important actors Bryant, Russwurm and McLellan (1982) listed the state, the grassroots i.e. the poor farmers, businessmen and others are among the core stakeholders who play their own role in the peri-urban land development and change. To better understand the factors behind land use/cover dynamics from the actors side it is wise to see the role played by the government and its agencies ,the farmers who gave their land, businessmen who bought land, property dealers with the major focus on land market and the developers. (See Table 3.1).

Actors	**Interest and Motivations**	**Roles in land development and transitions**	**Roles in land development and transitions**	**Degree of Influence**
Government political leaders from higher to local level	Guide development Make political interactions with business people and make financial benefits/revenues	Policy making and project approval Influence decision making process	Formal and in some cases informal	High
Land sellers (when farmers individually sell land)	To get high price of Land	Selling land willingly or Forced to sell by some political pressures	Informal	Depends on the political pressures
Private formal Developers	Generate financial benefits through speculation	Land developers	Formal	Very significant in their influence to promote or hinder dev't
Land brokers and middlemen	Profit maximization from the profit gained by the seller	Enhance transaction in the form of service delivery	Informal	Depends on their number of customers

Table 3.1: Actors and their role in peri-urban transformation. Source: Compiled from (Bryant and Bailey (1987), Bentinck (2000) and Masum 2009), Yirgalem (2009), Hersperger et al. (2011)

Bryant and Bailey (1987), Bentinck (2000) and Masum (2009) made two major distinctions or divisions while discussing the actors in land use issues. One is the division in to private and government actors and the second one is formal and informal actors. But these two divisions are

highly interrelated and thus the informal and unplanned concessions of land are mainly initiated by the private actors. This shows that the informal actors are the private actors but in some case there are some government actors who fall in this category. The formal side that play the role of land supply and spatial planning are the government bodies who are supposed to be the formal actors.

3.7.1 The Government and its Agencies

There is always a variety of pressures put by many interest groups for land use in the peri-urban area. One of the major interest groups and in fact the major initiator goes to policy makers who are responsible to manipulate the government and who are responsible to develop government policy and promulgate urban planning regulations. The government is responsible to regulate project development, evaluation and approval and follow up the policies designed and development ventures planned and overall decisions. In doing that the government enters into the play in many forms (Bentinck, 2000). The interest and objectives of authorities do not only vary according to the role they have as an institute but many times reflect individual or frictional interest, depending on many personal agendas (example: the role played by politicians) which finally opens the door for informal actors who are powerful to act by manipulating government administration.

In Ethiopian Federal system the government bodies is made of three levels: the Federal government, the State (Regional government) and local (municipal) authorities and their agencies. Each one of them has different responsibilities but the same goal. The federal government with its relevant agencies sets policies and promulgate regulations and laws but the local administration implements the policies.

(Yirgalem, 2009) in his study of the situation of informal actors in urban land management in one of the sub-cities of Addis Ababa, the Kolfe-Keranio sub-city, has identified the major actors in the informal land delivery system; the residents of informal settlements, land brokers, land speculators, local farmers and state agents. In his study he also noted that the inadequacy of the formal urban land management and infrastructure provision forced most of the residents of the city of Addis Ababa to involve in informal activities in urban land and basic services.

3.7.2 The Private Developers

Among the diverse local actors who have the role to play in the demand side of the land market in the peri-urban areas is the investor. Private sector players are actually not limited only to the investors alone but include some of the farmers themselves, different entrepreneurs and speculators, brokers and property dealers and many other invisible groups. The private sector investors can also

be grouped into local investors and foreign investors. The local investors include those investors who are willing to establish real estate developments for local purchases to accommodate the spill-over population and the people who need the highest quality residential villas.

The local investors who sometimes are called as developers are people with strong financial basis and political affiliations with the government in power. With exception of very few developers, the majority are indirectly owned by the government officials and their agents. They are the decision makers for everything and can easily own land for their investment ventures. They are also the one who carry out developments in unauthorized manner. They also snatch land from other developers who have no political support or contact with them. This group of investors/developers are also among the major speculators of public land and have very keen interest to remain in land market as far as they are the most beneficiaries (Sisay, 2012).

Foreign investors who got positive support from the government invest in huge projects of different kinds. For example the majority of flower farms in and around the peri-urban areas of Addis Ababa are owned by investors from the Netherlands, Turkey, India and other countries. Chinese companies are well investing in tannery projects and other service sectors. These foreign investors are attracted to invest in Ethiopia due to cheapest land access and thereby in order to make maximum profit with little or no care for the future environmental safety of the country. Such problems are in fact partly contributed by the law enforcing bodies of the host country (Edessa, 2010).

3.7.3 Property dealers and others

The other group of private stakeholders who involved in both the supply and demand in the land market and who speed up the pace of land conversion are the property dealers and the brokers. Property dealers always and everywhere intervene in the process of land acquisition through expropriation. As soon as they come to know about the area targeted for the acquisition, they start approaching the persons to be affected and try to instigate them to purchase land from such people by giving them some incentives. Sometimes they even cheat the affected people who are not eligible to complain that issue because from the very beginning they did wrong things in dealing with property dealers. After purchasing the land they demark the plot and start selling. If their customers are reluctant of buying bare land due to some regulations they themselves construct houses or some other structures and consult the local leaders who are the other beneficiaries indirectly and who are in turn linked to planners and higher officials, for regularization of the property in the name of their customer. This way every one working in the system has become “land mafia” and diverted the

plans and policies set on paper for other purposes. Property dealers and brokers are known for lobbying farmers to sell their land informally than the government acquires the land for meagre compensation payments (Sisay, 2012).

Property dealers or land brokers are the one who have clearer access to the most detailed local information on the legal status, ownership, prices and the person who is interested to sell land. The local authorities do not have such detailed information as much as the brokers do. In some of the localities in the fringe of Addis Ababa city, there is collaboration between individual brokers, 'invisible hands' of local authorities and some of financially powerful local residents who push the farmers to sell their land informally to them and for some time the brokers hold the land for quick profit. They have the local authorities for information provision regarding what the government is planning to do. Some property dealers actually negotiate the transaction with the farmers by keeping the authorities at bay. Then after getting adequate information they sell the land for those people who come from the city centre and who are in urgent need for housing. All these transactions are carried out informally and in unauthorized manner. Few farmers have such information and they are busy in getting involved in such activities. In such a manner lager hectares of land is put to non-agricultural activities, especially housing in the peri-urban areas (Achamyeleh, 2014).

It is in this way that some opportunistic groups have emerged and benefited but the vast majority of rural farmers have lost their land and livelihood to both the legal government land expropriation and informal land market.

3.8 Form determinants

Rapoport (1969) in his prominent work 'house form and culture' discussed possibilities of factors to affect housing and settlement form. Form determinants are categorized in to physical and social/human factors. Physical ones include climate and the need for shelter, materials and technology, and site. While social ones include economics, defense, and religion. Rapoport (1969) made corrections on previous faults on assumptions of form determinants. These are: first, they have tended to be largely physical determinants in nature. Second, no matter which specific form determinant has been stressed, the theories have inclined to attribute form to a single cause. According to his analysis this theories failed to express that complexity which can be found only through consideration of as many as possible variables and their effects. Therefore, his study reveal

the existence of multiple determinants of form and there is no single determinant of a given settlement and housing form.

Further, Rapoport (1969) elaborated existence of house forms which contradict climatic conditions, in some cases existence of similar type of houses in different climatic zones and in some others like Aborigines in Tasmania had no houses in area of cold climate. Therefore, there are cases in which the way of life may lead to almost anti climatic solutions, with the dwelling form related to economic and social activity rather than climate that might occur due to Primitive and peasant builders needs and drives which are "irrational" in terms of climate. These may include ceremonial and religious beliefs, prestige, status, and so on. The existence of frequent anti climatic solutions leads one to question the more extreme climatic determinist views, and suggests that other forces must be at work.

Taut (1959) mentioned in Rapoport (1969) support non-determinism of material, construction and technology by giving different examples such as in Japan, thatch takes on many forms, sizes, and slopes (Taut, 1959).All houses in the South Seas use the same basic technology-polished stone and shell adzes-and materials, yet their numerous forms differ greatly. While the tools used in Polynesia and Melanesia are the same, the houses are much grander in the former because of different social organization and prestige of ruling families. Similarly, in Papua-New Guinea the same materials and technology have produced very different forms. In contrary, Change of materials does not necessarily change the form of the house, for instance Mongol Yurt is now being built with plastic rather than the traditional felt covering, but that its form has remained unchanged in all respects (Dunod, 1957).

Similar with other physical factors Rapoport (1969) argues site as a modifying factor. He used different examples to proof this. For example, Jackson (1951) mentioned in Rapoport (1969) discusses the case in the southwestern United States, where areas of similar site and climatic conditions have been the setting for both the highly individual Navajo house and the Pueblo cluster, which is basically a social unit the collective nature of which is essential, There are also profound differences between the landscape, settlement pattern, and house forms in Chihuahua (Mexico) and Texas, which are separated by the border, an imaginary line in physical terms, but very real in terms of attitudes to life, economics, nature, and the meaning attached to the house and the city.

Furthermore, orientation of houses sometimes disregard topography/site, for instance house orientation in japan determined by Hogaku system; in India houses on steep hillsides are so strictly

oriented to the East that the doors face up the slope (David Sopher, 1964); and In the Gilbert and Ellice islands houses are oriented to the forces of the Universe rather than to the topography, as was also the case in China (Peter Anderson, 1963). In addition, regarding house types, similar types are built on different topographic features, for example in Latin America and some African and Asian cities the courtyard house was built on both flat and hilly sites, although some modifications which is introduction of steps as the case of hills did occur (Rapoport, 1969).

Similar with physical determinants, forms and spatial configurations may vary from place to place depending on family and social organization. For example, Beguin, kalt et al (1952) cited in (Rapoport, 1969) explained this by the following examples; in case of Masai, where defense is obviously of great importance, the specific form of the dwelling is related to their attitude to cattle, which is a very different matter. Whereas, in the Cameroons the need for defense is handled very differently because granaries rather than cattle are important, and there is a different value system. Within the same area of the Cameroons, where the danger of attack is relatively constant, the forms differ depending on whether the family is polygamous or monogamous.

In addition, Economics has been widely used to explain settlement and building form, and its importance is indeed great. In an economy of scarcity the need to survive and to use resources maximally is so great that these forces may be expected to wield tremendous power. Rapoport (1969) however, present many examples for instance, herders living among agricultural people and not only failing to accept the economy available, but despising it and the people who practice it. H. Epstein (1962) cited in Rapoport describe the case of the Masai, Bakitara, and Banyankoli in East Africa avoid the economic possibilities of the examples around them, and use their cattle unwisely in economic terms because of the social and religious importance of cattle . therefore, he argues that even under those conditions, economic forces are not dominant, then the argument for economics as generally determining form becomes rather suspect.

People with different economic activity and status may have the same type of houses and also those with the same economic activity and status may build different types of houses. Sometimes people build expensive houses which is beyond their economic capability. According to Rapoport (1969) economic life has no determining effect on house form since people with similar economies may have different moral systems and world views, and since the house is an expression of the world view. He also give an examples for this, such as in Annam, as soon as a peasant has money he builds a house, beautiful but not comfortable, and beyond his means; there are more rich houses there than

rich families. Even nomads, for whom the economic base affects house form by imposing the need for mobility, use widely varying forms. The Yurt of the Mongols, the hexagonal tent of the Tibetans, the numerous forms of the Arab tent, and the tepee and substantial, yet mobile, wooden houses of the Indians of the Pacific Northwest are all very different. Apparently even so critical an aspect of economic life as mobility does not suffice to account for house form, although it exerts great constraints. Rapoport (1969) also argues that the fact that every town wants a tall building is also a matter of prestige, and such aspects may still affect housing in many areas.

Another human factor is religion determinism, which has been expressed best by Deffontaines and Raglan (Rapoport 1969). The latter takes the more extreme position which he sums up as "the sacredness of the house" and succeeds in demonstrating that the house is much more than shelter. It becomes clear that this alternate view explains many aspects of the house at least as well as the physically oriented view of the house as shelter. However, the religious view is over simple in trying to attribute everything to a single cause. It is one thing to say that the dwelling has symbolic and cosmological aspects, that it is more than a device for "maintaining the equilibrium of the metabolism," and another to say that it has been erected for ritual purposes and is neither shelter nor dwelling but a temple. Rapoport (1969) argues religion affects the form, plan, spatial arrangements, and orientation of the house, and may be the influence which leads to the existence of round and rectangular houses. However, he also explains it would be wrong to say that all these aspects of dwellings have been determined by this single variable.

In general, Rapoport (1969) concludes that form determinants are mostly implicit than explicit. His arguments reveal the existence of other factors at work. Therefore, it is impossible to think that there is a single determinant of housing and settlement form.

3.9 Sense of place: transformation on physical setting, activity and meaning

Unlike a space, a place is a setting with meanings. When a space is perceived and felt significant, it becomes a place (Taun, 1977). Based on the well-known theoretical model of "John Montgomery" (known as place type), a "place" consists three tangled dimensions "form", "Activities" and the "imagination". According to the theory, the quality of urban design is the result of the three components. According to John Punter (1991) the three components are "form," "activities" and "meaning", which is almost similar with that of Montgomery (1998).

Place meaning is a form of connection or relationship between a person and the setting (Montgomery, 1998; Punter, 1991). (See Figure 3.6 and 3.7). People's interaction with places supports place attachment. These affective dimensions contribute to developing the perceived quality of a place and meanings attached to the experience. The meaning and importance of a setting held by an individual or group based on the experience of individuals and groups with the setting (Stedman, 2000; Williams, 2002) that influences their attitudes and behaviors. For instance, a neighborhood park can be associated with different layers of meanings and association: the functional meaning (a place to walk), emotional meaning (a place to forget problems) or socio-cultural meaning (a place to meet friends and share experiences) or a place of memory of the past. Davenport and Anderson (2005) suggested that places manifest the physical characteristics, activities and experiences, social phenomena and individual interpretation of a setting.

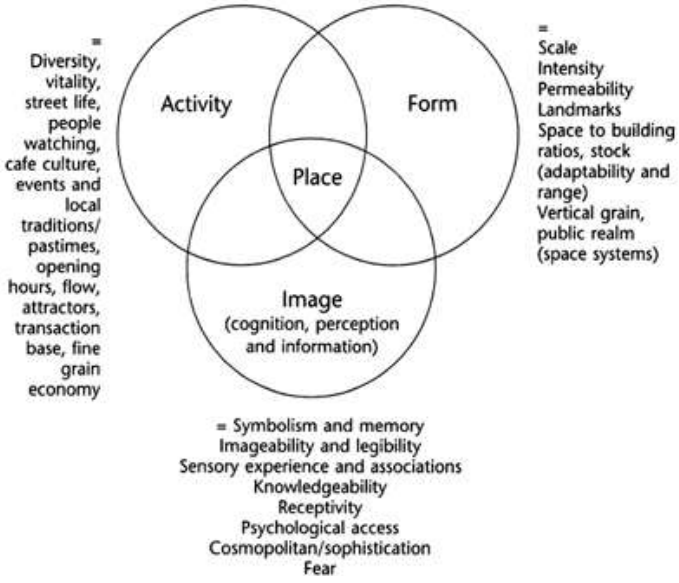


Figure 3.6: Sense of place model (Montgomery, 1998)

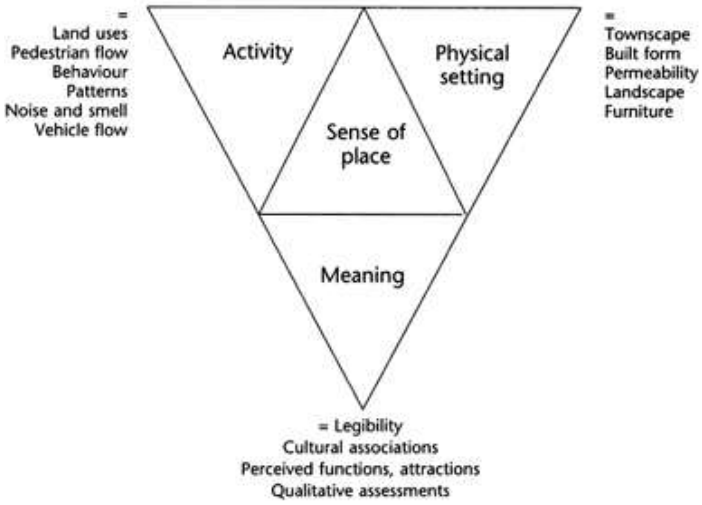


Figure 3.7: Sense of place model (Punter, 1991)

In the making of urban places, planners and designers mainly focus on the quality of the physical components of place and often disregard the importance of place meaning and association developed between people and places. A place is seen as the way it is experienced by people who have a strong connection to time, senses and socio-cultural expression (Stokols and Shamaker, 1981). Meaning is the perceptual and the psychological aspects of environmental experience (Punter, 1991). In this regard, people associate different meanings to similar places for various reasons. However, changes in the existing physical and activity patterns may erase what is

significant and meaningful to them. This implies that place meanings that are embedded in the existing social and cultural setting can be disintegrated as a result of unfit physical development.

Place meaning determines the socio-cultural value of a place that form self and community identities (Shuana and Ahmed Bashri, 2002). However, self or group identity can be disintegrated as a result of the loss of elements that reflect the people's identity. The loss of place meanings and attachment result in the inability to continue to feel, to practice and to recall experiences due to, for example in the loss of the objects during a natural disaster (Hull et al., 1994). A loss of identity could be, as a result of a change and transformation of buildings and spaces, change of uses and function. The loss of association or desegregation or detachment (e.g. relocation to new housing and community) also weakens place attachment. It is imperative for place makers to identify how meanings defined places to users, who in most situations, vary in their socio-cultural characteristics, economic status and length of association.

The sense of place rooted in the past is, therefore, what constitutes the essence of the place despite the continuous physical transformation. This indicates that the spirit of place (genius loci) involves particular significance deriving from past events and presents a situation that determines the identity of a place (Relph, 1976). In the case of a pluralistic society, the cultural principles play an important role in defining group identity, and, hence, influence the character and identity of the place they inhabit (Rapoport, 1977). This concurs with the idea that a strong sense of attachment to a particular place is influenced by racial and ethnic identity, and the culture of the people influences the environmental reaction towards a setting (Rose, 1995). In addition, there are other factors that have the potential to affect the development of place attachment. Repeated direct experience of a place is necessary for persons or groups to build attachment and meaning. Continued use promotes a sense of ownership and an extension of personal identity.

In general, as the city (urban place) experience changes in its physical image, the continuity of meaning and conception of the places transformed. However, the significance of the places will endure as long as the place can fulfil the psychological needs and aspiration of the users.

3.10 Summary of literature review

As discussed above on this chapter, different scholars used various terminologies and definitions for peri-urban areas. Among them the definition given by Rakodi (1999) is found best fit for this study. Therefore, the definition "the transition zone between fully urbanized (formal) land in cities and areas in predominantly agricultural use. It is characterized by mixed land uses and intermediate

and outer boundaries, and typically is split between administrative areas." is used and peri- urban areas for this study includes both urban and rural fringe, which is called 'rural-urban' fringe by Bryant (1982) and Pryor (1969).

Peri-urbanization has different characteristics in different world contexts: it is linked with industrialization and sub-urbanization in Europe and extended metropolitan region (EMR) in Asia. Whereas, in Africa, peri-urbanization is mostly attributed with informal expansions of cities (Olujimi and Gbadamosi, 2007). Similarly, in Ethiopia peri-urban areas are cities immediate surroundings with land use and administrative overlap (Achamyeleh, 2014).

Due to high rate of urbanization in Africa and Ethiopia as well, peri-urban areas are transition zones which absorb urban expansions and transformations. With the changing dynamics, peri-urban areas have different characteristics which can be categorized as socio-economic, environmental and spatial transformations broadly. Socio-economic characters includes peri-urban farmers livelihood change, informality and insecure-tenure. Environmentally peri-urban areas are known by environmental degradation and pollution. Whereas, spatial transformations includes land use change and land fragmentation (Nicodemus and Ness, 2010).

The land in peri-urban areas undergoes transformations through different processes. These are informal and formal channels. Another new approach, binary continuum, is expected to be used by government in order to reduce the tension and social conflicts between peri-urban landholders and administration.

Even though, there are physical and human determinants of form in general (Rapoport, 1969), factors of peri-urban transformations in Ethiopia are mostly human factors. These are population growth, housing shortage, economy (market failure and informal access to land), intergovernmental landownership rights and planning practices, and urbanization strategy (expropriation). In-line with the factors, there are actors of peri-urban transformations which have their own roles in peri-urban transformation process. According to their roles this actors are categorized as formal and informal actors. Formal actors are government and private developers. Whereas, informal actors are land brokers, middle men, and land sellers. Through its political leaders government sometimes involve in informal transactions of land in peri-urban areas.

In general, even though, peri-urbanization is recent phenomenon in Ethiopia, it is expanding around many cities. Due to its dynamic character, peri-urban areas are known by mixed and changing land uses, where different actors involve on transformation processes.

CHAPTER FOUR

4 Case Study

4.1 Background: Urban and Peri-urban Hosanna

Hosanna is one of earliest towns of Ethiopia which was formally established in 1904 during the reign of Emperor Menelik II (HTM, 2010). Hosanna town was formerly called 'Sech Duna' by the local people. Later the name Hosanna was given by Ras Abate in 1904, who was the governor of Lemo and Kembata Awraja in that time. The town was the seat of Kembata and Hadiya province during the time of the Imperial regimes[8] (Alebachewu and Samuel, 2009).

Hosanna Town, is also one of the oldest towns in the Southern Nations, Nationalities and Peoples Regional state (SNNPRS) and it was established as a municipality in 1949 (HTM, 2010). Currently, it is one of the 22 reform towns in SNNPRS and one of the four big towns of the region which have second grade status. It is the capital city of Hadiya Zone, comprises of three sub-cities (kifle ketema) and eight kebeles[9].

4.1.1 Location

Hosanna is located in the south west of Addis Ababa 232km away via Alemgena - Hosanna route. Geographically, the town's location is $7^0$15'00" north latitude and $37^0$50'30" east longitude. The administrative area of hosanna town is 10,414.3 hectares of land, out of which 4,585.48 ha. is planned (HTM, 2010). The rest of the land is reserved for urban expansion zone. However, currently the area is occupied by informal settlement. (See Annex 7F).

4.1.2 Physical condition

4.1.2.1 Relief

Relief has a strong influence on land use pattern of urban or rural areas. The topography being an integral part of the land surface, it influences drainage, erosion, land use pattern, infrastructure and the like. The altitude of Hosanna ranges from 2,250 meters above sea level (masl) around Ajo to 2,450 masl around Balewold church on the Wachamo hill, the average elevation being 2350 masl

[8] Imperial regimes were periods in which Ethiopia was ruled by Emperor's under unitary system. The mentioned period in which Hosanna town functioned as the seat for Lemo and Kembata awraja was during the regime of Emperor Menelik up to the rigime of Emperor Haile Silasie (1989-1974).

[9] *Kifle-ketema* (sub-city) and *kebele* are local terms used for hierarchical administrative subdivisions of the city, where kebele is the lowest level.

(Solomon, 2014). Generally, about 75 percent of the town has slope of less than 15 percent and most of the built-up area has slope between 5 and 10 percent.

4.1.2.2 Climate

Climate influences human activities, distribution of vegetation and the way of life of people. It determines social and economic nature of any country or settlement on the globe. In general, climate has either positive or negative impact on the socio-economic development of all nation or region on the earth's surface.

Like other parts of the country, rainfall distribution in Hosanna town is seasonal. According to the rainfall data obtained from SNNPRS Meteorological Service Agency (2011), the mean annual rainfall ranges from 1,001mm to 1,200 mm out of which 29.5 percent falls in summer (kiremt) (June, July and August), 37 percent falls in spring (belg) (March, April and May), 23.9 percent falls in autumn (tsedey) (September, October and November) and 9.4 percent falls in winter (bega) (December, January and February). The average annual rainfall of the town is 1071 millimeter. Generally due to its location the town receives rain throughout the year.

As a result of its relief in the Ethiopian context, Hosanna town experiences cool temperature condition. According to southern region meteorological service agency, the mean annual temperature of Hosanna town ranges from 15.1 ^{0}c in July to 19.3^{0}c during March. The lowest temperature (15.1^{0}c) is recorded during summer (i.e. July) and the highest temperature (19.3^{0}c) is recorded during March. The average temperature of Hosanna town is 16.9^{0}c.

Wind is one of the vital elements of weather and climate. It helps to determine the direction of urban pollutant activities such as industry zone, waste disposal site, expansion direction etc. The dominant wind over the town blows from north east to south west (HTM, 2010).

4.1.2.3 Drainage

Hosanna is drained by one permanent river called Batena or Shesha downstream that flows from northern to southern part of the town. Other intermittent streams are Ashenda, which flows around the old market area, Abera Wonz in the central east, Giorgis in the west and Shelansha in the north (Solomon, 2014).

4.1.2.4 Soil

The soil of Hosanna area according to Murphy (1968) is very commonly medium acid with PH. values of 5.5 to 6.2. The common textures are clay and loom-clay. Regarding the organic matter and the nitrogen content in the soil, it is usually good. About 52.9 percent of the soil has a nitrogen

content of 0.15 percent to 0.25 percent and about 47 percent of the soil has greater than 5 percent organic matter (Murphy, 1968).

The availability of other minerals like potassium, calcium and magnesium are also high. However, the content and distribution of phosphorus in the soil is generally low. According to Murphy (1968), it appears that phosphate fertilizer would be helpful to increase crop production.

Depth (CM)	Sand	Silt	Clay	Organic	PH
0.2	34%	36%	30%	7%	5.5%
20.38	32.2%	38%	29.8%	5.65%	5.4%

Table 4.1: Hosanna town soil type; source: Murphy, 1968

As we can see from Table 4.1, with a depth of 20cm from surface, the organic content of the soil in Hosanna area is about 7 percent, and the soil type is 34 percent sand, 36 percent silt and 30 percent clay. Moreover, according to Morton (1978), mostly the mineral rocks and fossils to be seen around Hosanna area are welded tuffs and tuffs, which are volcanic ashes.

4.1.2.5 Vegetation cover

Hosanna town and its surroundings display a substantial presence of vegetation such as eucalyptus and enset[10], which together with crop covered fields give the impression that the land is overwhelmingly green especially during the pre-harvest seasons. This however, is misleading as the land is for the most part devoid of its natural vegetation save for the patches of grassland that have replaced original forests and the few shrubs and sparse woodlands that occur in areas that are protected for grazing purposes (Solomon, 2008).

4.1.2.6 Geological condition

The geological formation of Hosanna and its environs is directly related to Cenozoic volcanic and sediments. The formation is closely linked with magdala group. Magdala group comprise trachytes, rhyolities and tracytic tuffs which covers almost all parts of the Hosanna town. Rocks which such as ignimbrite, rhyolite, pumic and volcanic sand deposit commonly prevail over the town (HTM, 2010).

[10] Enset (Ensete ventricosum), commonly known as false banana, is an herbaceous species of flowering plant in the banana family Musaceae (Wikipedia). It is a banana-like indigenous plant which is mainly used as a food source in rural areas of SNNPRS.

4.1.3 Demography

4.1.3.1 Population size

According to CSA (2015) report total population of Hosanna town is 133,764. Of these, 65,132 are male and 68,632 are female (see table 4.2). However, this number does not represent the whole administrative boundary of Hosanna town since the survey is conducted in eight kebeles of Hosanna which are planned areas, while more than half of Hosanna administrative zone lays on unplanned informal settlement and surrounding rural administration of Lemo woreda.

In 2018, Hadiya Zone Statics Bureau reported that Hosanna Town population reached 150,000. This number is obtained based on the statics collected from kebeles. Therefore, exact population size of Hosanna Town will exceed that of reported by CSA and Hadiya Zone Statics Bureau, since the counting still does not considered settlers in the surrounding informal settlement (peri-urban areas).

Similarly, the two cases of this study are also situated in this peri-urban areas, where there is administrative overlap and confusion. Based on the new administrative boundary, the two case sites are included in Hosanna Town Administration, but practically being administered by Lemo Woreda. Based on data gathered from respective kebele administrations, the official population sizes in Ambicho and Kidigisa are 4,283 and 4,979 respectively. These numbers do not include the recent informal settlers since the majority of them are new comers who did not live there at the time of the census.

Population size			Area in km^2	Density in inh/km^2
Female	Male	Total	40.47	3,305.3
68,632	65,132	133,764		

Table 4.2: Hosanna town population size and density; source: CSA, 2015

4.1.3.2 Density

According to CSA (2015), population density in Hosanna is 3,305.3 inh/sq.km (see Table 4.2). Regarding the per-urban kebeles under the study, natural population increase and in-migration highly increased density of Ambicho and Kidigisa. Hadiya Zone is one of the highly populated area in Ethiopia (see Figure 4.1 below) and findings of this study asserted that further population increase on the sites changed land use pattern and resulted with exhaustive land fragmentation (Solomon, 2008). Findings of this study also shows that due to population increase and land shortage significant number of young people flee outside Ethiopia in search of new career. The remittance money in turn affected settlement transformation and community livelihood.

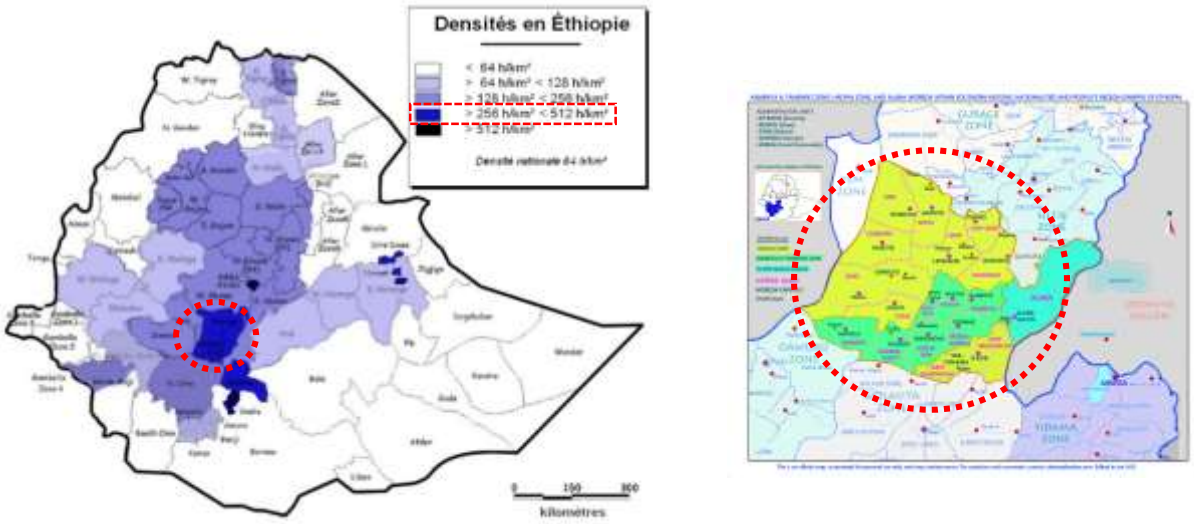


Figure 4.1: Ethiopia Density map: source commons.wikimedia.org

4.1.3.3 Economic situation

Hosanna Town has an access road that links the town with Addis Ababa, Awassa, Wolayta sodo, Hosanna, Durame, Welkite and the different woredas, towns of Hadiya Zone. The Economic activity of the town envisages different economic practices most of which are dominated by commerce and services where the other sectors like agriculture and industry are limited to a significant number of the residents in the town (HTM, 2010).

According to the study by Solomon (2008), public sector employment (civil servant) is the leading source of livelihood in Hosanna town, which accounts 33.7 percent of households. This is a reflection of the concentration of the branch offices of various governmental departments in the town due to its status as a zonal capital. The next most important means of livelihood is commerce in which 31.8 percent of households are engaged. The rest economic activities in Hosanna town are agriculture, private sector employment, day laborers, and aid from NGO's and relatives with respective share of 3.6, 7.5, 14.8 and 8.6 percent respectively.

4.1.3.4 Social structure

As part of Hadiya Zone, Hosanna Town shares social structures of Hadiya people. Hadiya people social structure (Hadiyi seera[11]) has five hierarchical units, these are mine, mollo, sullo, giichchoo, and giira[12]. Later, following ethnic mix in the settlements due to urbanization and other factors, the

[11] Hadiya seera is Hadiya people social structure (traditional administration structure which is still functional)
[12] Hierarchical units of Hadiy seera

organ ‘nafara’ is introduced next to “mine”. Each unit have its own leader (Dana[13]) (Alebachewu and Samuel, 2009). Mine is the lowest hierarchy, where all social issues are start to be seen. When social issues or disputes are unable to be resolved on this level, it goes to the next hierarchy until it gets resolution. In some cases, traditional justice system is more effective than government institutions, especially for issues which have no legal basis. For example, conflicts due informal land ownership rights between landholders are most effectively resolved by traditional leaders (Dana) than government justice system. In addition, social infrastructures such as idir, ekub and other institutions are mostly administered by this system.

Although there is strong social structures, there are also social problems which prevails in Hosanna town. The social problems identified in the town includes the disabled, elders without support, commercial sex workers, Orphans and street children, beggary, crime and unemployment (HTM, 2010).

4.1.3.5 History, culture and tourism

Though the town of Hosanna has an old history that goes hundred years back, there are no historical heritages that are registered by the Zonal Department of Culture and Tourism in fact. The only old buildings that still stand are the three houses (buildings) at cantere which were built by the Italians. Currently these houses are being used as offices of the Zonal Police of Hadiya. Besides this, some of the churches, which are established during the period of Ras Abate, could be regarded as historical heritages of the town. One of the oldest church, St. Marry church in the city center was destroyed by fire in 2016. The former “Ras Abate Buyalew Elementary School " (the current Yekatit 25/67 "Secondary School") also needs attention as long as it is the first and oldest school of the town (HTM, 2010).

As far as cultural and social services are concerned, there is one small museum and a small public library. It is good initiative to have these institutions if at all further expansion and improvements are made to them.

Regarding tourism. The Zonal Culture and Tourism department has reported that the zone is endowed with a number of natural attractions. But due to absence of adequate transportation

[13] Dana: leader of a unit in Hadiyi seera. For examble, a leader of unit ‘mollo’ called ‘molli dana’, which means leader of mollo.

network, they cannot fully be exploited by domestic and foreign visitors. Thus, once again due attention is needed so as to exploit its tourist potentials.

4.1.3.6 Organizations

Since Hosanna is a capital of Hadiya Zone, it is a sit for various governmental and non-governmental organizations. According to Hadiya Zone Statistical Report (2016), there are 5 government banks, 9 private banks, 5 insurance companies and 2 micro-finance institutions. There are also three NGOs working on different issues. Due to its political and economic importance, there are also private organizations which work on different business, such as hotels and restaurants. There are 14 hotels, 8 restaurants, 2 guest houses and 57 pensions in the town (Agago et al., 2016). The town is also a sit for Lemmo Woreda sector offices.

4.1.3.7 Infrastructure and services

According to Hadiya Zone Statistical Report (2016), there are 27 kindergartens, 30 primary schools, 4 secondary school and 1 preparatory school in Hosanna, out of which all kindergartens, 21 primary schools and 2 secondary schools are private owned. At higher education level, the town has 1 university (Wachemo University) and 10 colleges (7 are private owned). Regarding health, there are 3 hospitals (2 are private owned), 3 health centers and 8 clinics. The town has one abattoir and one landfill site (Agago et al., 2016).

Water and electricity distribution covers only planned areas. Similarly, cobblestone and asphalt roads are situated in only core areas, the rest is unpaved ground. According to (Agago et al., 2016), road coverage in Hosanna town is: 6.7KM asphalt, 10.26KM cobblestone and 3.9KM is paved stone (pista). Transportation means in the town is 'bajaj' and the town has two public buses.

4.1.4 Urbanization and housing

4.1.4.1 Trend of urban expansion of hosanna town

According to Hosanna town structural plan report (2010), the municipality of hosanna town was established in 1949 and Fitawrari Beyene Tegegn was the first mayor of the town. In the early days, the main activity of the office was to levy taxes from the merchants during market days. The money collected in this form was used to buy land from the land owners who practically controlled the lands of the town. According to the same report, the municipality paid 60 cents[14] per $1m^2$ plot of

[14] Cents (santim) is derived from the French *centime*. Ethiopian birr was reintroduced in 1945 at a rate of 1birr= 2 shillings (100 cents)

land for a certain land owners so as to get the land for the newly built office of the municipality, which has become operational since 1968. This culture of selling land with exorbitant prices had an adverse effect on the town's development and this trend continued until the coming of Derg and subsequent nationalization of rural and urban land.

For a long time, the Hosanna municipality had no technician or town planner and the road that connects Cantiere with Arada was designed by one of the mayors of the town Kegnazmach Bekele Haile Mariam. In the 1960s, some skilled town planners were assigned to Hosanna but they did not stay there for so long. Thus, the town had shortage of skilled planners until the coming Derg regime (HTM, 2010).

As to the trend of development of the town of Hosanna, no advanced progress was seen either during the brief Italian occupation (1936-1941) or the reign of Emperor H/Selassie (1930-1974). The Italian used the town as a garrison (Cantiere) and built some houses inside the compound of Ras Abate's palace and at a site where the telecommunication office stands today. Unlike in some other towns of Ethiopia, the Italians did not pay much attention to the town's development (HTM, 2010).

According to Hosanna town structural plan report (2010), during the period of Emperor Haile Selassie, Hosanna's progress was slow in all aspects. All facilities of the town were at their lowest level, and the town's development was partly hampered by the presence of landlords who had the upper hand in determining the fate of the town.

Rapid progress was seen since the Marxist government (Derg) came to power in 1974 which include the construction of some important projects such as hospital, stadium, assembly hall, modern public hotel (Sport Hotel), swimming pool etc. were launched. It was also during this time that the town got hydroelectric power supply.

After the Derg regime was replaced by the EPRDF in 1993, further progresses have been seen in the town, particularly after Hosanna becomes the capital of Hadiya Zone. Since then a number of houses and institutions have been constructed. Constructions of asphalt road that connects the town with Addis Ababa City and Wolayita Sodo Town, and establishment of higher institutions including the Wachemo University is realized during this time. The town's population is also rapidly growing because of its political and economic importance.

To sum up, early settlement of Hosanna town started around Arada area. During the Italian occupation it expanded to the present day of telecommunication office because it was the Italian residential area as well as a military command center. In the years between 1984-87 the town expanded towards Kambata Ber[15]. This is because during this period the town's main market was located there. Between 1987-1991 the town expanded around the present market area. Since 1991, it has been expanding towards Wachemo Senior Secondary School because the municipality built over 60 public rental modern residential houses (*kiray betoch*), Poly Technic School, Teachers Training Institute (TTI) and condominium houses[16]. (See Annex 7G).

4.1.4.2 Transformations in the peri-urban areas

Hosanna town and its surrounding have been covered by forest before unknown time in the past. Some written documents support this Oral traditions, For instance Haile (1979) cited in Alebachewu and Samuel (2007) discussed Hadiya people who were pastorals originally migrate from north direction and settle here finding comfortable topography and green land for their cattle's. Naming of some localities with Hadiya origin reflects the fact that the area was a jungle and was a home of wild life. For example 'Sech duna' which meant a hill for bee-hives is one sub 'city in hosanna; 'Bobicho' which means rhinoceros or home for rhinos is one kebele which exist still now and 'Kidigisa" a name derived from two Hadiyisa words 'kid' and 'higisa' which means 'possible to pass?' asked by stranger in his way to cross the jungle. However, due to permanent settlement and expansion of farming the jungle start to cease gradually.

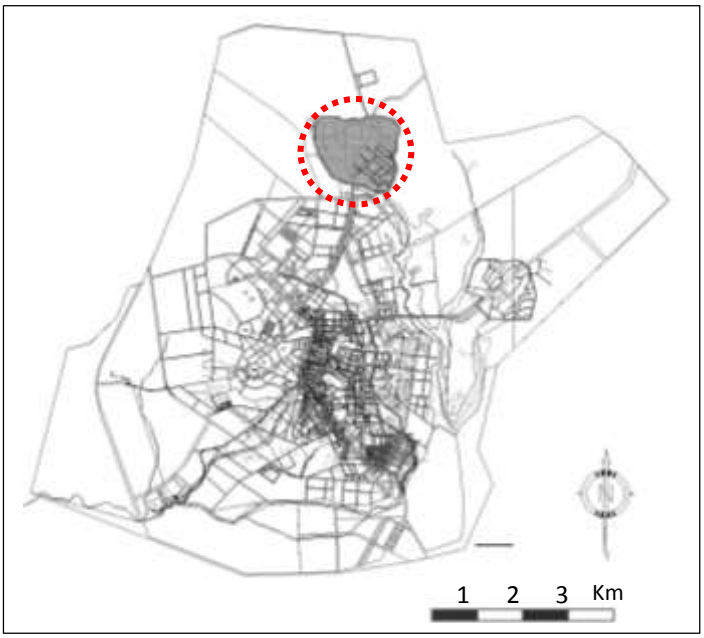
During Emperor Haile Selassie regime land was owned by landlords. Majority of people were peasants who work and pay tax for landlords. During that time there was scatter settlement where tent houses are built beside respective farms. Farming was the main economic activity of that society.

During Derg regime; known by slogan "land to tiller" preoccupied land is redistributed to peasants. Fall of feudal system and new land policy enable all peasants to secure ownership right over their farm land. These motivates farmers to increase productivity and fruit their own property.

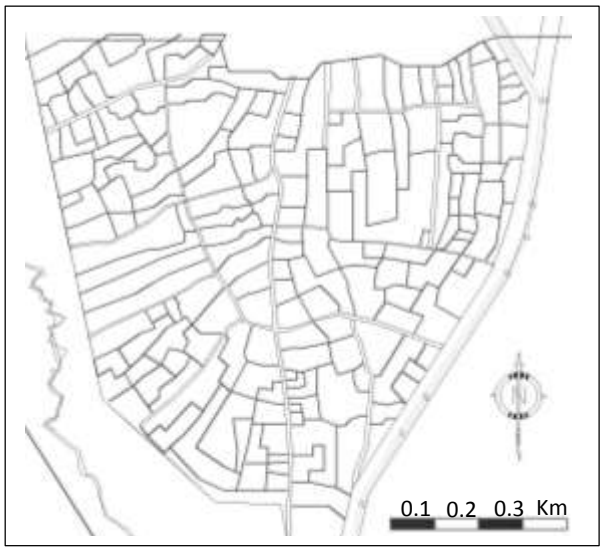
[15] Kambata Ber is located at the southern border of Hosanna town near the exit to Awassa city.
[16] Condominium houses are multi story public housing units constructed by the government program (.

Later on the 1st half of 1980's a program called *"mender misreta"* forced people to be relocated from their compound and settle together in urban like setup. This sefera "mender misreta" sites were planned sites, they have better access roads with grid pattern plan which is comfortable for urbanization and provision of infrastructure and service. (See Figure 4.2). However, people of that time especially in Ambicho were not comfortable with the program and turn back to original locations following the fall of Derg regime in 1990.

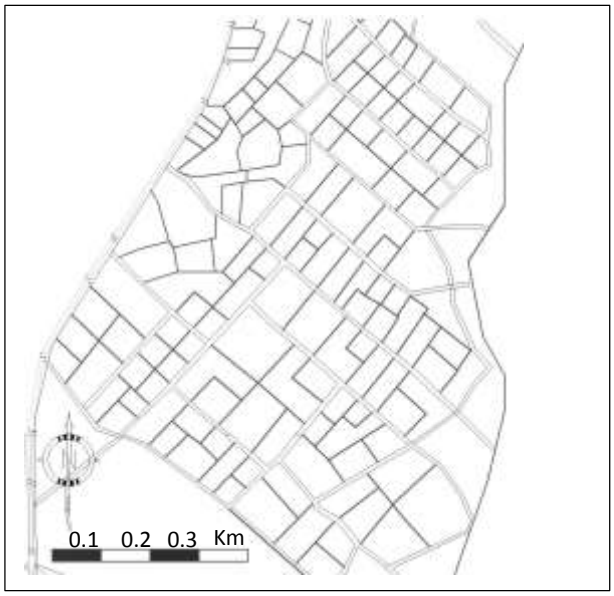
Since 1990's, free market economy policy improved economic situation and highly propagated informal settlement. Even though new housing strategies and urban development policies were adopted, it was not effectively implemented specially in regional towns and rural areas. As a result, the housing need of ever-growing population is not answered yet. For this reason, people always find a way to be engaged in to informal sector. Eventually these activity changed scattered settlement pattern in to squatter settlement.



Key map: Location of Kidigisa mender misreta and scattered settlement



A) Kidigisa scattered settlement today; located at the west of main road



B) Kidigisa "mender misreta" site today; located at the east of main road

Figure 4.2: Comparison of current status of "mender misreta" site and scattered settlement; Kidigisa

4.1.4.3 Housing

The data collected by Town Housing Agency in 2010 shows that there were 12,942 housing units and 9,775 households in Hosanna town with average household size (AHHS) of 6.7 persons. According to the collected data from each of the three sub cities, the housing unit to household ratio of the town is 1:1.32. from this, it was identified that there is a shortage of housing unit in the town as some households are residing by sharing one housing units commonly with some other households. In other words, one housing unit gives services for more than one family in the town. The distribution of housing units (HU) and households (HH) in the three sub-cities of the town is shown in the Table 4.3.

No.	Sub cities	No. of Hus	No. of HHs	HU:HH
1	Gofer Meda	4,390	6,253	1:1.42
2	Sech Duna	3,485	4,043	1:1.16
3	Addis Ketema	1,900	2,646	1:1.39
Total		9,775	1,2942	1:1.32

Table 4.3: Distribution of housing units in Hossana town; source: Urban development bureau, 2010

Based on the study conducted in 2010 by Hadiya Urban Development Bureau, housing backlog of Hosanna town in 2021 is estimated to be 16,489, considering a population growth rate of 6.1%. But, since 1000 condominium houses are transferred to residents the number is reduced to 15,489. (See Table 4.4).

Year	Population Size	AHHS	No. of HHs	No. of HUs	HU:HH	Housing back log and future requirement
2011	87,010	6.7	12,942	9,775	1:1.32	3,167
2016	108,196	6.7	16,149	16,149	1:1	3,207
2021	130,374	6.7	19,459	19,459	1:1	6,310

Table 4.4: Housing need projection of Hosanna town; Source: Hadiya Zone Urban Development Bureau, 2010

Furthermore, the Hadiya Zone Urban Development Bureau (2010) study recommended the following to meet housing need in the future;

- Provide plot of land based on the lease regulations for economically capable investors
- Provide plot for housing cooperatives
- Secure or reserve land for the construction of condominium houses at the different locations of the town by considering the high housing demand by the community of the new university.

- Allocate land for the construction of dormitory or hostel, especially for the students learning in various non-boarding colleges. It could be materialized by any interested organization or individuals based on the existing Land Regulation System of the region.

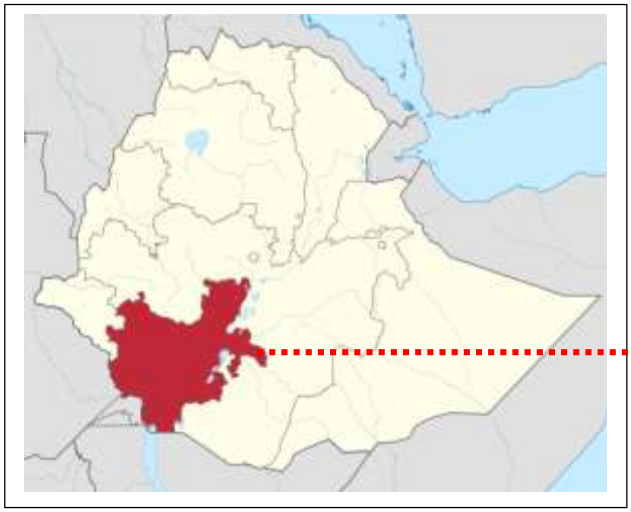
Currently, the land in Hosanna Town is being transferred to residents through land lease system through public auctions and housing cooperatives. Since the land lease proclamation allows one citizen to bid for multiple plots, only the high-income are benefiting from public tendering for a land lease by offering high bidding prices. This makes the land price beyond reach of majority of the town's residents and gives the original winners of bids control on the supply and price of land by 'reselling' (transferring) the land after a while with substantial profit.

In the case of housing cooperatives, bureaucracy in the delivery system discourages low income groups, and until now out of 91 registered cooperatives only 41 accessed land through this strategy. However, none of them are able to construct houses due to construction cost escalation and lack of institutions that provide loan. All these conditions together with increasing housing need has propagated informal settlements in the surrounding peri-urban areas of Hosanna, and this has become a known feature of the town.

4.2 Case 1: Ambicho site

4.2.1 Location

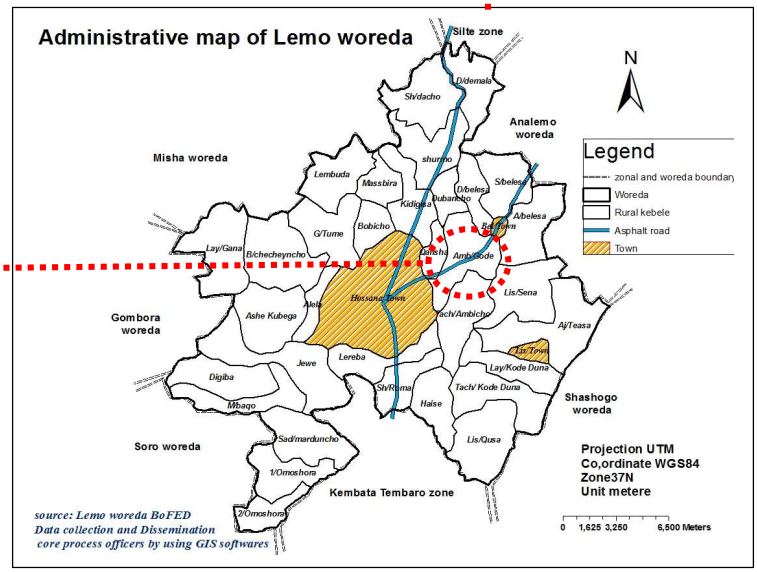
The Ambicho case study site is located in the North West of Hosanna town (see Figure 4.3). The main road that connect Hosanna and Addis Ababa passes through the middle of the site. Geographically, the site is located between 83^0 52'00'' and 83^0 70'00'' north latitude and between 37^0 68'00'' and 37^0 02'00'' east longitude. It is bounded by Wachemo University at the south, Batena River at the west, Guder River at the east and Belesa Town at the north.



SNNPR Map

Map of Ethiopia and location of Hadiya zone in SNNPRS: Source Hadiya Zone Urban Dev't Bureau

Case 1: Ambicho Map



Location of Ambicho in adminstrative map of Lemmo Woreda:

Figure 4.3: Ambicho location map: Source Hadiya Zone Urban Dev't Bureau and own produced

4.2.2 House hold profiles

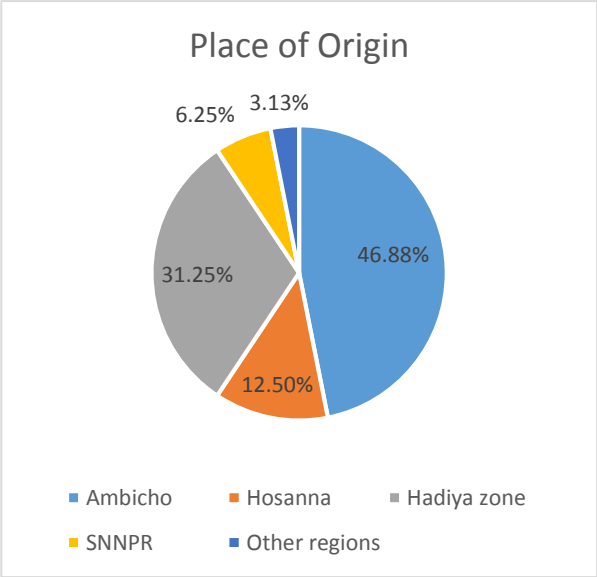
i. Household size and place of origin

The data collected during field work from thirty-two houses shows that the size of 37.5% of households (HH) is small, whereas 46.87 % of households are medium size and 15.63 % are large size, see table 4.5 below. Seventy-five percent of small size households are new comers, whereas from the total newcomers 64.3% of new comers are from small size households. The size implies these households establish family recently and come to Ambicho deciding it would be the best option to acquire land and own home by purchasing informally from farmers. Seventy-five percent of the newcomers arrived at the settlement with-in the last five years, which indicates how fast the land is being acquired and fragmented by the arrival of the newcomers. These activities also changed land use and propagated commercial activity in the area.

Category	Family size	Household frequency	percentage
Small size household (SSHH)	1-5	12	37.5%
Medium size household (MSHH)	6-8	15	46.87%
Large size household (LSHH)	9-11	5	15.63%
Extra-large size household (EX-LSHH)	>11	0	0

Table 4.5: Family size in Ambicho

In addition, out of the total households included in this study, 46.9% are natives who born and lived in Ambicho and the rest 55.1% are newcomers. The data collected from the field implies: 12.50 %, 31.25%, 6.25% and 3.13 % of newcomers come from Hosanna, Hadiya zone, SNNPR and other regions of Ethiopia respectively. As these figure show, the majority of newcomers migrate from rural areas of Hadiya zone in search of affordable land surrounding an urban area. The second highest number of households come from Hosanna town after selling or renting their property in the town as a result of economic inflation. Relatively, a small portions of people also come from different parts of SNNPR and other regions of Ethiopia in search of new career and become stable due to marriage. (See Graph 4.1).



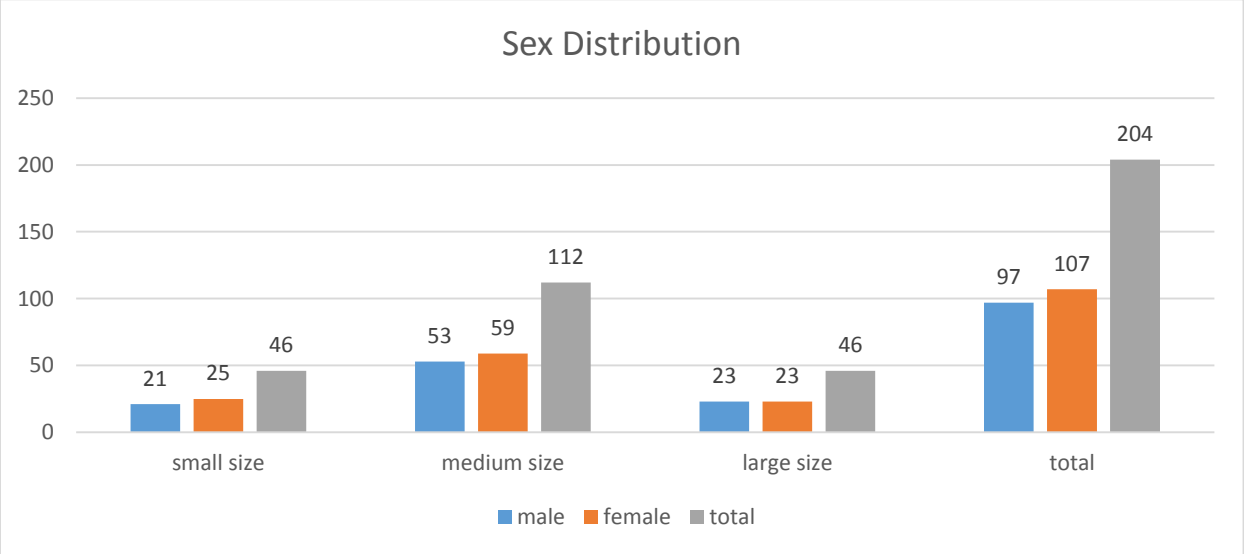
Graph 4.1: Household place of origin in Ambicho

ii. Sex distribution

According to the data collected from thirty-two households the number of females are greater by ten than males. This indicates significant number of males move to South Africa in search of job opportunity. Within interviewed thirty-two households, the number of female comprises 52.5%, while the rest, 47.5%, are male. These figures matches with central static data of Hadiya zone, which is 49% male and 51 % female (CSA, 2007). Number of females are greater than males in all household size expect in large household size, where the number of females are equal with the number of males. 54.9% of total population lives in medium size households, while small size households and large size households share the rest 45.1% of the population equally (See Table 4.6 and Graph 4.2).

Category	Male	Female	Total
Small size HH	21	25	46
Medium size HH	53	59	112
Large size HH	23	23	46
Total	97	107	204

Table 4.6: Sex distribution in Ambicho



Graph 4.2: Sex distribution in Ambicho

iii. Period of stay in the settlement

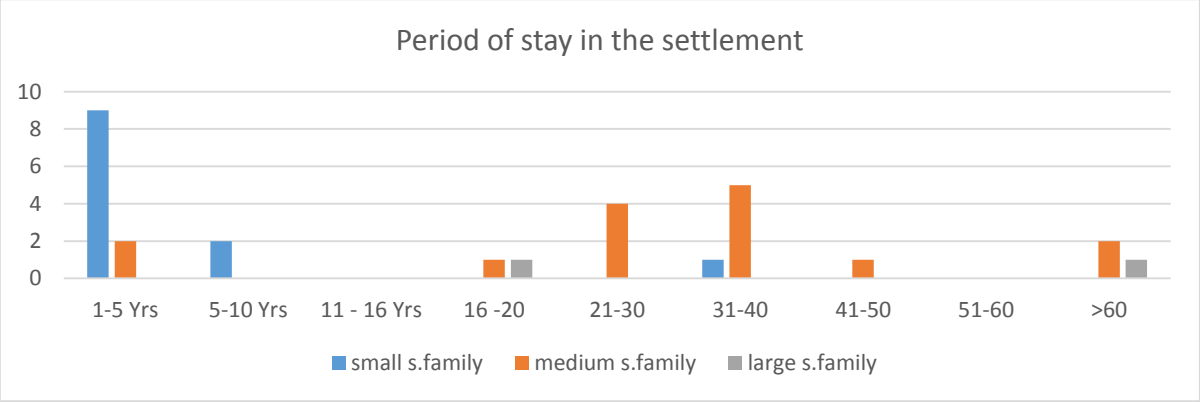
It has been hundreds of years since people start to live in these area (Alebachewu and Samuel, 2009). However, the data collected from thirty-two households shows almost 60% of households stayed here one up to thirty years. From these groups, almost 70% of them are households who

stayed for the last ten years, out of which more than 85% of them are from small size households. (See Table 4.7). Small size households which comprise 85% of newcomers in the last ten years are mostly households who establish family recently and their low stability push them to the peri-urban areas in search of affordable land. In general, forty percent of the households stayed in the settlement for only ten years acquiring land through informal purchase or inheritance. This figure shows majority of land transformations happens in the previous ten years.

Years of stay	**1-5**	**6-10**	**11-15**	**16-20**	**21-30**	**31-40**	**41-50**	**51-60**	**>60**
Small size HH	9	2	0	0	0	1	0	0	0
Medium size HH	2	0	0	1	4	5	1	0	3
Large size HH	0	0	0	1	0	0	0	0	1
Total	11	2	0	2	4	6	1	0	3

Table 4.7: period of stay of households in Ambicho

Twenty-two percent of the households stayed for the past thirty up to fifty years. Eighteen percent of the households stayed more than fifty years in the settlement (see Graph 4.3 and Table 4.8).



Graph 4.3: period of stay of households in Ambicho

Summary:

Years of stay	1-30	31-50	>50
All family	19	7	6
Percentage	59.4%	21.9%	18.7%

Table 4.8: summary of period of stay of households in Ambicho

iv. Means of land acquisition

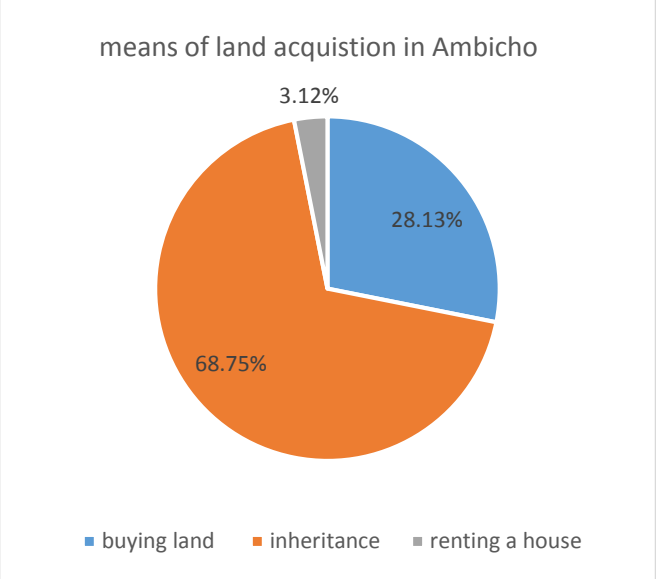
Today land become a very expensive resource, especially price of urban land is escalating each day following increasing need for either residential or commercial urban plot of land. Urban expansion and shortage of housing in Hosanna town triggers informal transformation of peri-urban areas around Hosanna town such as Ambicho. Even though Ambicho is an informal settlement, the price

of land has been doubling each year, for the past ten years. Currently average land price reached ETB 600 (USD 21) for 1m^2 of land.

Family status	Means of land acquisition								
	Buying land			Inheritance			Renting house		
	SSHH	MSHH	LSHH	SSHH	MSHH	LSHH	SSHH	MSHH	LSHH
New comer	6	2	0	2	2	1	1	0	0
Native	1	0	0	2	11	4	0	0	0
TOTAL	9			22			1		
PERCENTAGE	28.13%			68.75%			3.12%		

Table 4.9: Means of land acquisition in Ambicho

There are different mechanisms by which one can acquire land in Ambicho, these include purchasing land, getting land through inheritance and temporary acquisition (renting a land for limited time). Purchasing or selling land is illegal in Ethiopian context. For these reasons, land is being exchanged under the cover of selling a house or a gift (inheritance) from the family or relative. Most agreements for land 'purchase' is prepared on these ways and it is facilitated by brokers in the presence of witness from both sides. On these ways, a plot of land can be 'sold' by circumventing around the legal system without complying with the national land ownership and transfer policy.



Graph 4.4: Means of land acquisition in Ambicho

According to the survey made on the thirty-two households in Ambicho, 28.13% of households acquired land by purchasing farm land from farmers, 3.12% live there by renting a land temporarily for a limited time and the rest 68.75% of households live in a land which is passed by inheritance (see Table 4.9 and Graph 4.4).

Generally, the survey data on the thirty-two households' shows close to one third of households acquire land by purchasing farm lands. This implies that a significant number of households contributed for transformation of Ambicho through engaging themselves in the informal transaction of land in the settlement.

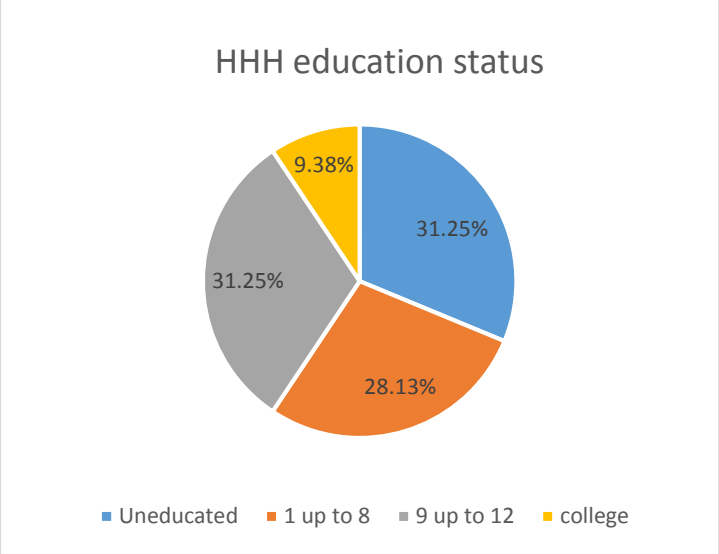
v. Household heads and education status

Among the household heads (HHH) interviewed in Ambicho, 87.5% are males and 12.5% are females (see Table 4.10). Similar to other areas of Hadiya Zone, here in Ambicho the majority of household heads are males (HTM, 2010). In some cases, when husbands pass away or went abroad for work; women take the responsibility of being household head.

Household head	Frequency	Percentage	Remark
Male	28	87.5%	Majority of the HHs are males
Female	4	12.5%	Husbands are abroad to work or had pass away

Table 4.10: Household head distribution in Ambicho

Another important profile is education status of household heads which has its own impact on settlement and compound transformations. During life story analysis of selected households, it is noticed that households with better education status experienced minimum compound segregation and informal land transactions when compared with those who have no education. Household heads' education status is shown on Graph 4.5.



Graph 4.5: Household heads education status in Ambicho

vi. Education

Currently, 68.13% of the members of the interviewed thirty-two households have education from grade one to eight. Out of these, nearly 80 percent are students, while rest, 20%, quit their education for different reasons such, starting their own business or traveling to Dubai or South Africa looking for work. The other 20.6% have education from grade eight to twelve. The rest eight percent have university degree or diploma, and 3.43% have no formal education (see Table 4.11). Even though education coverage has increased significantly in the past ten years, its quality has been continuously decreasing because students lose focus on education due to several reasons. One of the main reason is student's life goal (perception), in which main objective or life dreams for

significant number of students in rural area is not success in education, their dream is financial success that can be achieved by any means including being daily laborer or being engaged in informal activity (Solomon, 2008).

Today, significant number of Hadiya people live in South Africa and Arab countries. They travel to these destinations through illegal routs without the permissions of the governments. During their journey, some become victim of various injuries, imprisonment, and even death. Their suffering continues even after the survivors reach their destination. Most of them working abroad without having living and working permits, which pauses a serious challenge. The lucky ones change their life and the economic status of their family living in their home country. The story of such little success become motivation for various students and young people in the community to follow the perilous path, even if a considerable amount of people who ventured into the risky migration do not turn back home alive.

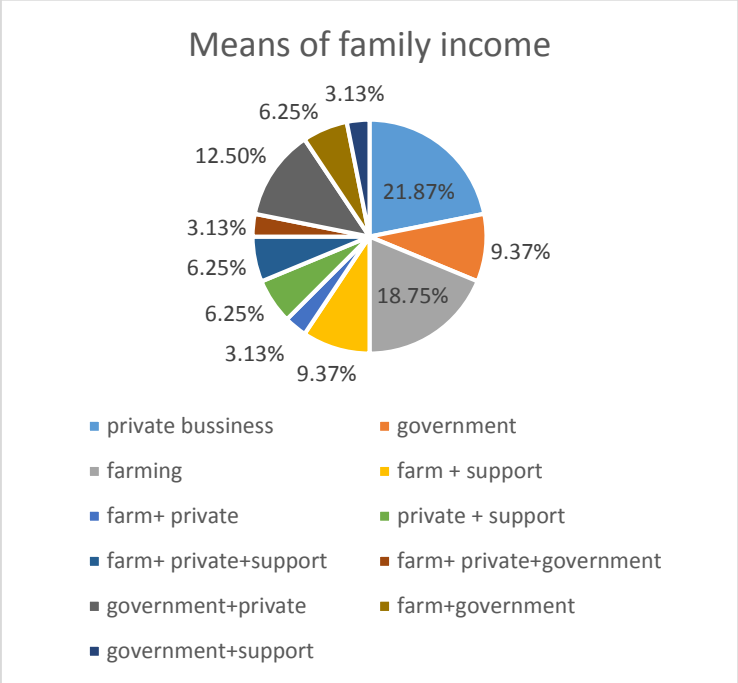
Education level	No formal education	Grade 1-8	Grade 8-12	> Grade 12 (university or college)
Frequency	7	139	42	16
Percentage	3.43%	68.13%	20.6%	7.84%

Table 4.11: Education level in Ambicho

vii. Sources of household income

Originally, farming was source of income for majority of Ambicho people. Through time impact of continuous land fragmentation reduced amount of farm land and people start to search alternative means of generating income.

Currently, 50% of the 32 households included in this study generate income from multiple sources such as farming, various private business, family support from abroad and government employment. They have at least two of mentioned sources of income.



Graph 4.6: Means of household income in Ambicho

The remaining 50% of the households generate income from single sources specifically, 21.87% from private businesses, 18.75% from farming and the rest 9.37% of them are employees of the government (see Table 4.12 and Graph 4.6).

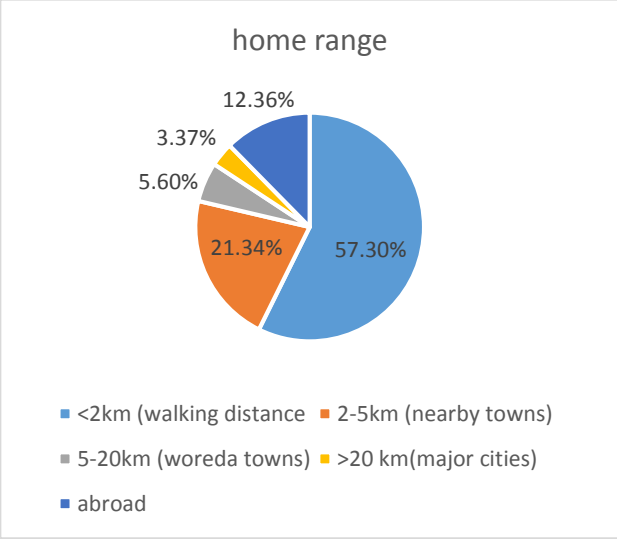
Source of income	Frequency	Percentage	Remark
Private	7	21.87%	
Government	3	9.37%	
Farm	6	18.75%	
Farm + support	3	9.37%	Multiple sources which account almost 50% of income types/sources.
Farm + private	1	3.125%	
Private + support	2	6.25%	
Farm +private + support	2	6.25%	
Farm +private + gov't	1	3.125%	
Government + private	4	12.5%	
Farm+ government	2	6.25%	
Government +support	1	3.125%	

Table 4.12: Means of household income in Ambicho

From the above mentioned sources of income only 46.9% are generated formally and the rest 53.1% use both formal and informal means. However, no household reported that informal means is the only source. In addition, from the total households 21.9% of households have remittance support.

viii. Home range (distance from home to job location)

Out of the households interviewed in Ambicho, 57.3% of workers have a job location in a walking distance, therefore they go to job on foot. 21.34 % of them work in hosanna and other nearby towns, which demands the taxi and bajaj[17] for transportation. 5.6% of them work in Woreda towns and they use minibus for transportation. 3.37% of them work in Addis Ababa and other major cities, these are khat[18] and bu'la[19] traders' who commute to their work place weekly.



Graph 4.7: Home range in Ambicho

[17] Bajaj is a three wheel vehicle with carrying capacity of 3 person.
[18] Khat is a stimulant leaves that have a stimulating and euphoric effect when chewed or brewed as tea

[19] Bu'la is Hadiya people traditional food which is produced from enset (floured enset).

They use bus when they need transportation (see Graph 4.7). The rest 12.36% work in abroad, South Africa and Dubai (United Arab Emirates). Usually they use illegal routs to travel (see Table 4.13).

Distance	<2km (walking distance)	2-5km Convenient for taxi/bajaj	5-20km Woreda towns	>20km Major cities	Abroad South Africa Dubai
Frequency	51	19	5	3	11
Percentage	57.3%	21.34%	5.6%	3.37%	12.36%
Transport	On foot	Taxi	Minibus	Bus	Airplane Or bus/illegal

Table 4.13: Home range in Ambicho

ix. Household income

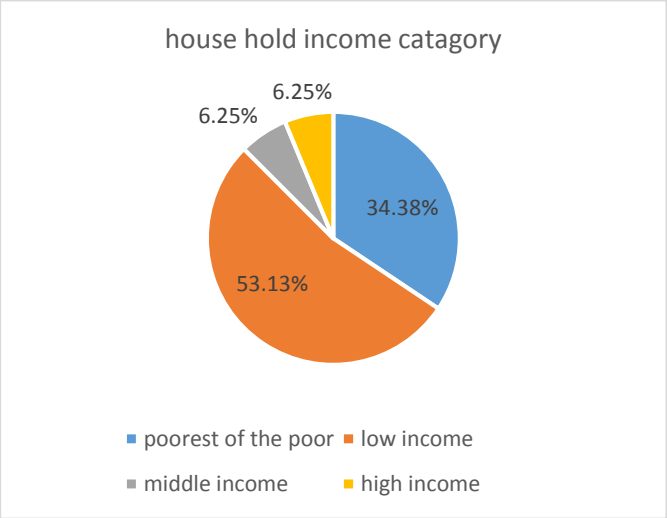
As it is described above (vii) households in Ambicho have different sources of income. Here, categories of different income levels among the interviewed households in Ambicho are presented. According to National Planning Commission Report (2017) food poverty line for 2015/16 is computed to be ETB3,772 per year per adult person, which is ETB314 per month per adult and absolute poverty line is ETB7,184 per year per adult person, which is ETB599 per month per adult. Therefore, ETB3,000 is considered as minimum amount for average family to sustain life for one month. Absolute poverty line is ETB20 per day per adult person, which means, assuming that the price of enjera[20] is ETB5 per piece, the person has to afford at least ETB10 per day or ETB300 per month ignoring other ingredients needed to prepare food at home. If we assume ETB300 is minimum amount needed for one person, ETB1,500 (5*300) would be needed for average 5 persons. Food expenditure accounts nearly 50% of household income (NPC, 2017), if the rest 50% is spend for non-food expenditure, the total household expenditure would be ETB3,000. Therefore, ETB3,000 per month per average household is considered as absolute poverty line for this community. The figure is almost similar with national 2015/16 poverty line which is ETB599 per month per adult (NPC, 2017). Therefore, those who are below the poverty line are categorized as the poorest of the poor and 34.38% of the interviewed households fall within this category.

With similar assumption, if a household afford to consume three times a day, has to spend at least ETB17 per day per adult or ETB85 per day per household for enjera and ingredients. Considering food expenditure accounts 50% of total expenditure, food and non-food expenditure would be

[20] Enjera: Ethiopian flatbread with a slightly spongy texture. Traditionally made out of teff flour, it is the national dish of Ethiopia and Eritrea (Wikipedia).

ETB2,550 per month. Therefore, based on the collected data 53.13% of the households are categorized as low income and assumed to afford total ETB3,000- ETB5,000 per month.

The middle income groups are assumed to afford better than low incomes. Substituting on of the meal of the day with beyaynet[21] which is popular low cost food, and much better than buying enjera, they have to afford at least ETB32 per day per adult. The price of beyaynet is ETB20 per dish. Therefore, Nearly six percent of households are categorized as middle income and assumed to afford ETB4,800 per month for food and total ETB5,000-ETB10,000 per month. These households are able to fulfill their basic needs.



Graph 4.8: Household income category in Ambicho

The rest 6.25 % households which afford more than ETB5,000 per month for food or total ETB10,000 per month are considered to be high income and they are assumed to afford luxury goods and can save money for additional needs (see Graph 4.8 and Table 4.14).

Income level per month	<3000 ETB (the poorest of the poor)	3000-5,000ETB Low income	5,000-10,000ETB Middle income	>10,000ETB High income
Frequency	11	17	2	2
Percentage	34.38%	53.13%	6.25%	6.25%

Table 4.14: Household income category in Ambicho

x. Disability

Disability in Ambicho is rare and 99 % of the community are healthy; see table 4.15. Only two cases from thirty two households or 204 population are recorded, one blindness and one body part disability. Based on these data it is possible to say the community health is in a good condition and have high potential of productivity.

Disability type	blind	hearing	body part	No disability
Frequency	1	0	1	202
%	0.5%	0	0.5%	99%

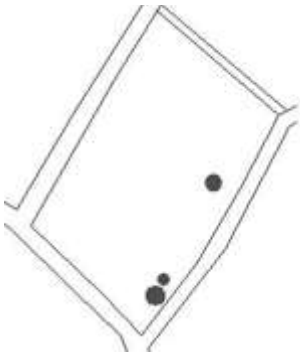
Table 4.15: Disability in Ambicho

[21] Beyaynet: Ethiopian popular fasting food

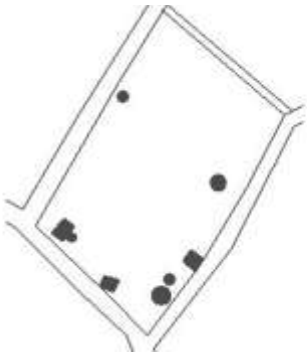
4.2.3 Transformations at the settlement level

Today farm land is being transformed in to squatter settlement in Ambicho. In addition, grazing land, which is the only open space for multiple cultural and social activities, have been occupied by settlers. Figure 4.4 below shows spatial (figure ground) transformations in the selected representative block of Ambicho. As shown in the figure majority of modern CIS houses are built in the past five years. Process of transformation start by subdivision and informal transfer of plot of lands at the perimeter of farm land blocks, followed by construction of residential houses and then it continue to central part which is usually back yard farm of native farmers. Currently, all of the perimeter and central part of the land is already sold and now being crowded by newly built modern CIS roof houses (see Figure 4.4E).

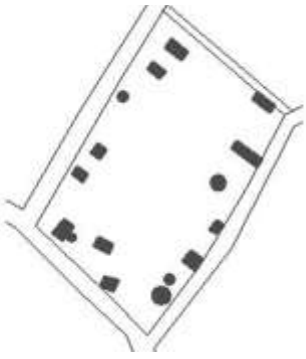
A) Selected block to show spatial transformation in Ambicho.



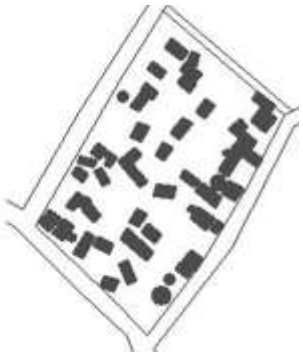
B) Settlement before 2002



C) Settlement at 2002



D) Settlement at 2012



E) Settlement at 2017

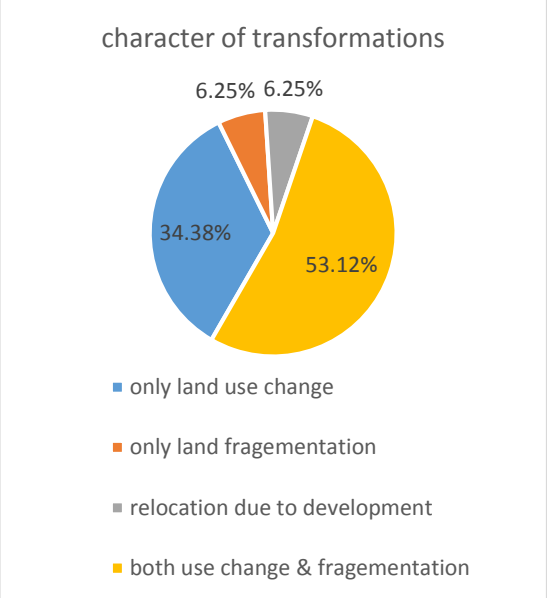
Figure 4.4: Settlement spatial (figure ground) transformations in Ambicho (selected sample block)

4.2.4 Transformations at the compound level

I. Characteristics of transformation

The two major transformations in the compounds are land fragmentation and land use change. When the land fragments either through inheritance or 'selling', in most cases the use of the land changes. These types of change comprise 53.12% of the total transformation. In addition, 34.38% of land transformations is only land use change and 6.25 % of transformation is only land fragmentation (see Graph 4.9 and Table 4.16).

Land use change in the compounds mostly happens either when original use of all or part of plot is change in to another purpose based on owner's preference. In the past ten years, most of the transformations are from farm land to pure residential living areas. The transition of land use have two characteristics, the first one is land use change that occur without fragmentation. In such cases, land use change happens when original land owners or farmers construct new houses with in the compound either for newlywed couples or for rental purpose. Secondly, most land use change occurs after fragmentation lands either when they are transferred through inheritance or purchased by newcomers. In both cases transformation happens from farm land to residential area with no farming activities. The combined effect of these changes in many of the households contributed for high rate of peri-urban transformation in Ambicho area.



Graph 4.9: Character of compound transformations in Ambicho

The rest 6.25% of transformation in the compounds happened due to relocation. Two house holds out of thirty two are relocated because of Wachemo University establishment in 2010. At that moment all relocated households were given compensation in the form of new farm land and money. Such developments forced some households to build new living environment from the scratch. This process involves both land use change and fragmentation within the compound.

Type of transformation	A)Land use change	B) Land fragmentation	A & B due to relocation for development	A and B	Other
Frequency	11	2	2	17	Not mentioned
Percentage	34.38%	6.25%	6.25%	53.12%	

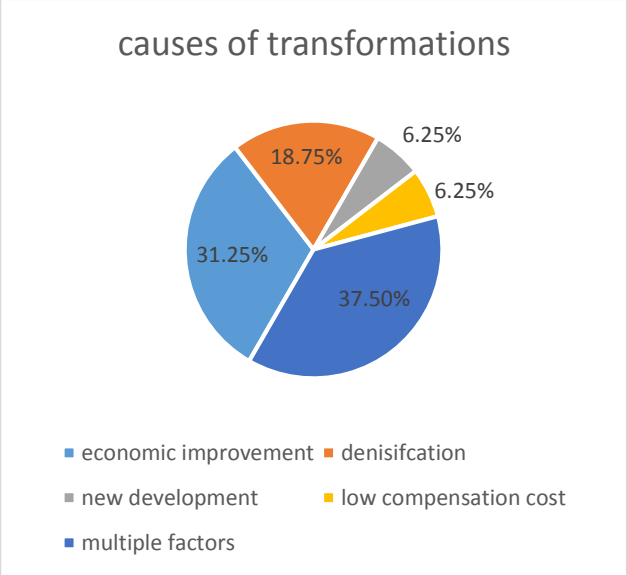
Table 4.16: Characteristics of compound transformations in Ambicho

II. Causes of transformations

There is no single determinant that affect transformations at the compound level. Multiple factors affected compound transformations in Ambicho, which include 'selling' land for economic improvement, land fragmentation due to densification, developing new land due to development-induced relocation, and selling land fearing land would be taken for development with low compensation cost.

Thirty one percent of households sold farm land to improve their life quality, after 'selling' part of land they construct "amora kinf[22]" considered modern house with corrugated iron sheet (CIS) roofing (see Graph 4.10). This type of houses are observed in almost all households who 'sold' their land. They also furnish their houses with modern expensive furniture. Some households send their family member to South Africa or United Arab Emirates for work using the money they collect from 'selling' their land.

Densification is another factor that caused compound transformations. Almost nineteen percent compounds are changed due to population increase resulting in over fragmentation of land. Due to shortage of farm land significant number of young people flee to major towns of Ethiopia and other countries. As described above (I) 6.25 % of the transformations at the compound level occurred following relocations because of development (see Graph 4.10 and Table 4.17).



Graph 4.10: Causes of compound transformations in Ambicho

Other 6.25% of the interviewed households 'sold' their land fearing their land would be taken for development with low compensation payment. The 2011 attempt to regularize Ambicho land and include it within Hosanna town administration has forced people to live with the fear that their farm land would be taken any time in the future. During the interview, I observed that respondents didn't answer question related to government expropriation of land or low compensation payment

[22] *Amora-kinf* is a gable roof modern house with corrugated iron sheet (CIS) roofing.

sufficiently due to fear. According to key informants from Ambicho, low compensation payment is the number one factor for informal land transformation. But the data from standard questionnaires collected from households shows that the major factors are economic reasons and density.

The rest 53.12% of transformations happen due to multiple factors. That means transformation in more than half of interviewed households happen due to combined factors which include at least two of social, economic and physical factors stated on Table 4.17.

Causes (factors)	Land sold for economic improvement	Land fragmentation due to densification	Land taken for new development	Land sold fearing new development and low compensation cost	Multiple factors Economy + density + low compensation cost +other
Frequency	10	6	2	2	12
Percentage	31.25%	18.75%	6.25%	6.25%	37.5%

Table 4.17: Causes of compound transformations in Ambicho

4.2.5 Transformation at the building level

A. Building typology transformations through years

According to a key informant from Hadiya Zone Culture and Tourism Bureau, three types of houses have been constructed in different period of time. The transformation of these typologies happened for various reasons, and now modern CIS roof building construction dominates the settlement.

The first houses type that has been distinguished was called "huguma[23]" by local people and its structure resembles today's Sidamo house, in which all building parts, wall and roof of the house are constructed attached together as one element (see Figure 4.5). These type of simple tents were constructed using long grasses and used as temporary shelter while inhabitants move to place to place in search of grazing land for their cattle's.

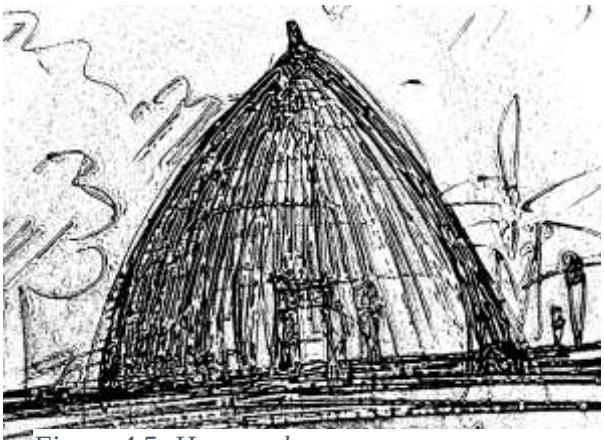


Figure 4.5: Huguma house

[23] *Huguma* is the oldest traditional house type in Hadiya zone which resembles today's Sidamo house.

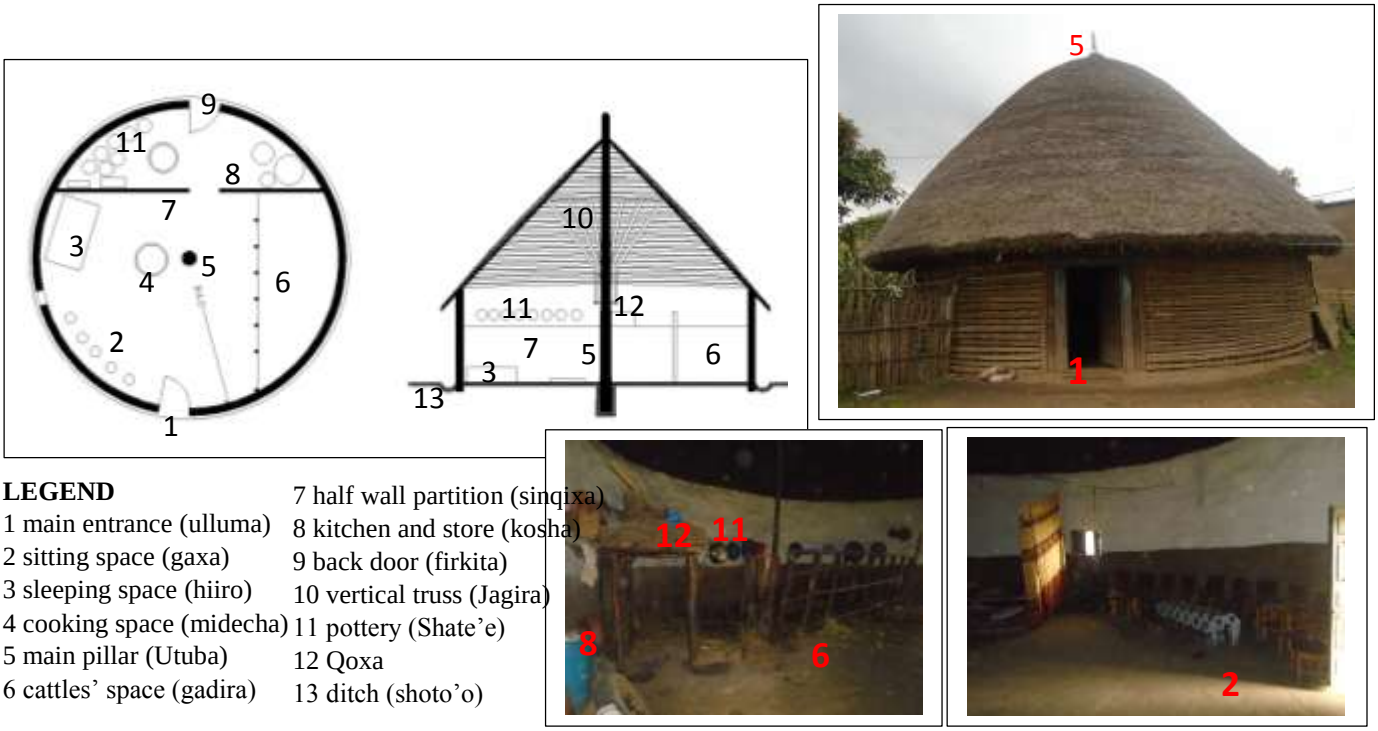
The second type which is called "Huq mine[24]" is assumed to be introduced in the settlement hundred years back from now. This type was dominant house that had been constructed for previous hundred years in Hadiya, Kembata, Gurage, Silte and Wolaita zones. Its basic structure and construction technique is similar in all of these neighboring zones except some finishing details, interior use and decorations. According to key informants these type of house was adopted from northern part of region Gurage and Silte. This permanent structure became familiar when people start to settle permanently by owning individual farm land.

Based on building size and use, basically, four typologies are identified in this type of houses, these are main house (lob mine or goye'e), guest house (jagara), kitchen (sa'l mine) and thatch store for cattle's (ga'p mine)[25].

"Goye'e" these is the main family house which consists of family sleeping space (hiiro), children sleeping space and sitting space (gaxa), cattle space (gadira), fire place (midecha), store and kitchen (kosha)[26], and suspend or raised store (qoxa). All these activities are included in one circular space with no space specialization. Space hierarchy and division is distinguished by furniture layout and other transition elements. Most of the time main entrance of the house located in the east and cattle space located at the northern part, and sleeping and sitting space situated in the south. On the west "kosha" is located bounded by half wall decorated by bamboo construction, and this is the only semi private space partly divided from other space by physical element. At the center "midecha" cooking space is situated beneath "utuba[27]" the main pillar of the house. Family members sit around "midecha" during meal time and coffee ceremony. At the west there is secondary entrance that connect "kosha" with backyard and main kitchen "sa'l mine" on the west.

The size of main house "lob mine" is most of the time 16anga (8m diameter).the size will be reduced based on family size and financial capacity of household, so that 6m diameter is the smallest for main house (See Figure 4.6).

[24] *Huq mine* is the second oldest traditional house type which still exist.
[25] Different typologies of huq mine.
[26] Spaces (activities) with in traditional main house (goye'e)
[27] *Utuba* is centeral main post (pillar) of traditional house (huq mine)



LEGEND

1 main entrance (ulluma)
2 sitting space (gaxa)
3 sleeping space (hiiro)
4 cooking space (midecha)
5 main pillar (Utuba)
6 cattles' space (gadira)
7 half wall partition (sinqixa)
8 kitchen and store (kosha)
9 back door (firkita)
10 vertical truss (Jagira)
11 pottery (Shate'e)
12 Qoxa
13 ditch (shoto'o)

Figure 4.6: Hadiya typical traditional main house "Goye'e" plan, section and pic

Purpose of guest house "jagara" is reception space for distinguished guests. It also serve additional purpose such as temporary sit for newlywed couples, sleeping space for elders and wheat storage space "secho". The size of "jagara" ranges from 4m to 6m (8ang to 12 ang mine) diameter house. Main kitchen "sa'l mine" is used as main cooking space and storage. The size of this typology is similar with guest house and it ranges from 4m to 6m (8ang to 12 ang mine) diameter house. "ga'p mine" is the fourth typology used as cattle food storage and its size usually ranges from 3m to 4m house (6ang to 8ang mine).

The third type of building that has been flourishing is CIS roof modern building. Two typologies are identified in this type the first one is "amora kinf" and the second one is simple shed house "service bet". Usually "amora kinf" bet used as main living house having specialized rooms defined by walls. Most of the time these typology consist living room, master bedroom, children bedroom and store. And "service bet" can be used as main living house or additional service giving house (see Figure 4.7).

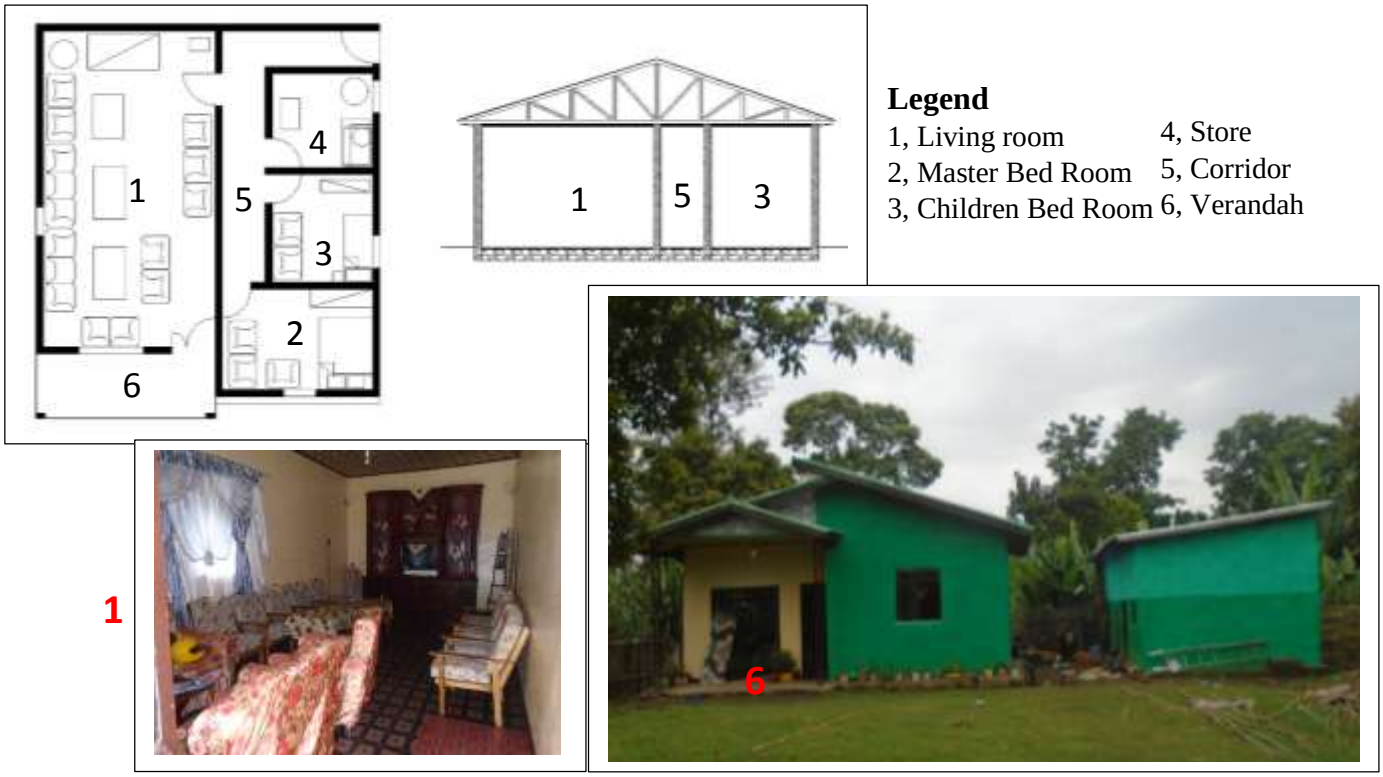


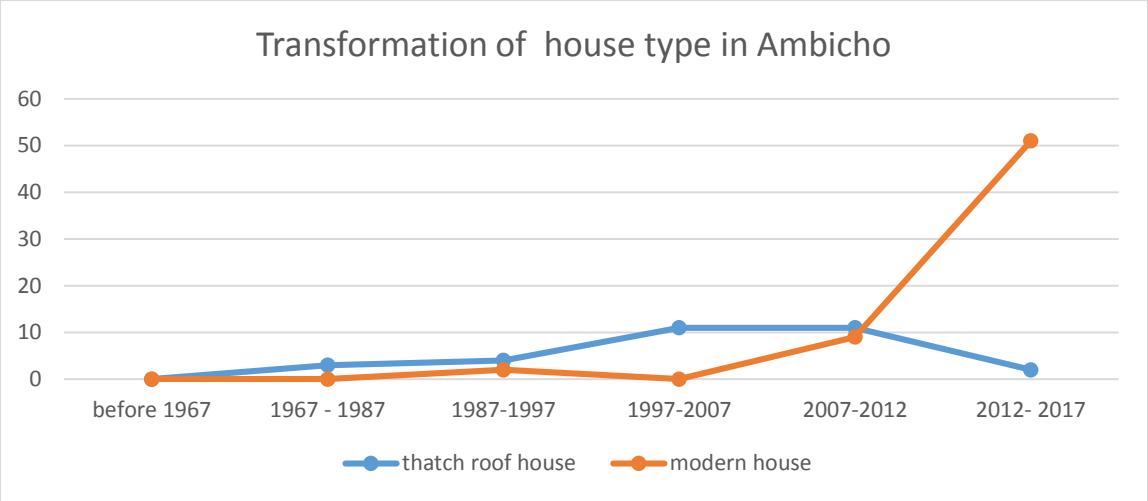
Figure 4.7: Newly introduced typical modern CIS roof house plan, section and pic

Generally construction of traditional thatch roof houses is highly declined and being replaced by modern CIS roof modern houses. From the total houses constructed in the previous ten years 82.2% of them are modern CIS roof houses (see Graph 4.11).

Furthermore, the data on the table 4.18 shows fading of traditional (vernacular) building culture and flourishing of modern CIS roof houses. According to key informants from Ambicho: effect of globalization, easy access to modern building materials, and easier construction system of modern buildings and shortage of vernacular building materials take major share for these transformations.

Building type	Years of construction					
	Before 1967	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
Rural thatch roof house	All are demolished	3	4	11	11	2
Modern CIS roof house	No building	0	2	0	9	51

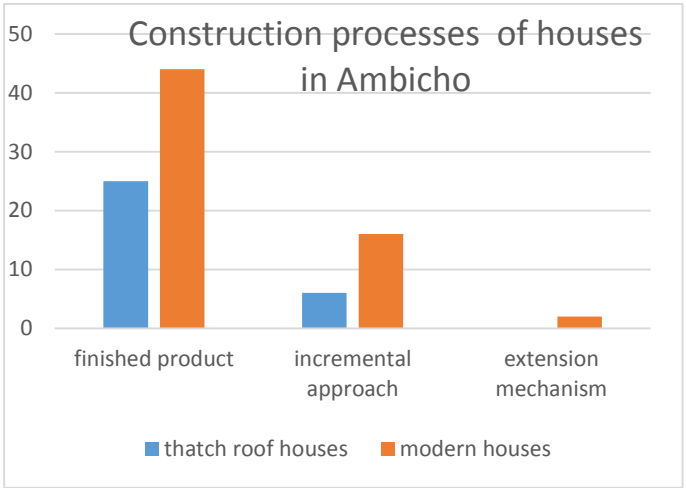
Table 4.18: Transformation of house type in Ambicho



Graph 4.11: Transformation of house type in Ambicho

B. Construction processes of existing buildings

Most of both traditional and modern buildings which comprise 74.2% are constructed by finished product mechanism, in which all of the building parts are completed once before it start to give service. Therefore, no extension or upgrade is made on these buildings since all parts are completed once. Twenty four percent are built by incremental processes: in this process spatial configuration of a house remain as it is while upgrading of building parts. For example, on modern buildings rammed earth floor finishes are changes in to cement screed, transforming mud walls to add stone claddings, Replacing Plastic ceilings by chip wood or gypsum cladding. On rural thatch roof building upgrading would be done when changing deteriorated roof cover whenever it starts to leak. Wall part remain the same with no significant change except changing paintings and some decorations. Generally upgrading of building parts are conducted while residents are living in the house. They use saving, ekub[28] and changing property to raise fund for



Graph 4.12: Construction processes of houses in Ambicho

[28] *Ekub* is a social institution in which individuals come together to form 'ekub' and collect money in regular interval and they take the money by turn (collected money in one turn is dedicated only for one person).

upgrading their house. According to key informants from Ambicho, most of the time upgrading occur during special occasions like wedding ceremony or festivals.

The rest 2.15% are constructed by extension processes. In this method extra rooms are added to existing building to satisfy required space need: such as kitchen, store, cattle's room or children sleeping space (see Graph 4.12 and Table 4.19).

Building type	Construction processes		
	Incremental/upgrading	Finished product	Extensions
Traditional thatch roof houses	6	25	0
Modern CIS roof houses	16	44	2
Total	22	69	2
Percentage	23.65%	74.2%	2.15%

Table 4.19: Construction processes in Ambicho

C. Building conditions

While categorizing building conditions in to good, fair and bad the following criteria are used. These are structural integrity, finishing condition, interior comfort and building part (floor, wall and roof) condition.

Good condition:

Houses with a safe structural integrity (with no structural failure such as leaning and bending or damage on structural part), well finished parts (wall, floor and roof) of house, acceptable interior comfort (moderate heat, enough light and ventilation) and no deterioration (damage) on building parts are considered as good condition houses.

Fair condition:

Houses with insignificant structural failure (that has no risk on life and can be corrected easily, but will deteriorate if not corrected), insignificant damage on building part finishes (which can be corrected easily, but will deteriorate if not corrected), moderate amount of heat, light and ventilation, and reversible damage on building parts are considered as fair condition houses.

Bad condition:

Houses with structural failure (exaggerated leaning, bending or distortions on the structural parts), no well finishing of building parts and vulnerable to leakage, inadequate room comfort (insufficient heat, light and ventilation mechanism) and irreversible damage on building parts (Sevier damage or leakage in a situation vulnerable to health insecurity) are considered as a bad condition houses.

Based on the above criteria, 6.45% of traditional houses are in a good condition. The rest 67.75% and 25.8% are in a fair and bad conditions respectively. In the case of modern houses, 38.7% are in

a good condition. The rest 58 % and 3.3% are in a fair and bad conditions respectively (see Table 4.20 and Graph 4.13).

Building condition	Rural thatch roof houses		Modern CIS roof houses	
	Frequency	Percentage	Frequency	Percentage
Good	2	6.45%	24	38.7%
Fair	21	67.75%	36	58 %
Bad	8	25.8%	2	3.3%

Table 4.20: Building conditions in Ambicho

Graph 4.13: Building conditions in Ambicho

D. Source of finance for housing construction

Households in Ambicho use multiple sources to finance housing construction, such as saving, loan, family support from abroad and selling property such as land and cattle are the most common sources of finance. Among the interviewed households, saving accounts for 51.6% of source of finance for house construction. Loan, family support and selling property accounts 0%, 24.7% and 16.2% respectively. The rest 7.5 % of households use combined sources, two or more of aforementioned sources (see Table 4.21).

House (building) type	Source of finance				
	Saving	loan from relative (friends)	Family support from abroad	Selling property land, cattle	Saving +family support +selling property
Rural thatch roof	22	0	5	3	1
Modern CIS roof	26	0	18	12	6
Total	48	0	23	15	7
Percentage	51.6%	0%	24.7%	16.2%	7.5%

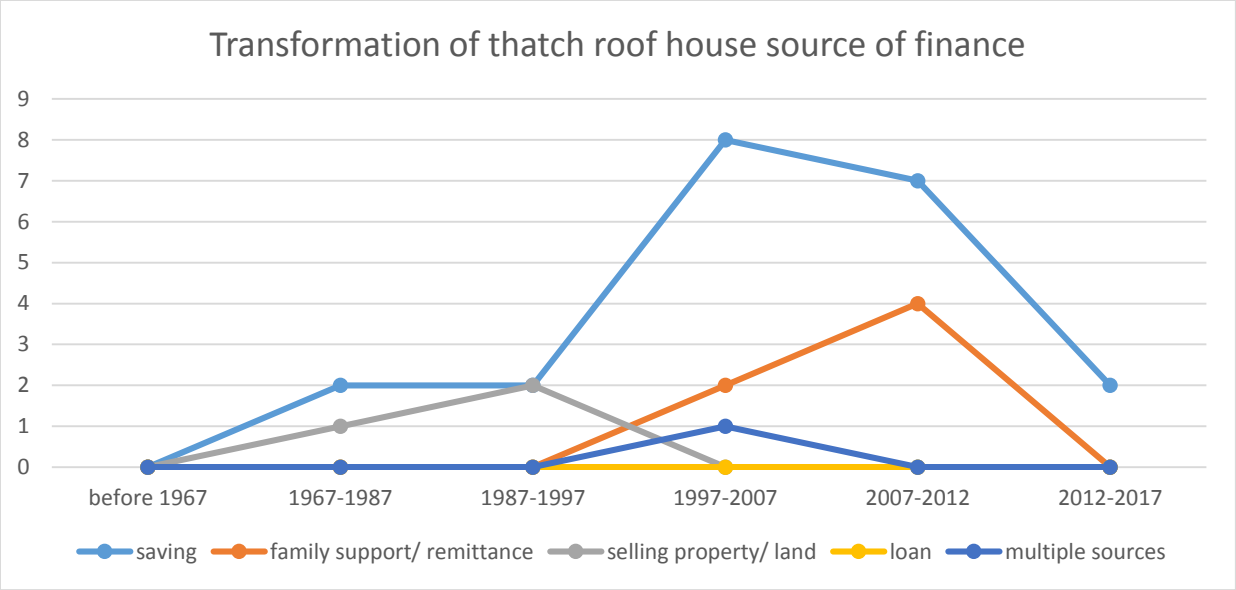
Table 4.21: Source of housing construction finance in Ambicho

1. Transformation of source of finance for traditional thatch roof houses

Before 1990's sources of finance for traditional house was saving and selling property such as cattle. However, since 1997 households have used different sources to generate money for housing finance. Today source of finance for traditional houses become family support from abroad and combined sources (See Table 4.22 and Graph 4.14).

Source of finance	Number of buildings built over years				
	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
Saving	2	2	8	7	2
Loan	0	0	0	0	0
Family support	0	0	2	4	0
Selling property	1	2	0	0	0
Saving + family	0	0	1	0	0
remark	Mostly saving		Mostly saving, family support		Mostly saving

Table 4.22: Transformations of source of finance for traditional houses in Ambicho



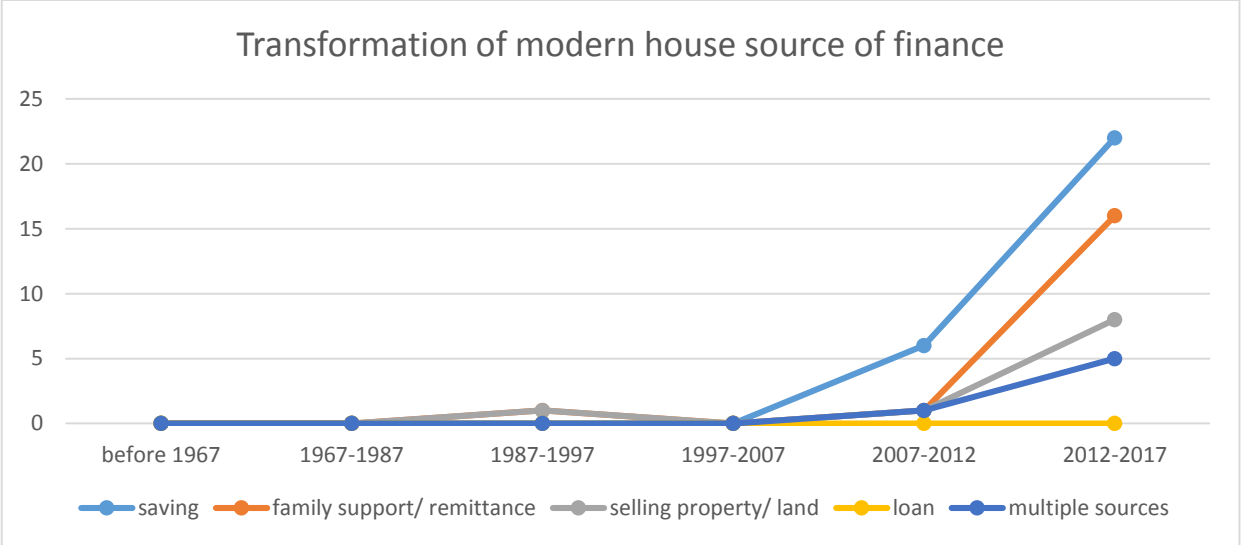
Graph 4.14: Transformations of source of finance for traditional houses in Ambicho

2. Transformation of source of finance of modern CIS roof houses

Based on the data from the interviewed households, before 2007 source of finance for all modern buildings was either saving or loan. However, since 2007 following increased number of modern building construction, different financing mechanisms has been used for housing constructions. These are saving, family support from abroad, selling of land and multiple (combined) sources. From the aforementioned sources, saving accounts for the majority in all years. (See Table 4.23 and Graph 4.15).

Source of finance	Number of houses built over years				
	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
Saving	0	0	0	6	22
Loan	0	0	0	0	0
Family support	0	1	0	1	16
Selling property	0	1	0	1	8
Saving + family	0	0	0	1	5
remark	No building	Mostly Family support & Selling property		Mostly saving	Mostly saving, family

Table 4.23: Transformations of source of finance for modern cis houses in Ambicho



Graph 4.15: Transformations of source of finance for modern cis houses in Ambicho

E. Skilled labor for housing construction

According to the collected data, 80.6% of all houses in Ambicho were constructed fully by local builders. The rest 12.9% and 6.5% are constructed by family members, and family with the help of local builders respectively. (See Table 4.24).

Type of building	Type of skilled labor used to construct houses							Percentage total
	Contractor	Local builders		Family/relatives		Family + local builders		
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
Traditional thatch roof houses	0	22	71%	6	19.3%	3	9.7%	100%
Modern CIS houses	0	53	85.5%	6	9.7%	3	4.8%	100%
Total	0	75	80.6%	12	12.9%	6	6.5%	100%

Table 4.24: skilled labor for housing construction in Ambicho

1. Transformation of skilled labor who construct traditional thatch roof houses

Before 1997, most of traditional houses were built by family and relatives. House construction skill was considered as a basic skill that every man should acquire and build his own house by himself. Through time, this culture has transformed and now is limited to local builders. Majority of traditional houses that has been constructed since 1997 are built by local builders. Traditional house construction skill is one of the features that makes vernacular architecture sustainable. Construction technique and local materials used are developed for years according to site condition and availability of materials. Children grew learning the skills by practicing on real house constructions. Today that culture is almost lost and local professional builders dominate construction sector. (See Table 4.25).

Type of skilled labor	Type of skilled labor used over years (frequency and percentage)				
	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
Contractor	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Local builders (L.B)	0 (0%)	1 (25%)	10 (90.9 %)	8 (72.7%)	1 (50%)
Family and relatives	2 (66.7%)	2 (50%)	0 (0%)	2 (18.2%)	1 (50%)
Local builders+ family	1 (33.3%)	1 (25%)	1 (9.1%)	1 (9.1%)	0 (0%)
Total percentage	(100%)	(100%)	(100%)	(100%)	(100%)
Remark	Mostly family and relatives		Mostly local builders		

Table 4.25: Transformation of traditional house construction skill in Ambicho

2. Transformation of modern CIS roof house construction skill

Before 2007, two modern CIS roof houses were built by local builders. Recently, the percentage significantly increased and more than 90% of modern houses in the settlement were built in the past ten years. Since 2007, eighty five percent of these houses were built by local builders and the rest 8.3% and 6.7% were built by family members or relatives and family with the help of local builders respectively. (See Table 4.26).

Type of skilled labor	Type of skilled labor used over years (frequency and percentage)				
	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
contractor	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Local builder (L.B)	0 (0%)	2 (100%)	0 (0%)	6 (66.7%)	45 (88.2%)
Family and relatives	0 (0%)	0 (0%)	0 (0%)	0 (0%)	5 (9.8%)
Local builders + family	0 (0%)	0 (0%)	0 (0%)	3 (33.3%)	1 (2%)
Total percentage	(100%)	(100%)	(100%)	(100%)	(100%)
remark	No bldg.	Mostly L.B	No bldg.	Mostly local builders	

Table 4.26: Transformation of modern cis roof house construction skill in Ambicho

F. Construction techniques and building materials

Construction technique and building materials of both traditional and modern houses in Ambicho and Kidigisa is almost the same. Therefore, instead of discussing in each case, it is presented here in this part.

1) Traditional thatch roof houses

I. Construction technique and process of traditional thatch roof house

Step 1: Site clearance and soil cutting *"shoman dabarakamo ulla gudisakamo"*

Step 2: Plan setting *"shoto'o murima"*

Step 3: Erecting wooden wall *"caa'l ullisimma"*

Step 4: Horizontal truss for wall part *"meeger karima"*

Step 5: Finalizing wall part and tie beam *"gortena gullima"*

Step 6: Erecting central main pillar *"utuba ullisha"*

Step 7: Constructing roof and pillar connection *"qoxa (zaba'a) baxaka'a min ille xintakamo"*

Step 8: Constructing roof rafter *"imane woxabacha baxakamo"*

Step 9: Inner horizontal roof truss *"worool megero'o karakamo"*

Step 10: Filling roof with bamboo or wood *"suto'o gullakamo"*

Step 11: Outer horizontal roof truss *"hanoqa karakamo"*

Step 12: Outer horizontal main roof truss "fero'o megeer karakamo"

Step 13: Connecting rafter with central main pillar by diagonal truss "jagiraa kasakamo"

Step 14: Finalizing roof by covering with thatch or grass *"imane ambima"*

Step 15: Floor leveling and ramming *"ulli shirashirma"*

Step 16: Wall cladding with mud *"gorteena hari aphisima"*

Step 17: Door and window construction *"ulluma firkita baxima"*

Step 18: Dividing space for different use *"la'l beyo, man beyo, woo'l beyo kosha annan isakammo"*

Step 19: Inaugural ceremony *"olla'a wesheka'a masissakamo"*

II. Building materials and techniques

Floor: Rammed earth and frequent daubing with cow dung

Wall: Wood as vertical structural member and bamboo as a horizontal truss (tie)

Roof: Wooden rafter, bamboo horizontal truss (tie) and thatch *"dufa or gaba"* cover

Pillar: Wooden pillar from strong tree species such as *tid, zigba* or *eucalyptus tree*.

2) Modern CIS roof house

I. Construction process and technique of modern CIS roof house

Step 1: Site clearance

Step 2: Erecting wooden pillars around the house perimeter

Step 3: Connecting wall with horizontal wall truss (tie)

Step 4: Constructing roof rafters

Step 5: Constructing roof buttons

Step 6: Attaching roof cover CIS

Step 7: Constructing wall with wood sticks and cladding with mud

Step 8: Floor finish with rammed earth or cement screed

Step 9: Constructing ceiling

Step 10: Plastering and painting of wall part

II. Building materials and techniques

Floor: Rammed earth or cement screed

Wall: Wooden stick and mud cladding

Roof: Corrugated iron sheet (CIS)

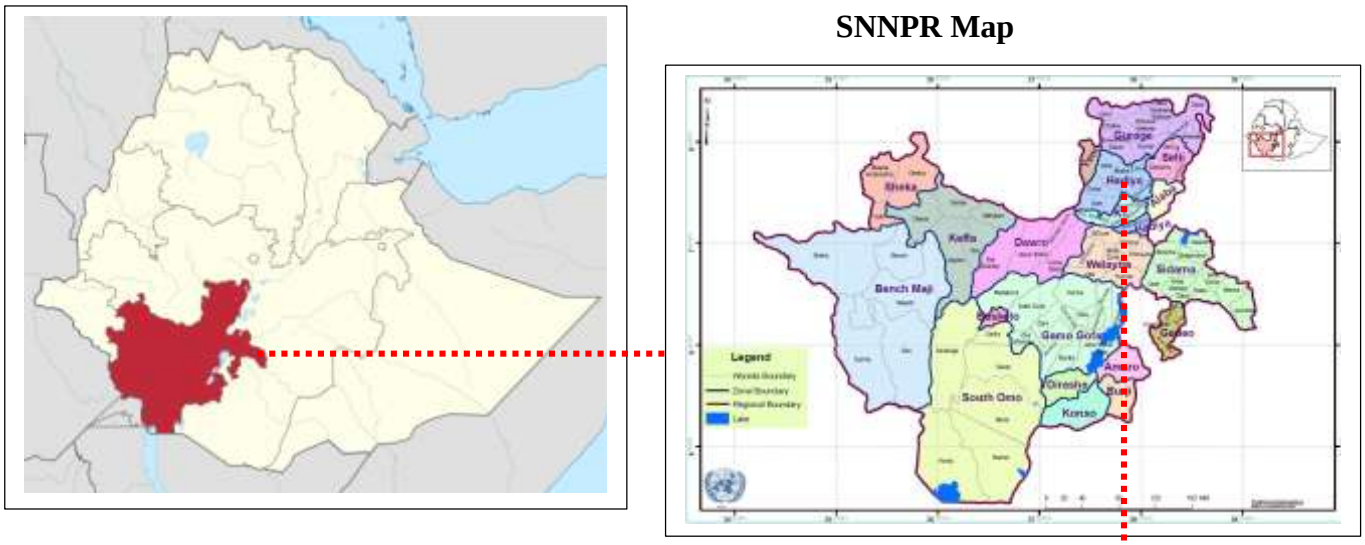
Ceiling: Plastic ceiling or chip wood

Structure: Wooden pillars

4.3 Case 2: Kidigisa

4.3.1 Location

The Kidigisa case study site is located in the North of Hosanna Town. The main road that connect Hosanna and Jimma passes through the middle of the site (see Figure 4.8). Geographically, the site is located between 83^0 82' 00'' and 84^0 02' 00'' north latitude and between 37^0 33' 00'' and 37^0 55' 00'' east longitude. It is bounded by Shilansha River at the south and west, Batena River at the north and Kalisha Kebele at the east.



Map of Ethiopia and location of Hadiya zone in SNNPRS: Source Hadiya Zone Urban Dev't Bureau

Case 1: Kidigisa Map

Location of Kidigisa in administrative map of Lemo Woreda

Figure 4.8: Location map of Kidigisa: Source Hadiya Zone Urban Dev't Bureau and own produced

4.3.2 Household profiles

i. Household size and place of origin

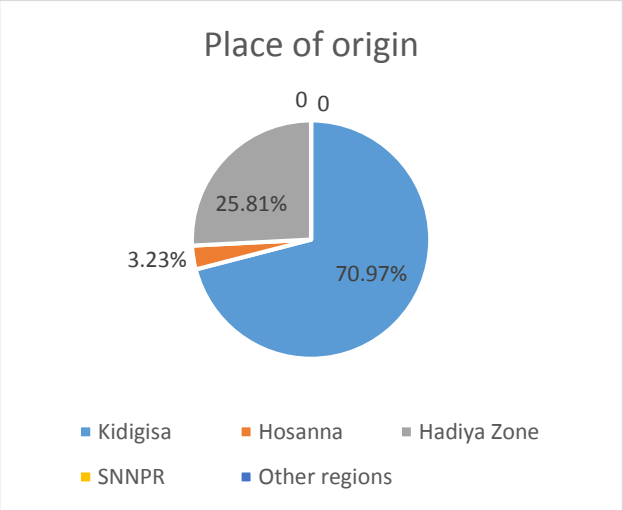
The data collected during field work from thirty-one houses shows that the size of 22.58% of households (HH) is small, whereas 35.48 % of households are medium size, 32.26 % are large size and 9.67% are extra-large size (see Table 4.27). Fifty percent of small size households are new comers, whereas from the total newcomers 57% of new comers are from small size households. The size shows these households establish family recently and come to kidigisa deciding it would be the best option to acquire land and own home informally purchasing from farmers. Fifty percent of the newcomers arrived at the settlement with-in the last ten years, which indicates how fast the land is being acquired and fragmented by the arrival of the newcomers. These activities also changed land use pattern of the settlement.

Category	Family size	Household frequency	Percentage
Small size family	1-5	7	22.58%
Medium size family	6-8	11	35.48%
Large size family	9-11	10	32.26%
Extra-large size family	>11	3	9.67%

Table 4.27: Family size in Kidigisa

In addition, out of the total households included in this study, 70.97% are natives who born and lived in Kidigisa. Whereas 25.81% are newcomers, out of which 3.23 % and 25.81 % come from Hosanna Town and Hadiya Zone respectively. (See Graph 4.16). As these figure show, the majority of newcomers migrate from rural areas of Hadiya Zone in search of affordable land surrounding an urban area. Small portion of households come from Hosanna Town after selling or renting their property in the town as a result of economic inflation.

Unlike the case of Ambicho, in Kidigisa there is no newcomer from SNNPR and other regions of Ethiopia. This shows the trend, informal sites are first occupied by residents from close proximity and those from distant come when the site become stable. This happens in Kidigisa since informal settlement is emerging in Kidigisa recently.



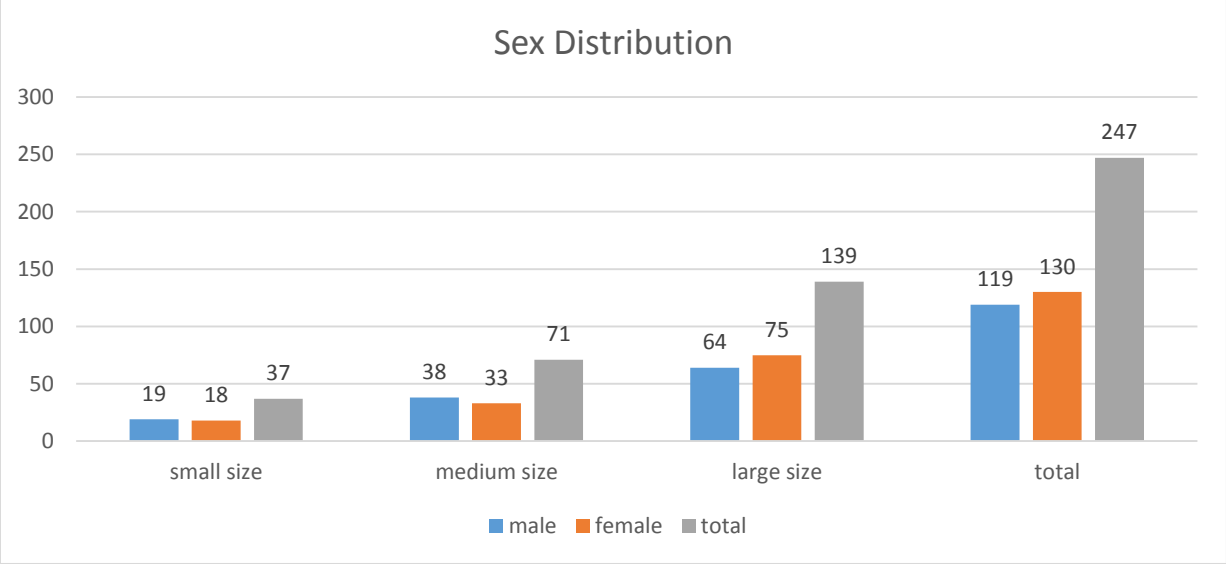
Graph 4.16: Household place of origin in Kidigisa

ii. Sex distribution

According to the data collected from thirty-one households the number of females are greater by five than males. Within interviewed thirty-one households, the number of female comprises 51%, while the rest, 49%, are male. These figures exactly match with central statistics data of Hadiya Zone, which is 49% male and 51 % female (CSA, 2007). Number of females are greater than males in small and medium size households and lower in large and extra-large size households. Forty five percent of the total population lives in large size households, while small size, medium size and extra-large size households share the rest 55% of the population equally (See Table 4.28 and Graph 4.17).

Category	Male	Female	Total
Small size family	19	18	37
Medium size family	38	33	71
Large size family	53	58	111
Extra-large size family	11	17	28
Total	121	126	247

Table 4.28: Sex distribution in Kidigisa



Graph 4.17: Sex distribution in Kidigisa

iii. Period of stay in the settlement

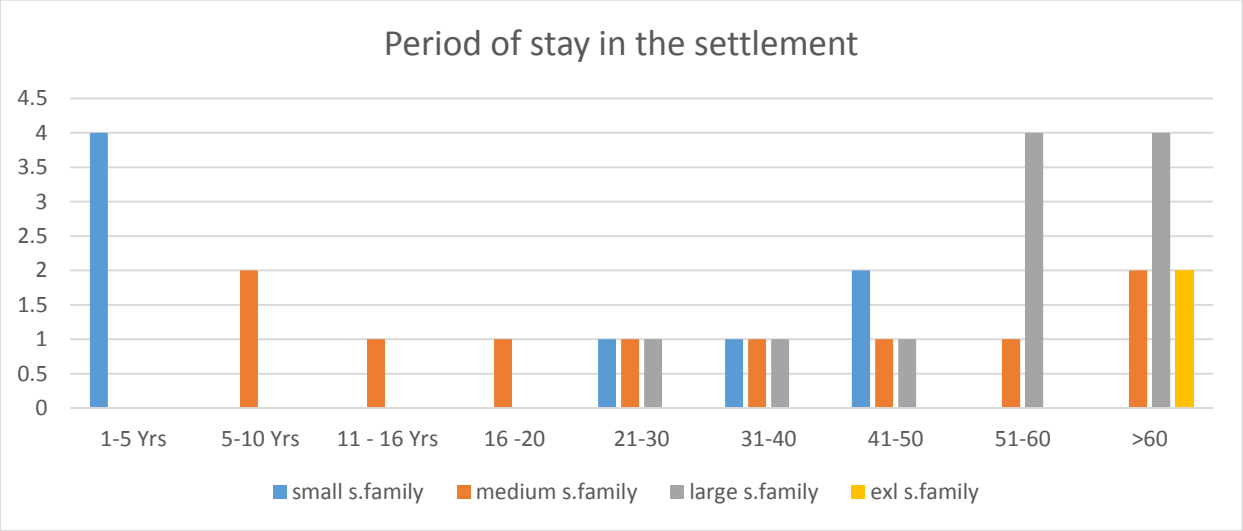
It has been hundreds of years since people start to live in these area (Alebachewu and Samuel, 2009). However, the data collected from thirty-one household's shows 35.5% of households stayed here one up to thirty years. From these groups, almost 50% of them are households who stayed for

the last ten years and all of them are from small size households. (See Table 4.29 and Graph 4.18). This figure shows majority of land transformations happens in the previous ten years.

Years of stay	1-5	6-10	11-15	16-20	21-30	31-40	41-50	51-60	>60
Small size HH	4	0	0	0	1	1	2	0	0
Medium size HH	0	2	1	1	1	1	1	1	2
Large size HH	0	0	0	0	1	1	1	4	4
Extra-large size HH	0	0	0	0	0	0	0	0	2
Summary	4	2	1	1	3	3	4	5	8

Table 4.29: Period of stay of households in Kidigisa

Twenty-three percent of the households stayed for the past thirty up to fifty years. Forty-two percent of the households stayed more than fifty years in the settlement (see Graph 4.20 and Table 4.30).



Graph 4.18: Period of stay of households in Kidigisa

Summary:

Years of stay	1-30	31-50	>50
All family	11	7	13
Percentage	35.5%	22.6%	41.9%

Table 4.30: summary of period of stay of households in Kidigisa

iv. Means of land acquisition

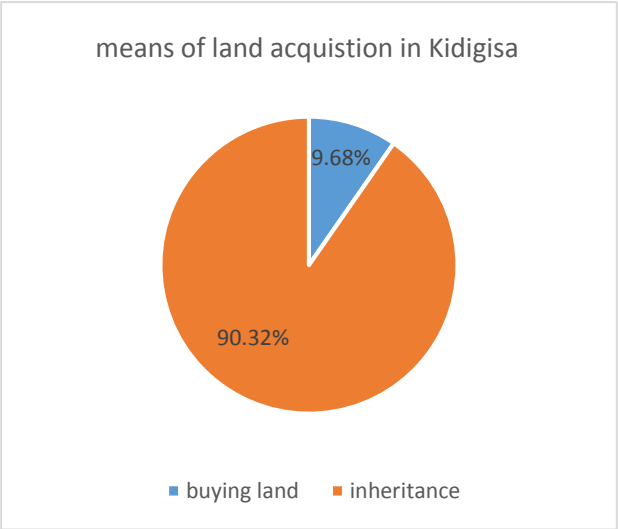
Today land become a very expensive resource, especially price of urban land is escalating each day following increasing need for either residential or commercial urban plot of land. Urban expansion and shortage of housing in Hosanna town triggers informal transformation of peri-urban areas around Hosanna town such as Kidigisa. Even though Kidigisa is an informal settlement, the price

of land has been doubling each year, for the past ten years. Currently average land price reached ETB 600 (USD 21) for 1m^2 of land.

Family status	Means of land acquisition											
	Buying land				Inheritance				Renting house			
	SS HH	MS HH	LS HH	EXL SHH	SS HH	MS HH	LS HH	EXLS HH	SS HH	MS HH	LS HH	EXLS HH
New comer	2	0	0	0	0	3	3	0	0	0	0	0
Native	0	0	0	0	6	7	8	2	0	0	0	0
TOTAL	2				29				0			
PERCENTAGE	9.68%				90.32%				0%			

Table 4.31: Means of land acquisition in Kidigisa

There are different mechanisms by which one can acquire land in Kidigisa, these include purchasing land, getting land through inheritance and temporary acquisition (renting a land for limited time). According to the survey made on the thirty-one households in Kidigisa, 9.68% of households acquired land by purchasing farm land from farmers, and the rest 90.32% of households live in a land which is passed by inheritance (see Table 4.31 and Graph 4.19).



Graph 4.19: Means of land acquisition in Kidigisa

Generally the survey data on the thirty-one households shows only one-tenth of households acquire land by purchasing farm lands. However, according to key informants discussion majority of farm land is already sold and transferred to brokers and speculators.

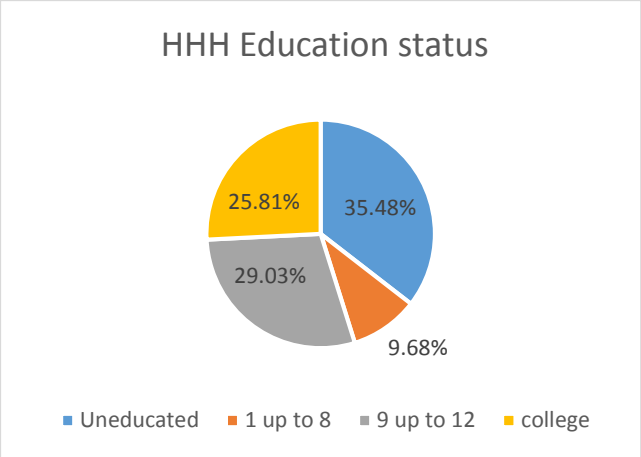
v. Household heads and education status

Among the household heads (HHH) interviewed in Kidigisa, 87.1% are males and 12.9% are females (see Table 4.32). Similar to other areas of Hadiya Zone, here in Kidigisa the majority of household heads are males (HTM, 2010). In some cases, when husbands pass away or went abroad for work; women take the responsibility of being household head.

Household head	frequency	Percentage	Remark
Male	27	87.1%	Majority of HH are males
Female	4	12.9%	Husbands are abroad to work or who had passed away

Table 4.32: Distribution of household heads in Kidigisa

Another important profile is education status of household heads which has its own impact on settlement and compound transformations. During life story analysis of selected households, it is noticed that households with better education status experienced minimum compound segregation and informal land transactions when compared with those who have no education. Household heads' education status is shown on Graph 4.20.



Graph 4.20: Household heads education status in Kidigisa

vi. Education

Currently, 41.3% of the members of the interviewed thirty-one households have education from grade one to eight. Out of these, nearly 80 percent are students, while rest, 20%, quit their education for different reasons such, starting their own business or traveling to Dubai or South Africa looking for work. The other 31.6% have education from grade eight to twelve. The rest eighteen percent have university degree or diploma, and 8.9% have no formal education (see Table 4.33).

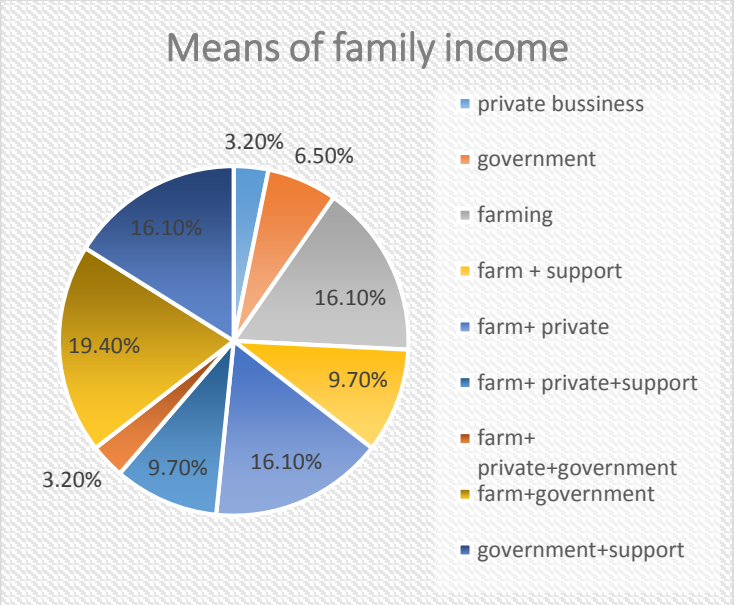
Education level	No formal education	Grade 1-8	Grade 8-12	>Grade 12(university or college)
Frequency	22	102	78	45
Percentage	8.9%	41.3%	31.6%	18.2%

Table 4.33: Education level in Kidigisa

vii. Means of family income

Originally, farming was source of income for majority of Kidigisa people. Through time impact of continuous land fragmentation reduced amount of farm land and people start to search alternative means of generating income.

Currently, 74.21% of the 31 households included in this study generate income from multiple sources such as farming, various private business, family support from abroad and government employment. They have at least two of mentioned sources of income. The remaining 25.8% of the households generate income from single sources specifically, 3.2% from private businesses, 16.1% from farming and the rest 6.5% of them are employees of the government (see Table 4.34 and Graph 4.21).



Graph 4.21: Means of household income in Kidigisa

Source of income	Frequency	Percentage
Private	1	3.2%
Government	2	6.5%
Farm	5	16.1%
Farm + support	3	9.7%
Farm + private	5	16.1%
Private + support	0	0%
Farm +private + support	3	9.7%
Farm +private + gov't	1	3.2%
Government + private	0	0%
Farm+ government	6	19.4%
Government +support	5	16.1%

Table 4.34: Means of household income in Kidigisa

viii. Home range(distance from home to job location)

Out of the households interviewed in Kidigisa, 42.3% of workers have a job location in a walking distance, therefore they go to job on foot. 7.7 % of them work in Hosanna and other nearby towns, which demands the taxi and bajaj for transportation. 26.9% of them work in Woreda towns and they

use minibus for transportation. 6.7% of them work in Addis Ababa and other major cities, these are khat and bu'la traders' who commute to their work place weekly. They use bus when they need transportation (see Graph 4.22). The rest 16.3% work in abroad, South Africa and Dubai (United Arab Emirates). Usually they use illegal routs to travel (see Table 4.35).

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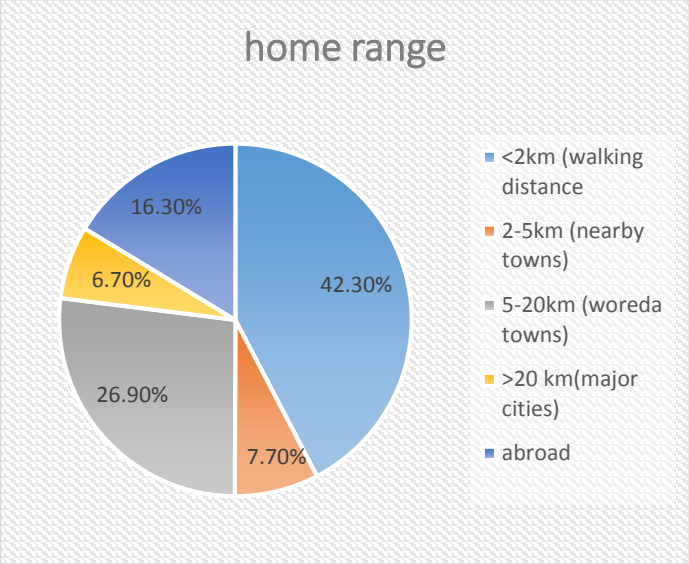


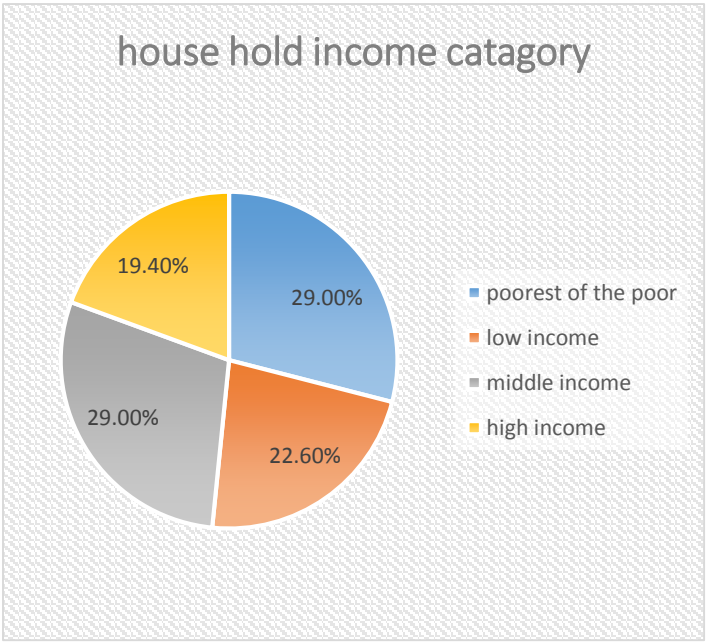
Graph 4.22: Home range in Kidigisa

Distance	<2km (walking distance)	2-5km Convenient for taxi/Bajaj	5-20km Woreda towns	>20km Major cities	Abroad South Africa Dubai
Frequency	44	8	28	7	17
Percentage	42.3%	7.7%	26.9%	6.7%	16.3%
Transport	On foot	Taxi	Minibus	Bus	Airplane Or bus/illegal

Table 4.35: Home range in Kidigisa

ix. Household income

As it is described in section 4.3.2 (vii) households in Kidigisa use different mechanisms to generate income. This section illustrate categories of different income level in Kidigisa. Based on income level assumptions made in part 4.2.2 (ix) of this chapter, ETB300 per month person adult or ETB1,500 per month per average size household is assumed to be food poverty line and ETB600 per month per adult or ETB3,000 per month per average household is assumed to be absolute poverty line.



Graph 4.23: Household income level category in Kidigisa

Therefore, those who are below the poverty line are categorized as the poorest of the poor and 29% of the interviewed households fall within this category.

Based on the same assumption, households who afford ETB3000-ETB5,000 per month per household are categorized as low income. Based on the collected data 22.6% of the households are categorized as low income. Twenty nine percent of households are categorized as middle income and assumed to afford ETB5000- ETB10,000 per month per household. These households are able to fulfill their basic needs. The rest 19.4% households who able to afford more than ETB10,000 per month per household are categorized as high income households and they afford luxury goods and can save money for additional needs (see Graph 4.23 and Table 4.36).

Income level Per month	<3000 ETB (the poorest of the poor)	3000-5000ETB Low income	5000-10,000ETB Middle income	>10,000ETB High income
Frequency	9	7	9	6
Percentage	29%	22.6%	29%	19.4%

Table 4.36: Household income level in Kidigisa.

i. Disability

Disability in Kidigisa is rare and 98.8% of the community are healthy. Only two cases from thirty three households or 244 population are recorded, two blindness and one mental disorder disability. Based on these data it is possible to say the community health is in a good condition and have high potential of productivity. See table 4.37.

Disability type	Blind	Hearing	body part	Mental disorder	No disability
Frequency	2	0	0	1	244
%	0.8%	0	0	0.4	98.8%

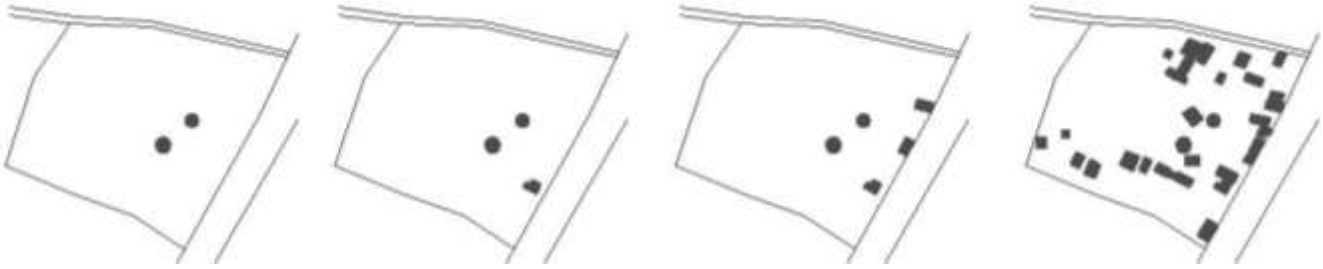
Table 4.37: Disability in Kidigisa

4.3.3 Transformations at the settlement level

Today farm land is being transformed in to squatter settlement in Kidigisa. In addition, grazing land, which is the only open space for multiple cultural and social activities, have been occupied by settlers. Figure 4.9 below shows spatial (figure ground) transformations in the selected block of Kidigisa. Majority of modern CIS houses are built in the past five years. Process of transformation start by subdivision and informal transfer of plot of lands at the perimeter of farm land blocks, followed by construction of residential houses and then it continue to central part which is usually back yard farm of native farmers. Unlike Ambicho, where all of the perimeter and central part of the land is already sold and crowded by newly built modern CIS roof houses, in Kidigisa, still there

are a farm land at the backyards of traditional thatch roof houses (circular huts) while the perimeter is occupied by new plots with modern CIS roof houses (see Figure 4.9E).

A) Selected block to show spatial transformation in Kidigisa



B) Settlement before 2002 C) Settlement at 2002 D) Settlement at 2012 E) Settlement at 2017

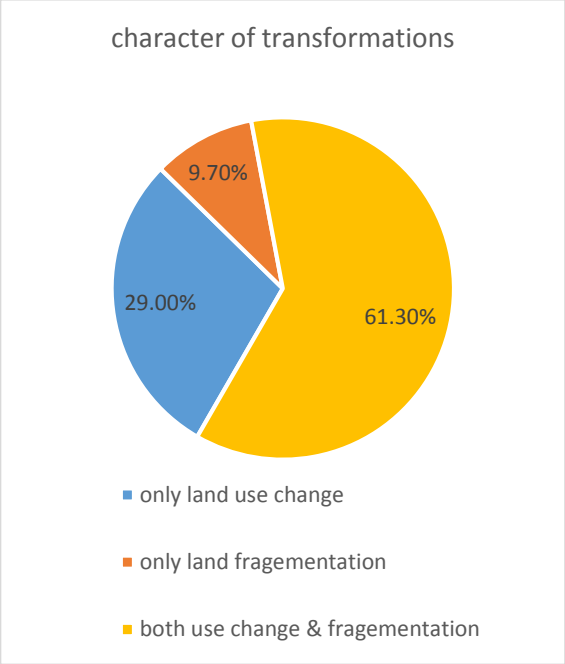
Figure 4.9: Settlement spatial (figure-ground) transformations in Kidigisa (selected sample block)

4.3.4 Transformation at the compound level

I. Characteristics of transformation

The two major transformations in the compounds are land fragmentation and land use change. When the land fragments either through inheritance or 'selling', in most cases the use of the land changes. These types of change comprise 61.3% of the total transformation. In addition, 29% of land transformations is only land use change and 9.7 % of transformation is only land fragmentation (see Graph 4.24 and Table 4.38).

Land use change in the compounds mostly happens either when original use of all or part of plot is change in to another purpose based on owner's preference. In the past ten years, most of the transformations are from farm land to pure residential living areas. The transition of land use have two characteristics, the first one is land use change that occur without fragmentation. In such cases, land use change happens when original land owners or farmers construct new houses with in the compound either for newlywed couples or for rental purpose. Secondly, most land use change occurs after fragmentation lands either when they are transferred through inheritance or purchased by newcomers. In both cases transformation happens from farm land to residential area with no farming activities. The combined effect of these changes in many of the households contributed for high rate of peri-urban transformation in Kidigisa area.



Graph 4.24: Character of compound transformations in Kidigisa

Type of transformation	A)Land use change	B) Land fragmentation	Dislocation due to new development	A and B	Other
Frequency	9	3	0	19	Not mentioned
Percentage	29%	9.7%	0%	61.3%	

Table 4.38: Character of compound transformations in Kidigisa

II. Causes of transformations

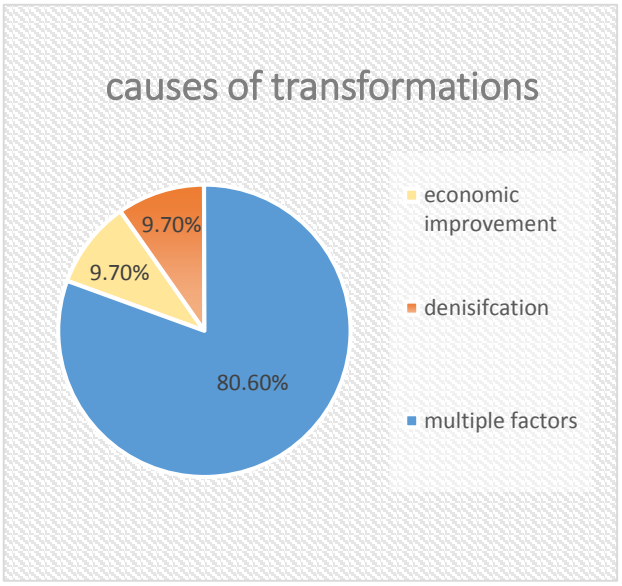
There is no single determinant that affect transformations at the compound level. Multiple factors affected compound transformations in Kidigisa, which include 'selling' land for economic improvement, land fragmentation due to densification, developing new land due to development-induced relocation, and selling land fearing land would be taken for development with low compensation cost.

Nearly ten percent of households sold farm land to improve their life quality, after 'selling' part of land they construct "amora kinf" a modern house with corrugated iron sheet (CIS) roofing (see Graph 4.25). This type of houses are observed in almost all households who 'sold' their land. They also furnish their houses with modern expensive furniture. Some households send their family

member to South Africa or United Arab Emirates using the money they collect from 'selling' their land.

Densification is another factor that affected compound transformations. Almost ten percent compounds are changed due to population increase and over fragmentation of land. Due to shortage of farm land significant number of young people flee to major towns of Ethiopia and other countries. (See Graph 4.25 and Table 4.39).

The 2011 attempt to regularize Kidigisa land and include it within Hosanna town administration has made people to live with fear that their farm land would be taken any time in the future. During the interview, I observed that respondents didn't answer question related to government expropriation of land or low compensation payment sufficiently due to fear. According to key informants from Kidigisa, low compensation payment is the number one factor for informal land transformation. But the data from standard questionnaires collected from households shows that the major factors are economy and density.



Graph 4.25: Causes of compound transformations in Kidigisa

The rest 80.6% of transformations happen due to multiple factors. That means transformation in majority of interviewed households happen due to combined factors which include at least two of social, economic and physical factors stated on Table 4.39.

Type	Land sold for economic improvement	Land fragmentation due to densification	Land taken for new development	Land sold fearing new development and low compensation cost	Multiple factors Economy + density + low compensation cost +other
Frequency	3	3	0	0	25
Percentage	9.7%	9.7%	0%	0%	80.6%

Table 4.39: Causes of compound transformations in Kidigisa

4.3.5 Transformation at the building level

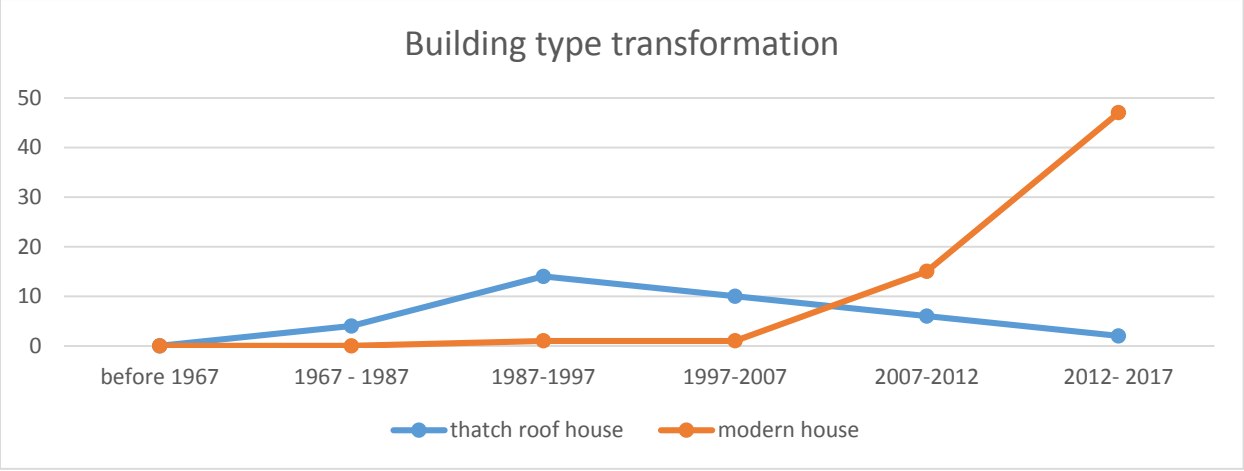
A. Building typology transformations through years

According to a key informant from Hadiya Zone Culture and Tourism Bureau, three types of houses have been constructed in different period of time. These are *huguma, hu'q mine* and Current modern CIS roof house. The transformation on these types and typologies are discussed in detail in part 4.2.4 (A) of this chapter.

Generally construction of traditional thatch roof houses is highly declined and being replaced by modern CIS roof modern houses. From the total houses constructed in the past ten years 87% of them are modern CIS roof houses (see Graph 4.26). Furthermore, the data on the table 4.40 shows fading of traditional (vernacular) building culture and flourishing of modern CIS roof houses. According to key informants from Kidigisa: effect of globalization, easy access to modern building materials, and easier construction system of modern buildings and shortage of vernacular building materials take major share for these transformations.

Building type	**Years of construction**					
	Before 1967	**1967-1987**	**1987-1997**	**1997-2007**	**20007-2012**	**2012-2017**
Traditional thatch roof houses	0 (all are demolished)	4	14	10	6	2
Modern cis buildings	0	0	1	1	15	47

Table 4.40: Transformation of house type in Kidigisa



Graph 4.26: Transformation of house type in Kidigisa

B. Construction processes of existing buildings

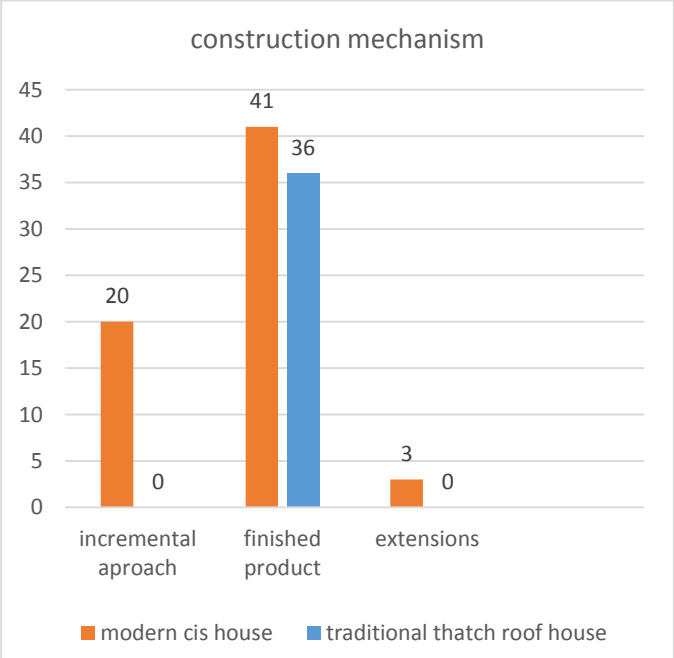
Most of both traditional and modern buildings which comprise 77% are constructed by finished product technique, in which all of the building parts are completed once before it start to give

service. Therefore, no extension or upgrade is made on these buildings since all parts are completed once. Twenty percent are built by incremental processes: in this process spatial configuration of a house remain as it is while upgrading of building parts. For example, on modern buildings rammed earth floor finishes are changes in to cement screed, removing mud walls to replace by stone claddings, Replacing Plastic ceilings by chip wood or gypsum cladding.

On traditional thatch roof building upgrading would be done when changing deteriorated roof cover whenever it starts to leak. Wall part remain the same with no significant change except changing paintings and some decorations.

Generally upgrading of building parts are conducted while residents are living in the house. They use saving, *ekub* and changing property to raise fund for upgrading their house. According to key informants from Kidigisa, most of the time upgrading occur during special occasions like wedding ceremony or festivals. Fabric

The rest 3% are constructed by extension processes. In this method extra rooms are added to existing building to satisfy required space need: such as kitchen, store, cattle's room or children sleeping space (see Graph 4.27 and Table 4.41).



Graph 4.27: Construction processes in Kidigisa

Building type	Construction processes		
	Incremental/upgrading	**Finished product**	**Extensions**
traditional thatch roof house	0	36	0
Modern cis roof house	20	41	3
Total	20	77	3
Percentage	20%	77%	3%

Table 4.41: Construction mechanism in Kidigisa

C. Building conditions

Based on the criteria discussed in part 4.2.4 (C) of this chapter, 11% of traditional houses in Kidigisa are in a good condition. The rest 42% and 47% are in a fair and bad condition respectively. In the

case of modern houses, 39% are in a good condition. The rest 48% and 13% are in a fair and bad condition respectively. (See Table 4.42 and Graph 4.28).

Building condition	Traditional thatch roof houses		Modern cis roof houses	
	Frequency	Percentage	Frequency	Percentage
Good	4	11%	25	39%
Fair	15	42%	31	48%
Bad	17	47%	8	13%

Table 4.42: Building conditions in Kidigisa

Graph 4.28: Building conditions in Kidigisa.

D. Source of finance for housing construction

Households in Kidigisa use multiple sources to finance housing construction, such as saving, loan, family support from abroad and selling property such as land and cattle are the most common sources of finance. Among the interviewed households, saving accounts for 47% of source of finance for house construction. Loan, family support and selling property accounts 1%, 16% and 26% respectively. The rest 12% of households use combined sources, two or more of aforementioned sources (see Table 4.43).

House type	**Source of finance**				
	Saving	**Loan from relative/ friend**	**Family support from abroad**	**Selling property land, cattle**	**Saving +family support +selling property**
Traditional thatch roof house	15	1	5	9	6
Modern cis roof house	32	0	11	17	4
Total	47	1	16	26	12
Percentage	47%	1%	16%	26%	12%

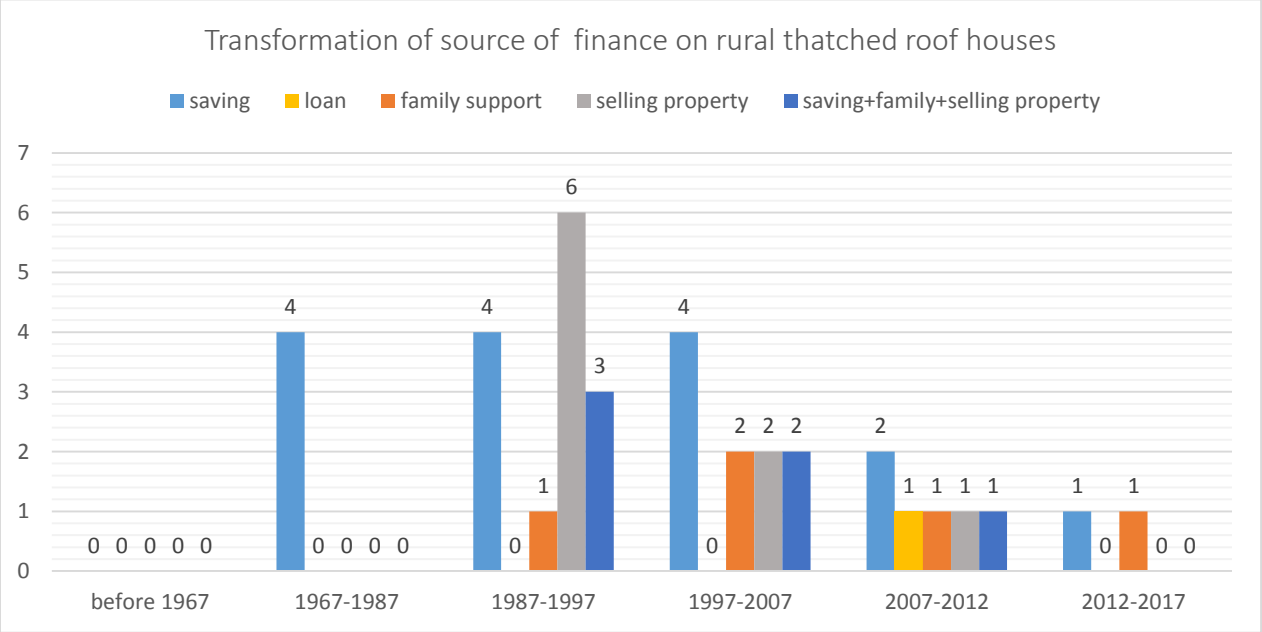
Table 4.43: Source of housing finance in Kidigisa

1) Transformation of source of finance on traditional thatch roof houses

Before 1980's all traditional houses were built by saving. Between 1980-1990's saving and selling property became major source of finance for traditional house construction. However, since 1997 households have used different sources to generate money for housing finance. Today source of finance for traditional houses become family support from abroad and saving (See Table 4.44 and Graph 4.29).

Source of finance	**Number of buildings built over years**					
	Before 1967	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
Saving	0	4	4	4	2	1
Loan	0	0	0	0	1	0
Family support	0	0	1	2	1	1
Selling property	0	0	6	2	1	0
Saving + family	0	0	3	2	1	0
remark	Mostly saving and selling property			Mostly saving		

Table 4.44: Transformation of source of traditional house finance in Kidigisa.



Graph 4.29: Transformation of source of traditional house finance in Kidigisa.

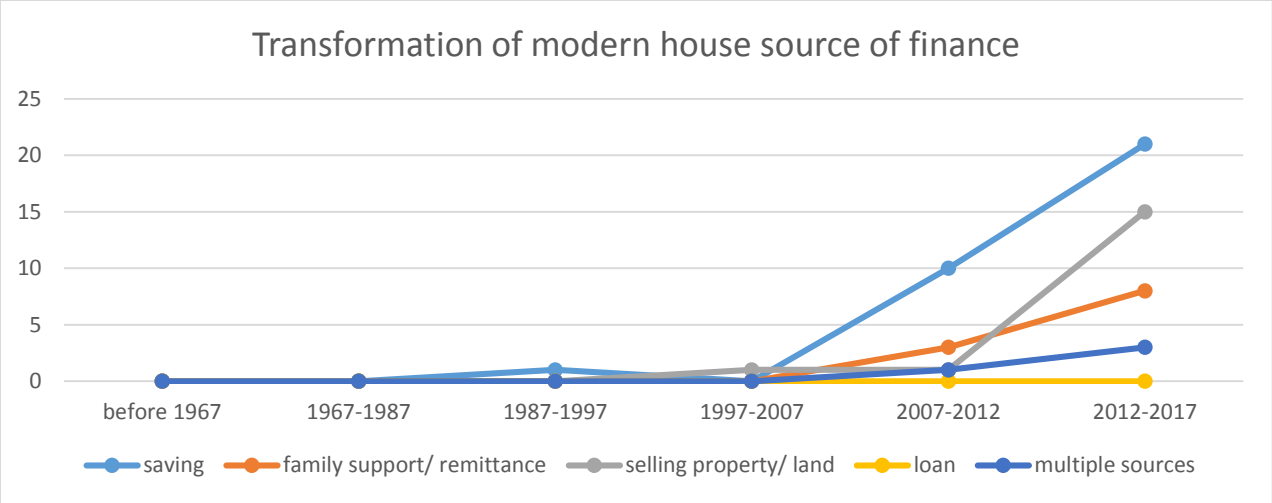
2) Transformation of source of finance on modern CIS roof houses

Based on the data from the interviewed households, before 2007 source of finance for all modern buildings was either saving or selling property. However, since 2007 following increased number of modern building construction, different financing mechanisms has been used for housing

constructions. These are saving, family support from abroad, selling of land and multiple (combined) sources. From the aforementioned sources, saving accounts for the majority in all years. (See Table 4.45 and Graph 4.30).

Source of finance	Number of buildings built over years				
	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
saving	0	0	1	8	19
loan	0	0	0	0	0
Family support	0	0	0	3	8
Selling property (SP)	0	1	0	4	14
Saving + family	0	0	0	1	3
remark	No building	Saving & selling property		Mostly saving	Mostly saving, SP

Table 4.45: Transformation of source of modern cis house finance in Kidigisa



Graph 4.30: Transformation of source of modern cis house finance in Kidigisa

E. Skilled labor for housing construction

According to the collected data, 86% of all houses in Kidigisa were constructed fully by local builders. The rest 9% and 5% are constructed by family members, and family with the help of local builders respectively. (See Table 4.46).

Type of building	Type of skilled labor used to construct houses							Percentage total
	Contractor	Local builders		Family and relatives		Family + local builders		
		Frequency	percentage	Frequency	percentage	Frequency	percentage	
Traditional thatch roof houses	0	25	69.4%	7	19.4%	4	11.2%	100%
Modern cis houses	0	61	95.3%	2	3.1%	1	1.6%	100%
Total	0	86	86%	9	9%	5	5%	100%

Table 4.46: Construction skill in Kidigisa

1) Transformation of skilled labor who construct Traditional thatch roof houses

Before 1987 all of traditional houses were built by family and relatives. House construction skill was considered as a basic skill that every man should acquire and build his own house by himself. Through time, this culture has transformed and now is limited to local carpenters. All traditional houses that has been constructed since 2007 are built by local builders.

Traditional house construction skill is one of the features that makes vernacular architecture sustainable. Construction technique and local materials used are developed for years according to site condition and availability of materials. Children grew learning the skills by practicing on real house constructions. Today that culture is almost lost and local professional builders dominate construction sector. (See Table 4.47 and Graph 4.33).

Type of skilled labor	Type of skilled labor used over years					
	Before 1967	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
contractor	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Local builders	0 (0%)	0 (0%)	11 (78.6%)	6 (60%)	6 (100%)	2 (100%)
Family/relatives	9 (100%)	3 (75%)	2 (14.3%)	2 (20%)	0 (0%)	0 (0%)
Local carpenter + family	0 (0%)	1 (25%)	1 (7.1%)	2 (20%)	0 (0%)	0 (0%)
remark	Mostly family		Mostly local carpenters			

Table 4.47: Transformation of traditional house construction skill in Kidigisa

2) Transformation of modern CIS house construction skill

Before 2007, two modern CIS roof houses were built by local builders. Recently, the percentage significantly increased and more than 70% of modern houses in the settlement were built in the past five years. Ninety three percent of these houses were built by local builders and the rest 5% and 2% were built by family members or relatives and family with the help of local builders respectively. (See Table 4.48 and Graph 4.34).

Type of skilled labor	Type of skilled labor used over years				
	1967-1987	1987-1997	1997-2007	2007-2012	2012-2017
contractor	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Local carpenter	0 (0%)	1 (100%)	1 (100%)	15 (100%)	44 (93.6%)
Family/relatives	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (4.3%)
Local carpenter + family	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (2.1%)
remark	Mostly local carpenters			Mostly local carpenters	

Table 4.48: Transformation of modern cis house construction skill in Kidigisa

4.4 Life story

4.4.1 Case 1: Ambicho

4.4.1.1 Life story 1: Ato Yohannes Abebe

Household head: Ato Yohannes Abebe

Tenure type: private rural dwelling

Household profile:

Ato[29] Yohannes Abebe was born in 1958 in Jawe Jafara, which is around 10km from the current residence in Ambicho, Hadiya Zone. From 1976 to 1985 he attended primary education at Jawe and Banara primary school respectively. At his early age he was living with his family helping them on different farming activities. From 1985 to 1990, he studied secondary education in Wachemo Secondary School in Hosanna town. During that time, he used to trade coffee after school time and on weekends. As part of his trade, he wakeup before sunrise, prepare his horses and travel to Hadero which was around 30km from Hosanna. The next day he loaded the coffee and travel to Fonqo, which is around 20km from Hosanna town to sell the coffee. During his journey he used to travel on foot to support his family and himself economically.

Ato Yohannes Abebe was married to *Weizero*[30] Fantaye in March 1992 and arrested on the same day of his marriage and moved to jail for political reason. After four years he was released from jail and started his life with his wife. However, after the first arrest he was moved to jail for the same reason three times: in 1997 for nine months, in 1999 for four months and from 1999 to 2007 for eight years. Totally this man spent thirteen years in the jail, when he was released for the last time in 2007. Immediately he moved his family to Ambicho which is his wife's birth place and shortly after that he fled to South Africa since he felt insecure because of his previous repeated imprisonments.

He worked for eight years in South Africa and returned back to his home in 2016 because he was shot and wounded by armed robbers; luckily he survived the shot and came back to Ethiopia after finalizing three months of hospitalization. Now he lives with his family peacefully and spend his time on small domestic activities in the compound and other social activities in the neighborhood such as resolving conflicts among neighbors.

Ato Yohannes Abebe is now a father of eight and he sent his first son to South Africa in 2016. The rest of his children are students; his second son study in Wachemo University which is situated within walking distance from home. The next two study in Hosanna Wachemo High School which is 5km away from home and the rest three study in Ambicho Primary School which is located within walking distance from home. In 2016, his wife gave birth to the newest member of their family.

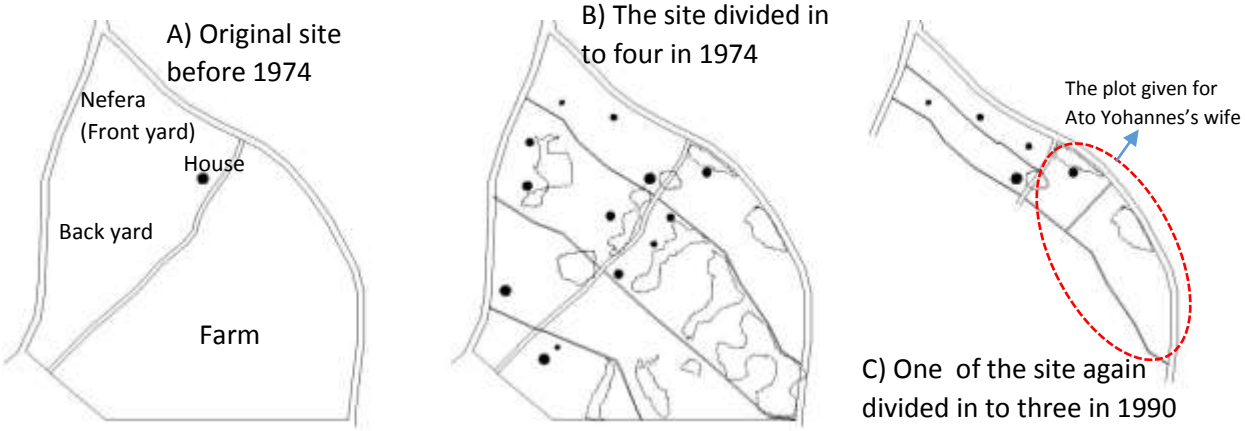
[29] Ato means Mr. (used to refer man without professional title).
[30] *Weizero* means Mrs. (used only for married woman), where *Weizerit* (Miss.) belongs to unmarried women.

Economic profile: - Currently the main sources of income for Yohannes' household is farming and support from abroad. His wife trade coffee and his son send money from South Africa. Their household income ranges between ETB7,500 and ETB17,500 per month (see Annex 4A).

Transformation on infrastructure:- Ato Yohannes' household started to use public water source (bono) in 2005, before that they were using water from river (stream). Before fifty years source of light was grass (burning grass), since 1967 they used kerosene *(kuraz*[31]*)* as a light source and by know they are using electricity by rent since 2011. No improvement is done on access road, it is unpaved ground since before. Before 2008 there were no private toilet, therefore they use forest for sanitation. They started to use pit latrine since 2008. Regarding social interaction means of interaction was with family and relatives, however since 2007 they become part of *idir*[32] of the community.

Neighborhood and Compound transformation

Neighborhood transformation: - Before Ato Yohannes' household came to this neighborhood in 2007, the land was the property of his wife's family. As shown on figure 4.10: A, there was only one house located on the site. The site originally includes a house, front yard, back yard and farm land. The farm was separated from other use by local road. In 1970's the site was fragmented in to four sections, out of which three of the plots inherited for the sons of a household while the one at the north remains at the hands of the parents (see Figure. 4.10: B). At the same time new traditional houses were built and all other uses such as backyard, front yard and farm were created on the residing plots. In 1990 one of the four plots which was not inherited, divided in to three for sons and daughters who did not inherit land before, out of which the plot at the south was given for Ato Yohannes's wife. (See Figure 4.10C).



In year 2007-2012, Ato Yohannes's household and his wife's family sold four plots of land and build six new CIS roof houses (see Figure 4.10: D). On the last five years, 2012-2017 additional three plots of land with houses were sold and four new CIS roof modern buildings were built. Size

[31] *Kuraz:* traditional light source that work with kerosene and function as a candle.
[32] *Idir* is social institution in which group of people from a given community come together to help each other, especially focus on mourning.

of land for previous use such as farming, back yard, front yard was highly reduced and neighborhood started to have urban like setup (see Figure.4.10: E). Simultaneously, life style of people also changed following spatial transformations and invasion of farm land. Figure 4.10: F, shows remaining unsold land from the total plot.

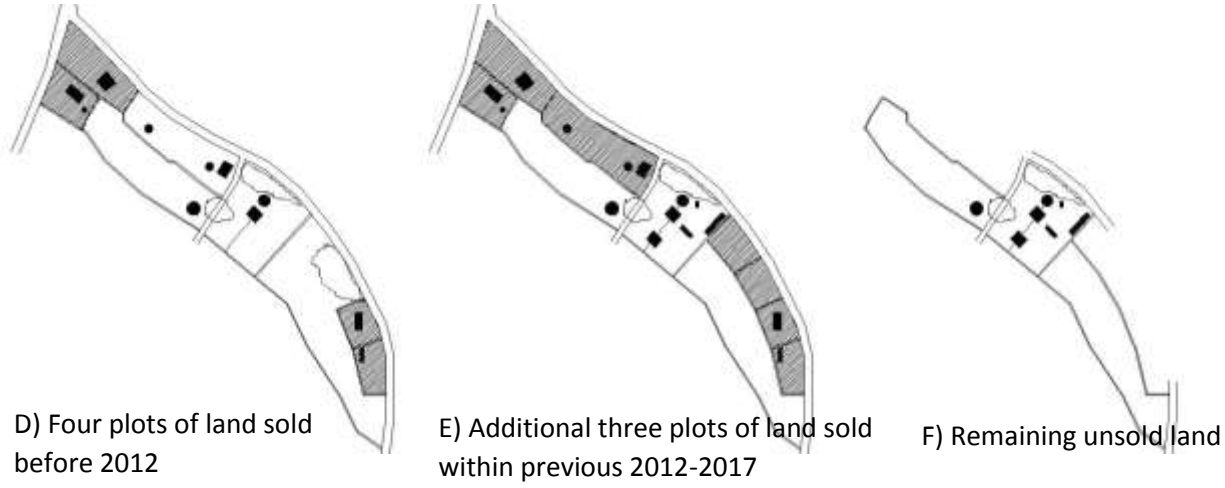


Figure 4.10: Ato Yohannes's wife family neighborhood transformation: life story 1, Ambicho

Compound transformation

As mentioned above, in 2007 Ato Yohannes released from jail and moved his family to his wife's home village, Ambicho, before his journey to South Africa. They sold two plots from his wife's inherited land and she stayed on the remaining plot with her family. Ato Yohannes used the money to fly to South Africa in 2007. In 2010 she bought a plot of land from her brother in the same neighborhood and constructed modern house with CIS roofing – locally called *"korkoro bet"*. In 2012 they sold their house to construct another new modern building *"korkoro bet"* and send their child to South Africa. In 2016 Ato Yohannes came back to home and sold other two plots of land and constructed three modern house with CIS roofing.

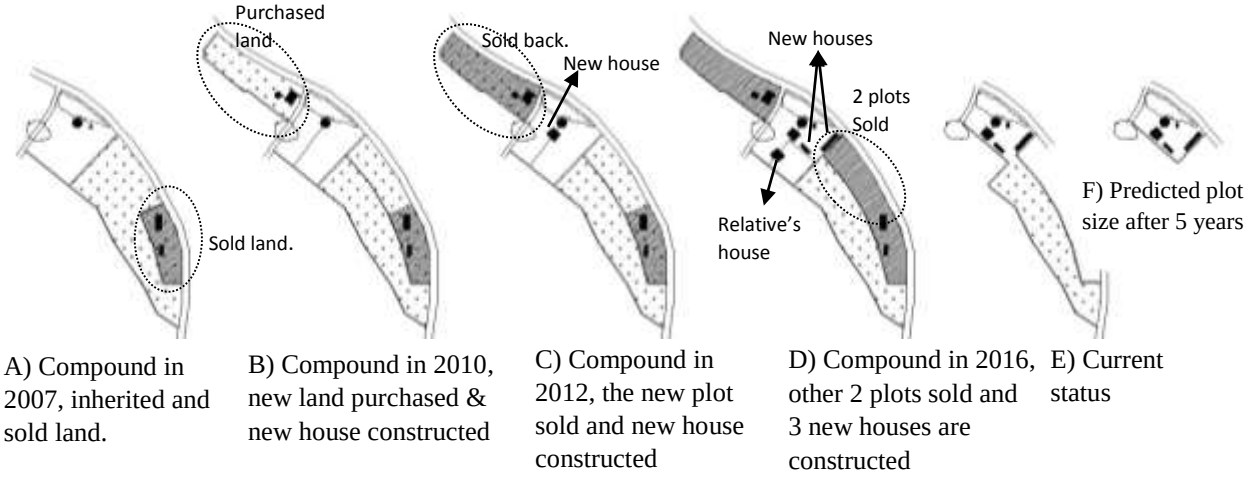
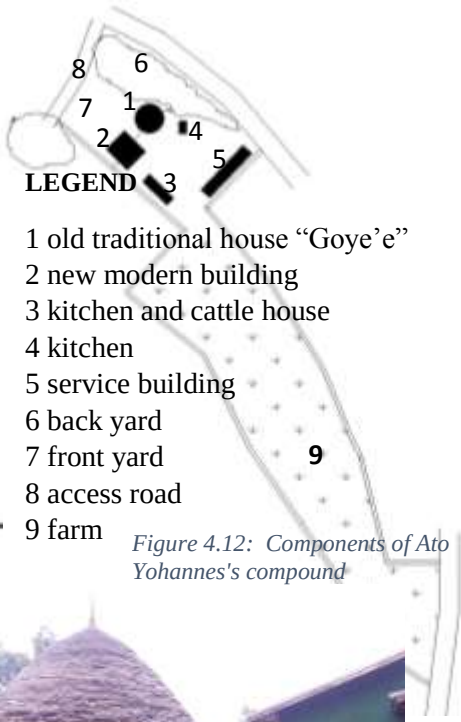


Figure 4.11: Transformation of Ato Yohannes's compound

Building transformation

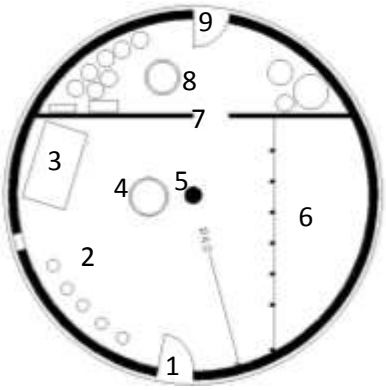
1) The oldest existing house that was constructed before twenty years was the **traditional thatch roof house "Goye'e"** which was the main house of the family. Now his wife's mother is living in this house. (See Figure 4.12 and 4.13).

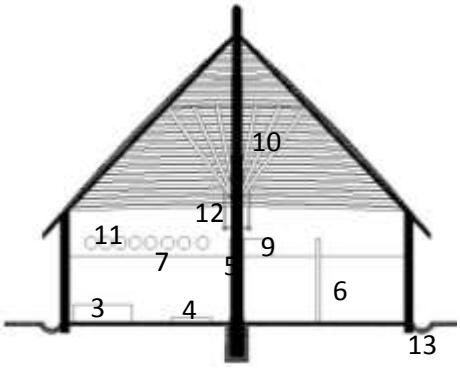


LEGEND

1 old traditional house "Goye'e"
2 new modern building
3 kitchen and cattle house
4 kitchen
5 service building
6 back yard
7 front yard
8 access road
9 farm

Figure 4.12: Components of Ato Yohannes's compound



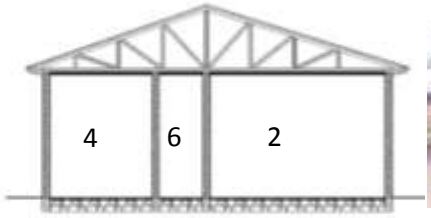


LEGEND

1 main entrance
2 sitting space (gaxa)
3 sleeping space
4 cooking space (midecha)
5 main pillar (Utuba)
6 cattles' space (gadira)
7 half wall partition (sinqixa)
8 kitchen and store (kosha)
9 back door (firkita)
10 vertical truss (Jagira)
11 pottery (Shate'e)
12 Qoxa
13 ditch (shoto'o)

Figure 4.13: Ato Yohannes's traditional house 'Goye'e' plan, section and pic

2) The second oldest building in the compound is "*amora kinf*" modern CIS roof house. Which is the main house for Ato Yohannes family and constructed in 2012. Since 2007 this type of building become popular and replaced traditional thatch roof house "Goye'e". Now a day people choose to construct modern house instead of traditional house construction. (See Figure 4.14).



Legend

1 verandah
2 living room
3 master bed room
4 children bed room
5 store
6 corridor

2, Main house

5, Service building

Figure 4.14: Ato Yohannes's modern cis roof house plan, section and pic

3) The third building in the compound is the kitchen and cattle's house constructed in 2016. This house consists of two rooms – one is for cattle space and the other is traditional kitchen (see Figure 4.15).

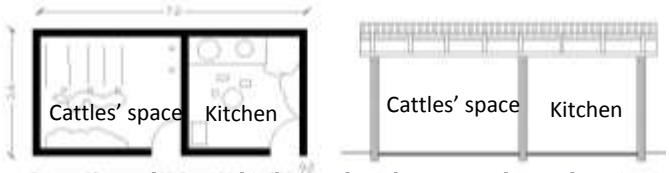


Figure 4.15: Ato Yohannes's kitchen and cattles' space plan and section

4) The fourth building in this compound is traditional kitchen constructed at the backyard of traditional house in 2016. Previously there was another traditional thatch roof kitchen on the same location, however it is demolished following its deterioration.

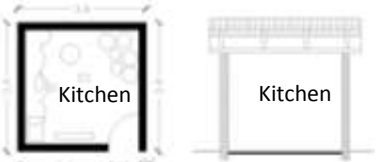


Figure 4.16: Ato Yohannes's new kitchen plan and section

5) The fifth building in the compound is constructed for the rental purpose in 2016. However, it seems as a setup to sell it with the plot of land (see Figure 4.17).

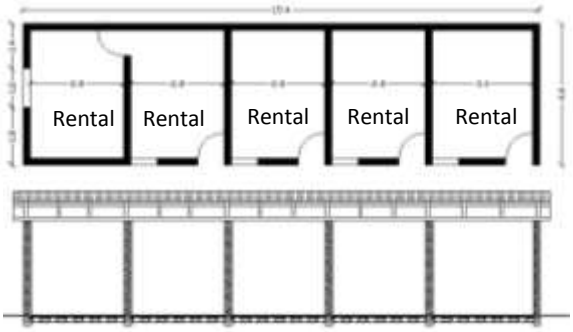


Figure 4.17: Ato Yohannes's rental service building plan and section

Home Range

Ato Yohannes's household access majority of services within 500 meter range (see Fig. 4.18).

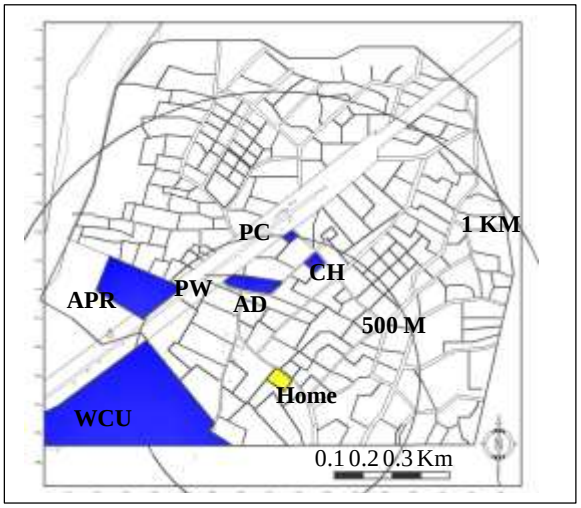


Figure 4.18: Ato Yohannes's household home range

Legend

APR: Ambicho Primary school
WCU: Wachemo University
PW: Public water /Bono/
AD: Kebele Admin and Health post
PC: Private clinic
CH: Church

4.4.1.2 Life story 2: Weizero Degnesh Moshago

Household head: - Weizero Degnesh Moshago

Tenure type: - private rural dwelling

Household profile: W/ro Degnesh Moshago was born in 1967 in Kunafa, Gurage Zone. She lived in Kunafa for sixteen years with her family. She studied up to grade four in Berabicho Primary School and then her family forced her to stop education and start to serve family with different household activities. In 1984 she married with Ato Haile and came to Ambicho. Her husband passed away in 2011 and now she became household head.

Until 2013 she used to trade coffee in Hosanna town. In 2013 she was employed in Wachemo University as a kitchen worker "*wot bet*" and now she administer family of eight members. Her first son is daily laborer and lives in the same compound constructing his own house after marriage. The

rest six are students, five of them learn in Hosanna Wachemo Preparatory School and one of them learn in Hosanna Yekatit 25/67 Secondary School. One of the students who learn in Wachemo Preparatory School is married in 2015 and have his own house in the compound.

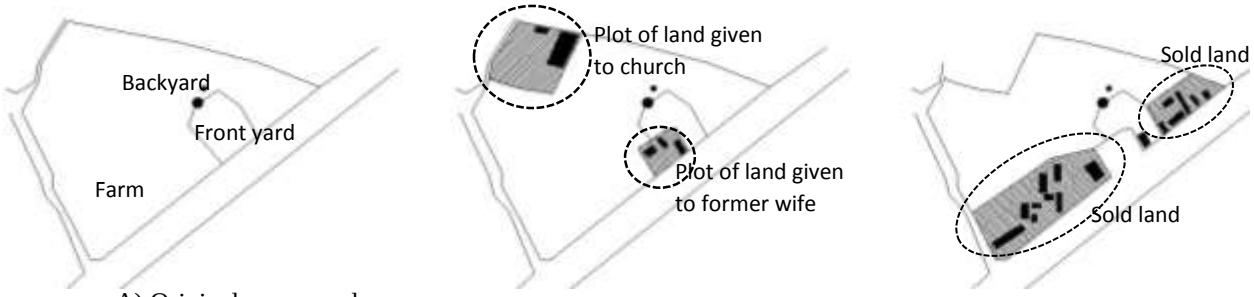
Economic profile: - Currently the main income source of this household is pension, employment, house rent and labor work. They get 1080, 1200,800 and ETB1800 per month from each sources respectively. Totally their monthly income is 4880ETB per month. (See Annex 4B).

Transformation on infrastructure:

Like spatial and economic transformation, transformation on infrastructure and service usage of Weizero Degnesh's household is also changed: before 1999 water source was stream, however since 1999 they use Public water (bono); before 2012 light source was kerosene, but since 2012 they owned private meter (electricity); before 1984 they used forest as a toilet but since 1984 they have pit latrine. And before 1984, means of social interaction was bounded within the relatives but since 1984 they started to use *idir.*

Neighborhood and compound transformation

Figure 4.16 shows original plot of land inherited from household, there were only two traditional thatch roof houses, farm land, backyard and front yard in the compound. In 1984, Ato Haile married his second wife W/ro Degnesh Moshago and 500m^2 of land given to former wife. In 1993 another 4000 m^2 (2 timad meret) of land given to the church. In the time between1997-2007 all of the farm land facing to asphalt was sold and they constructed one modern CIS roof house for rental purpose. Newcomers also constructed several commercial and residential modern CIS roof houses on the sold land. (See Figure 4.19).

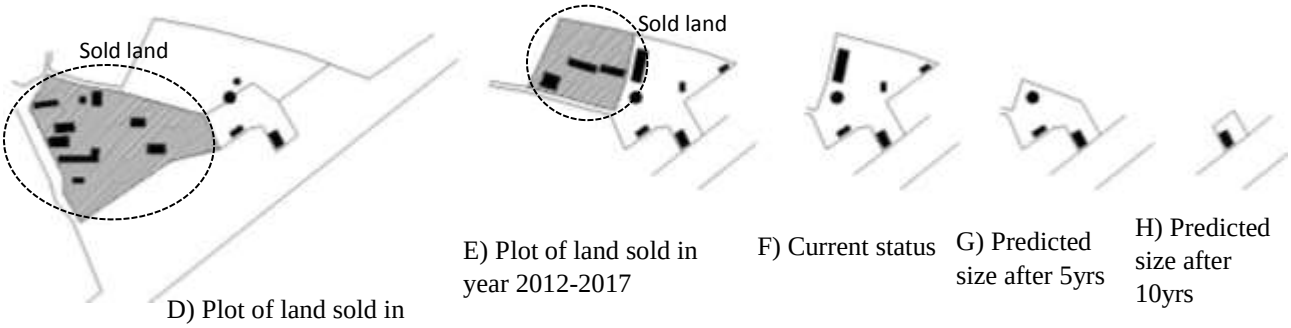


A) Original compound size before 1984

B) One plot given to church and one given to former wife, 1984-1997

C) All plot of land facing to asphalt road was sold between1997-2007

In year 2007-2012, the remaining farm land is divided in to several plots and sold for new comers, therefore new residential modern buildings are built (see Figure 4.19D). In 201, Ato Haile had passed away and the following year his first son had got married and constructed three rooms modern CIS roof house with in the compound. In 2015, another plot of land sold which was backyard and one modern building with four rooms was constructed for rental purpose (see Figure 4.19E). In 2016, two modern buildings each having two rooms were built, out of which one is constructed for newlywed son and another is constructed to sell the house with the plot of land. Currently, the compound contains one traditional thatch roof house and five modern CIS roof houses, each serve different purpose (see Figure 4.19F).



D) Plot of land sold in year 2007-2012

E) Plot of land sold in year 2012-2017

F) Current status

G) Predicted size after 5yrs

H) Predicted size after 10yrs

Figure 4.19: W/ro Degnesh's household neighborhood and compound transformation

Building transformation:-

1) The oldest building in the compound is the traditional thatch roof main house "Goye'e" in which W/ro Degnesh Moshago lives in now. (See Figure 4.21).

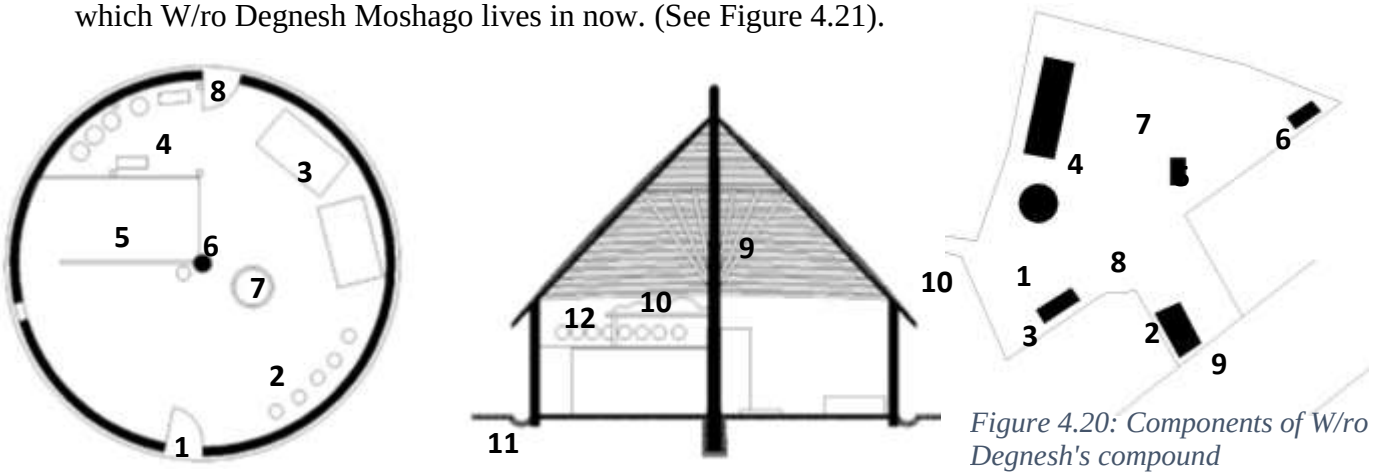


Figure 4.20: Components of W/ro Degnesh's compound

Legend

1, Main entrance
2, Sitting space "gaxa"
3, Sleeping space
4, Store "kosha"
5, Gadira "cattle space"
6, Main Pillar "Utuba"
7, Cooking place "midecha"
8, Back door "firkita"
9, Diagonal roof truss "Jagira"
10,Store "qoxa"
11,Ditch "shoto'o"
12,Pottery "shate'e"

Legend

1, main house "Goye'e"
2, rental house-commercial
3, married son's house-1
4, rental service house
5, married son's house-2
6, new house for sell
7, back yard
8, front yard
9, main access-Asphalt
10, secondary access

Figure 4.21: w/ro Degnesh's traditional house "Goye'e" plan, section and pic

2) The second oldest building in the compound is rental commercial house located on the entrance facing to the main Asphalt road. This house was constructed in 2005 after selling plot of farm land. Currently this building gives different services such as shop, café and residences (See Fig. 4.22).

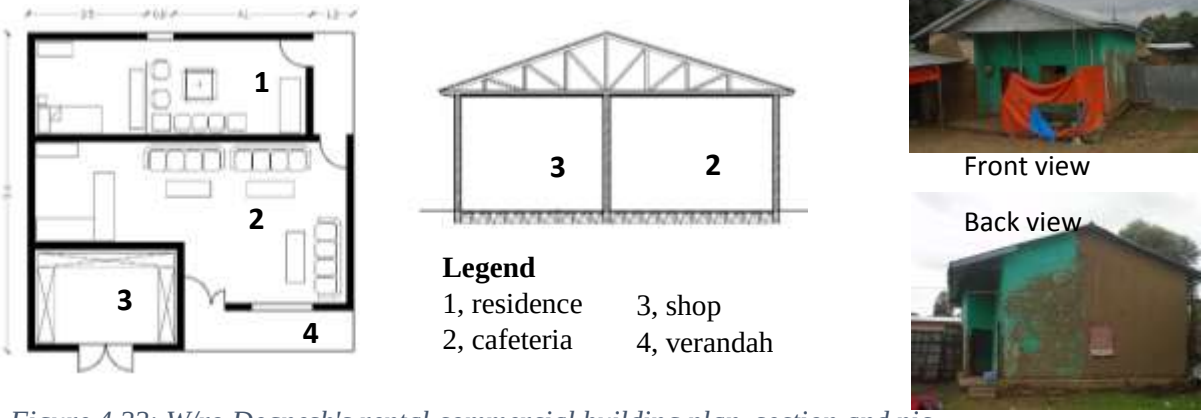


Figure 4.22: W/ro Degnesh's rental commercial building plan, section and pic

3) The third oldest building in the compound was constructed in 2012 for the first married son. It is simple shed modern CIS roof house, which have three rooms (see Figure 4.23).

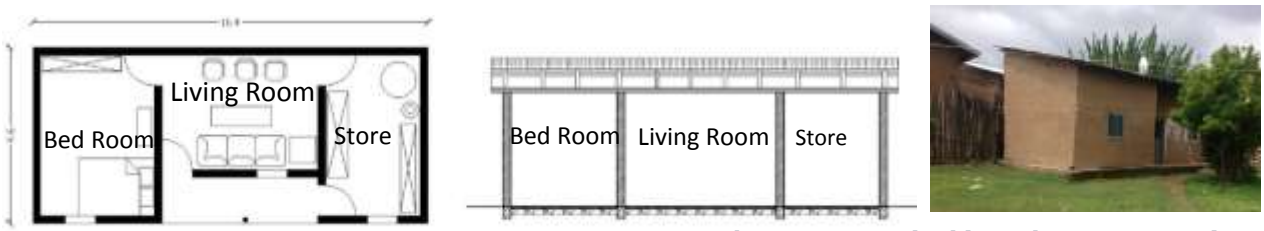


Figure 4.23: W/ro Degnesh's son service building plan, section and pic

4) The fourth oldest building in the compound was constructed in 2015 for rental purpose. It consists of five residential rooms attached together in row (see Figure 4.24).

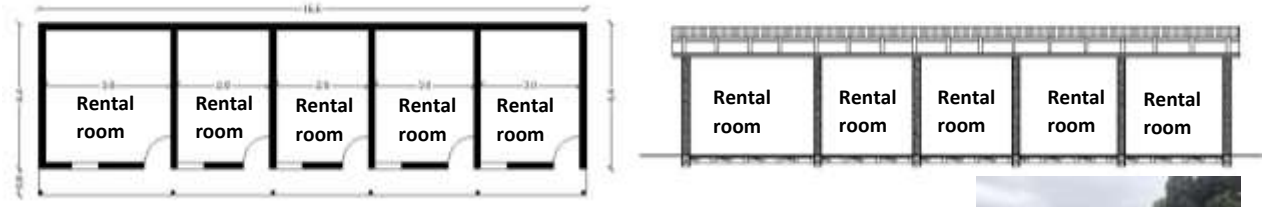


Figure 4.24: W/ro Degnesh's rental service building plan, section and pic

5) The fifth building was constructed in 2016 for newlywed son and it consists of two rooms (see Figure 4.25).

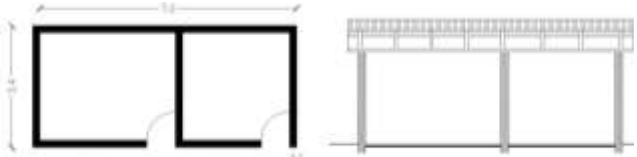


Figure 4.25: W/ro Degnesh's son-2 service house plan and section

6) The six building is one room simple shed cis building constructed in 2016 for sell with the plot of land (see Figure 4.26)

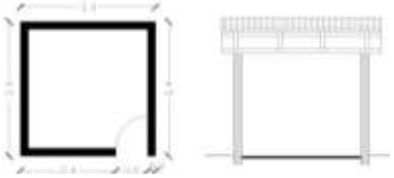


Figure 4.26: W/ro Degnesh's new one room service house plan and section

Home range:-

W/ro Degnesh's household access public water, primary school, health post, clinic and kebele administration within 500 from the home. W/ro Degnesh's work place, Wachemo University and Worship place, Kidane Mihret church are located within 1KM from home. However, her sons travel around 5Km to access secondary school in Hosanna town. (See Figure 4.27).

Legend
APR: Ambicho Primary school
WCU: Wachemo University
PW: Public water /Bono/
AD: Kebele Admin and Health post
PC: Private clinic
CH: Church

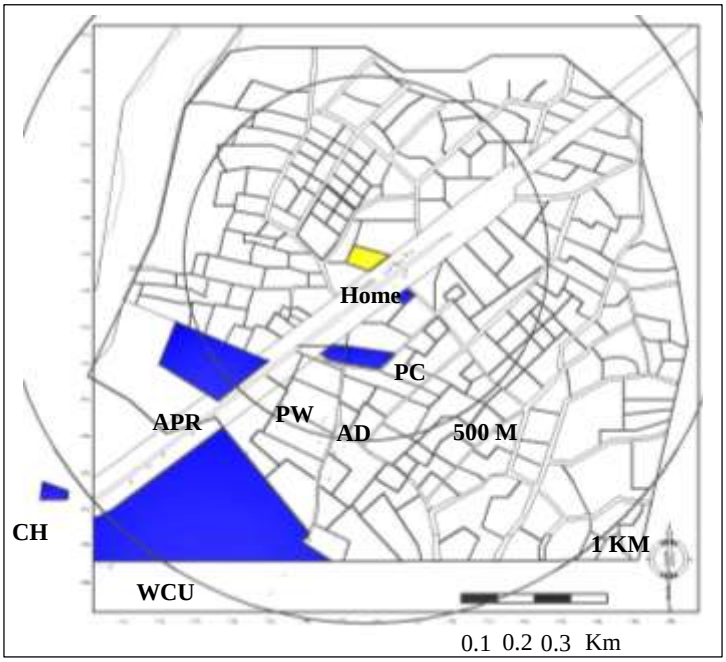


Figure 4.27: W/ro Degnesh's household home range

4.4.1.3 Life story 3: Ato Tariku Beyene

Household head: - Ato Tariku Beyene

Tenure type: - private informal

Household profile:

Ato Tariku Beyene was born in 1981 in Fonqo, Bendelicho, which is around 15km from the current residence in Ambicho. He attended primary and secondary education in Fonqo Primary School and Hosanna Wachemo Secondary School respectively. He also graduated from Hosanna Teaching College in 2002 and now he works in Fonqo Primary School.

In 2009 he married with Weizero Tarekech Desalegn and now he is a father of three. Weizero Tarekech Desalegn terminated education in Grade 10 to be married with Ato Tariku. Now she is a house wife and manage all activities in a household.

They bought 700m^2 plot of land in 2012 and in 2013, they come to Ambicho constructing modern CIS roof house. In 2015 they sold 200m^2 plot of land facing to local road. In 2016, they sold another 200m^2 of land which have no access at all. People bought such kind of inaccessible land with the thinking that they will get compensation cost or substitute land when the planning starts.

Economic profile:

Currently this household generates income from salary which is ETB3000 per month. And they sold two plots of land within previous two years, they would got around three hundred thousand birr according to the price of informal market at the time (see Annex 4C).

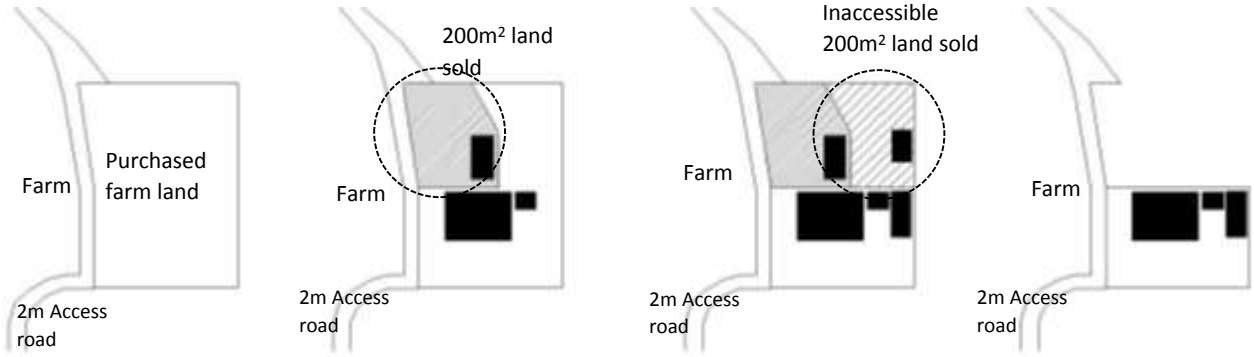
Transformation on infrastructure:

No significant transformation is seen on infrastructure and service usage of Ato Tariku's household since they start to live in Ambicho: since 2013, they use public (bono) water source, electricity by rent, unpaved ground for access, pit latrine for sanitation and *idir* for social interaction.

Neighborhood and Compound transformation

When Ato Tariku come to this settlement he bought 700m^2 land from a native farmer who sold all of neighborhood plots to new comers. The farmer allowed 2m access road while selling plot of land so that the site is totally inaccessible by vehicles. In 2013, Ato Tariku constructed modern house and come to the settlement with his family. In 2016, the farmer ploughed promised access road for farming and now they are on dispute claiming access to their house. (See Figure 4.28A).

Ato Tariku sold two plots of land each are 200m^2 in 2015 and 2016 respectively (see Figure 4.28C). One of the sold plot is totally inaccessible by all sides, it is bounded by other occupied plots by newcomers. Three new modern buildings are constructed following informal land sell. Currently plot area of Ato Tariku's compound is 300m^2. He sold majority of the original plot for others. (See Figure 4.28).

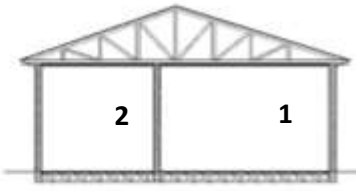


A) 2012 B) 2012-2015 C) 2015-2016 D) Current status

Figure 4.28 : Compound transformation of Ato Tariku's house hold

Building transformation:-

1) The first building in the compound is the main house constructed in 2013. It is the modern building constructed with CIS roof cover. (See Figure 4.30).



Legend
1, living room
2, Master Bedroom
3, Store
4, Corridor
5, verandah

Figure 4.30: Ato Tariku's Main house plan, section and pic

Legend
1, Main building
2, kitchen
3, toilet and store
4, backyard
5, Access road

Figure 4.29: Components of Ato Tarkus's compound

2) Kitchen: - constructed in 2013 following main house construction. (See Figure 4.31).

Figure 4.31: Ato Tariku's kitchen plan, section and pic

3) Toilet and store under construction in 2017.

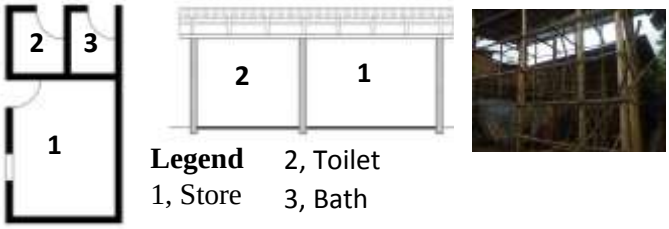


Figure 4.33: Ato Tariku's store and bath room plan, section and pic

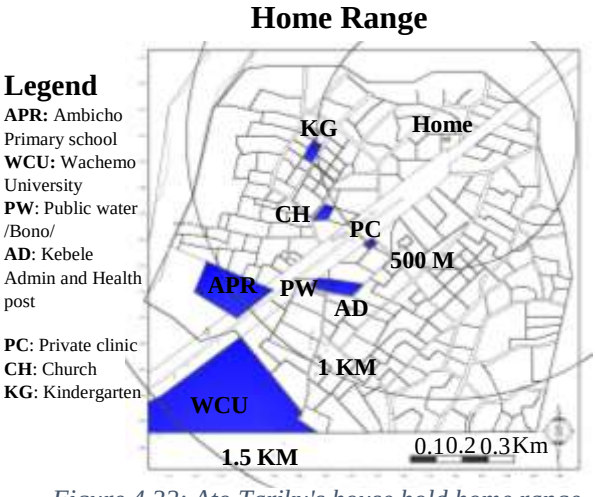


Figure 4.32: Ato Tariku's house hold home range

4.4.2 Case 2: Kidigisa

4.4.2.1 Life story 1: Ato Tadesse Tekle

Household head: - Ato Tadesse Tekle

Tenure type: - private rural dwelling

Household profile: - Ato Tadesse Tekle was born in 1970 in Kidigisa, which is also the current living place. From 1982 to 1990 he attended primary education in Kidigisa, Masbira and Bobicho Primary schools respectively. From 1990 to 1994 he studied secondary education in Wachemo Secondary School in Hosanna town. The school was about 5km far from home, so that he used to travel on foot twice a day.

After completing secondary education Ato Tadesse Tekle was hired in Hadiya Zone Health Office as a security guard in 1995. After three years he changed work place to Shone Woreda Health Office and worked in archive department for four years. And in 2004 he changed work place to Gibe Woreda and worked in property and finance department for three years. In 2011 he started distance learning in Accounting and got diploma from Alpha University. He continued distance learning parallel with regular work and got his first degree in Accounting from paradise University College. And now he is working in Hosanna Health Center finance section since 2007. He uses motor bike for transportation since his work place is about 7km far from home.

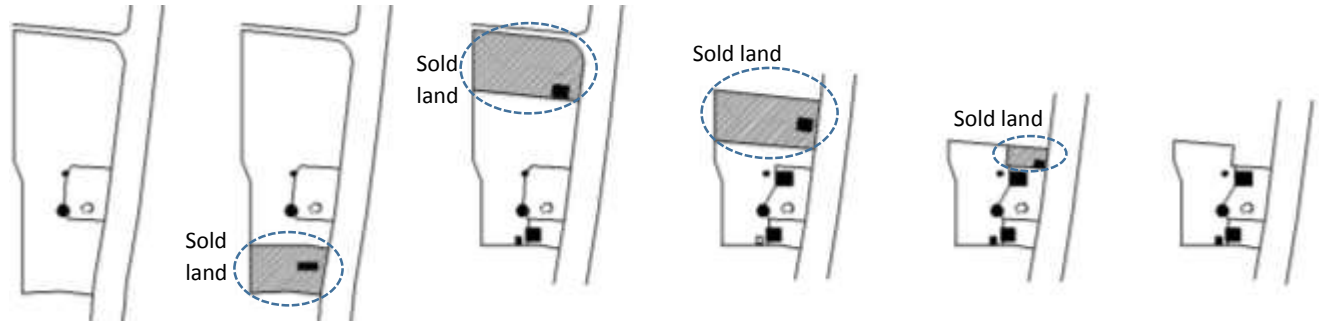
Ato Tadesse Tekle had got his wife Weizero Fanaye Samuel from shone Woreda While he was working as Archive Officer. They got married in 2013 and started new life in Kidigisa in his own home. Currently Weizero Fanaye is a second year Accounting student in Wachemo University weekend program.

Economic profile: - Currently, the main income source of Ato Tadesse's household is government employment and farming. Ato Tadesse Works as finance Officer in Hosanna health center and his wife is a house wife. They earn minimum of ETB3500 monthly income from salary (see Annex 4D).

Transformation on infrastructure: - previously source of water for this household was river (stream), however since 1997 they started to use public water source zone (bono). Before 50 years source of light for Ato Tadesse's family was grass and until 2011 they used kerosene (kuraz) as light source. Since 2011 they are using solar energy for light and other uses. Their house is located along asphalt road, so they have no problem with access road. Before 1999 they used forest as a toilet, but since 1999 they start to use their own private pit latrine. Regarding social interaction they socialize with relatives and they are part of *idir* in the community.

Compound and Neighborhood transformation

There were only two traditional houses in the original inherited plot of land. The rest of the land was occupied by front yard (*nafara*) and backyard farm. However, in 2010 the first plot of land sold due to effect of urbanization in the area and other plots are also sold in 2012, 2014 and 2016 consecutively. As shown in figure below, size of plots are being reduced and fragmented through times and also new modern buildings have been built each year following informal land market. These buildings are being built by both land sellers and buyers. Land sellers build modern building to change their lifestyle while buyers build simple sheds to claim ownership right. Similarly, Ato Tadesse's household built two "*amora kinf*" modern CIS roof house in 2012 and 2014 after collecting money from land sell. New comers also built new modern CIS roof houses in a year they purchased the land. These activities changed not only plot size but also affected building culture and settlement pattern. (See Figure 4.34).

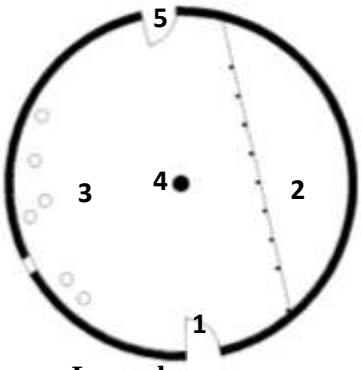


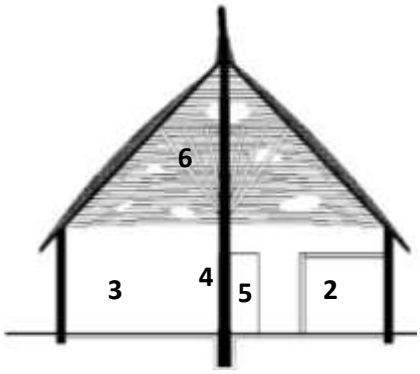
A) Original size of plot before 2010 | B) Plot of land sold in 2010 | C) Another plot of land sold in 2012 | D) Another plot of land sold in 2014 | E) Another plot of land sold in 2016 | F) Current status

Figure 4.34: Compound and neighborhood transformations of Ato Tadesse's household

Building transformation

1, Old traditional main house "Goye'e", it is the oldest building that was built in the compound. Currently it is highly deteriorated and giving service for cattle space (see Fig. 4.36).





Legend
1, Main entrance
2, Cattle space "Gadira"
3, Open "Gaxa"
4, Main pillar "Utuba"
5, Back door "Firkita"
6, Diagonal roof truss "Jagira"

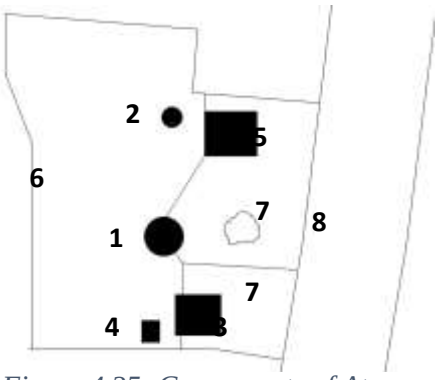


Figure 4.35: Components of Ato Tadesse's compound

Legend
1, Traditional house (old Goye'e)
2, old traditional store "gap mine"
3, Main modern building
4, kitchen and cattle space
5, New modern building
6, Back yard farm
7, Front yard (Nafara)
8, Access road Asphalt

Figure 4.36: Ato Tadesse's traditional house "Goye'e" plan, section and pic.

2, The second oldest traditional house in the compound is store house "gap mine" which was constructed for the purpose of storing cattle food (thatch). Currently, this building is highly deteriorated and not giving any service. (See Figure 4.37).

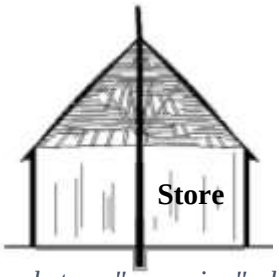
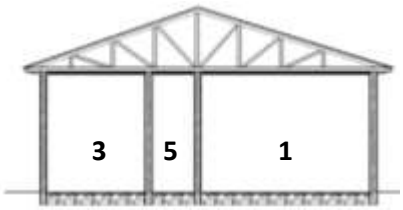


Figure 4.37: Ato Tadesse's traditional store "gap mine" plan, section and pic

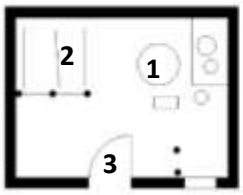
3, The third building is modern house constructed in 2012 and now giving service as a main house.



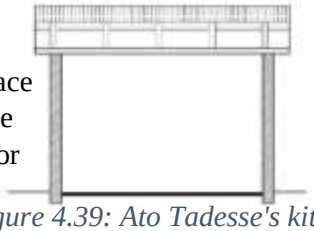
Legend
1, Living room
2, Master Bed Room
3, Children Bed Room
4, Store
5, Corridor
6, Verandah

Figure 4.38: Ato Tadesse's modern main house plan, section and pic

4, The fourth building in the compound is kitchen. It is a one room simple shed modern building where the space is shared for cooking and cattle's. (See Figure 4.39).



Legend
1, Cooking space
2, Cattles space
3, entrance door

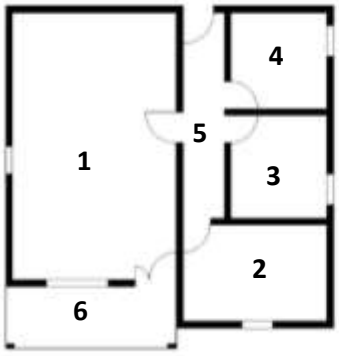


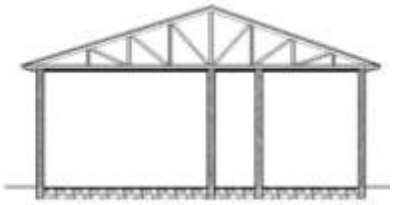
Exterior

Interior

Figure 4.39: Ato Tadesse's kitchen and cattle space plan, section and pic

5, The fifth building in compound was under construction in 2016. Purpose of the building is main house for newlywed brother of Ato Tadesse. The plan of this house is similar with Ato Tadesse's main house and the only difference is the plan is reflected (mirrored) while putting on the ground. This type of house is noticed almost in all native settlers who constructed modern house. (See Figure 4.40).





Legend

1, Living room	4, Store
2, Master Bed Room	5, Corridor
3, Children Bed Room	6, Verandah

Figure 4.40: Ato Tadesse's brother new modern house plan, section and pic

Home range

Ato Tadesse's household access primary school, Health post, Kebele admin and public water within 500M from home. Other services such as work place (Health center), university and secondary education are located in Hosanna town which is 5Km away from home. (See Figure. 4.41).

Legend
KPR: Ambicho Primary school
PW: Public water /Bono/
AD: Kebele Admin and Health post
CH: Church

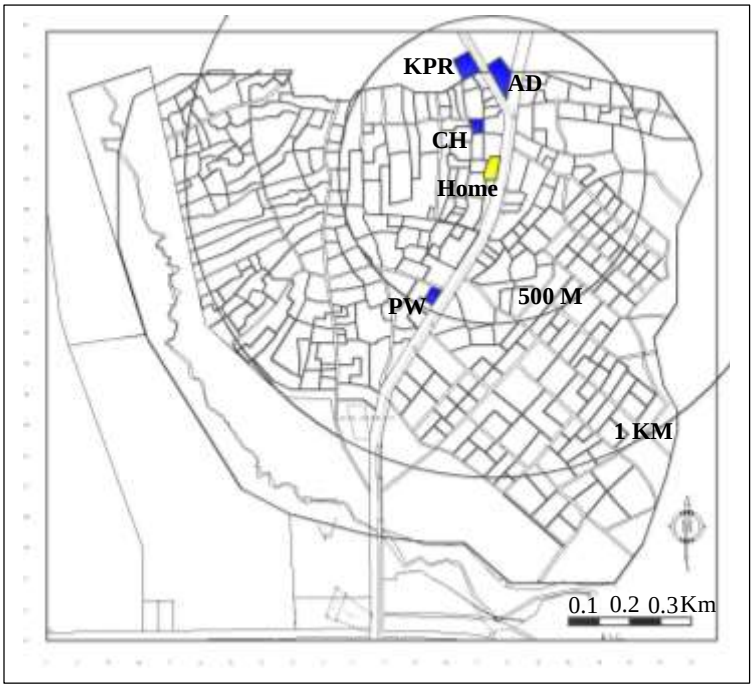


Figure 4.41: Ato Tadesse's household home range

4.4.2.2 Life story 2: Weizero Abebech Yesuf

Household head: - Weizero Abebech Yesuf

Tenure type: - Private modern building

Household profile:-

Weizero Abebech Yesuf was born in 1976 in Kebelbuya, which is around 7km from the current residence in Kidigisa. From 1976 to 1990, she lived in Kebelbuya with her family. In 1991, she went to Addis Ababa and worked as a housemaid for six years. She attended primary education in Feleke Yordanos Primary School in Cherkos, Addis Ababa. When she was at grade five, she got married in 1996 and came to Kidigisa to her husband's home.

After marriage she started bu'la trade and travel from Hosanna to Addis Ababa once every week. Her husband Ato Hailu Tadesse lives in South Africa since 2003, since that time she is a household head and administer a family of six members. All of her children are students and her first son, who is in grade 12, uses motor bike for transportation.

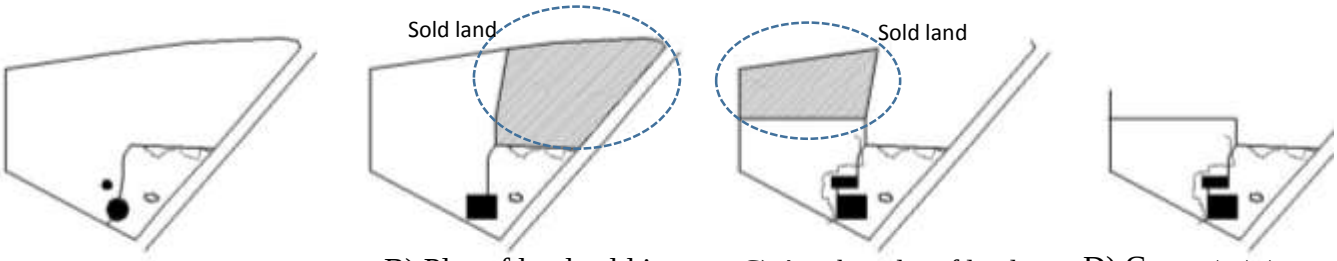
They sold plots of land at different years and constructed modern houses. All of traditional houses that existed before are demolished and substituted by modern buildings. They used the money from land sell and remittance from South Africa for transformation (construction of modern houses). Even if they are in peri-urban area they have standard life with fully furnished good condition modern CIS roof house and full filled other facilities by themselves, such as motor bike and solar energy.

Economic profile: - Currently the main income source of this household is trade and remittance money from South Africa. They collect minimum of ETB11,000 per month. (See Annex 4F)

Transformation on infrastructure: - Weizero Abebeche's household started to use public water source (bono) since 2002, before that they had been using river (stream). And since 2013 they installed solar system and use for light and other purposes. Before 2013 the only light source was kerosene (kuraz). Access road remains the same since earlier time with no improvement, still their access to home is unpaved ground. They started to use private latrine since 1997, before that they used forest. Their means of social interaction is through participation in social activities with relatives and *idir*.

Compound transformation

Original plot size inherited from Ato Hailu's family is shown in the figure below. A plot is located about 300m apart from main asphalt road. They sold the first plot in 2004 and used the money to cover Ato Hailu's travel expense to South Africa. He sent money to his family and they constructed modern CIS roof house in 2007, demolishing all traditional thatch roof houses that existed before. They also constructed two rooms service building beside the main house. In 2013, they sold another plot and used the money to purchase modern furniture and other equipment. They also transformed (upgraded) service house in to three room house. (See Figure 4:42).



A) Original plot before 2003

B) Plot of land sold in 2003-2012

C) Another plot of land sold 2012-2016

D) Current status

Figure 4.42: Compound transformation of W/ro Abebech's household

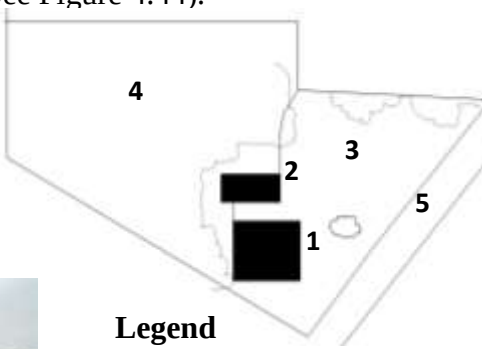
Building transformation

1, Main house; modern CIS roof house constructed in 2007. (See Figure 4.44).

Legend

1, Living room
2, Master Bed Room
3, Children Bed Room
4, Store
5, Corridor
6, Verandah

Figure 4.44: W/ro Abebech's modern main house plan, section and pic

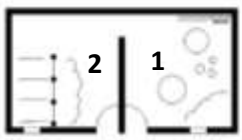


Legend

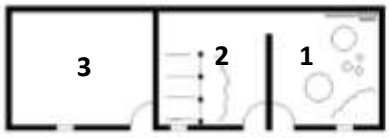
1, Main modern building
2, Transformed service building
3, Front yard "Nafara"
4, Backyard
5, Access road

Figure 4.43: Components of W/ro Abebech's compound

2, Service building constructed in 2008 and transformed by extension in 2016. (See Figure 4.45).



Original building



Transformed building

Legend

1, Kitchen
2, Cattle space
3, extended room

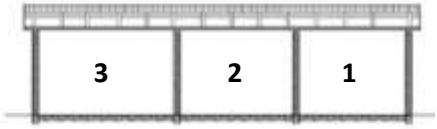


Figure 4.45: W/ro Abebech's service building plan, section and pic

Home range:
W/ro Abebech's household access public water and church within 500M and primary school, kebele admin and health post within 1Km. W/ro Abebech's work place (market) and her sons' school is located in Hosanna town which is 5Km away from home. (See Figure 4.46).

Legend
KPR: Ambicho Primary school
PW: Public water /Bono/
AD: Kebele Admin and Health post
CH: Church

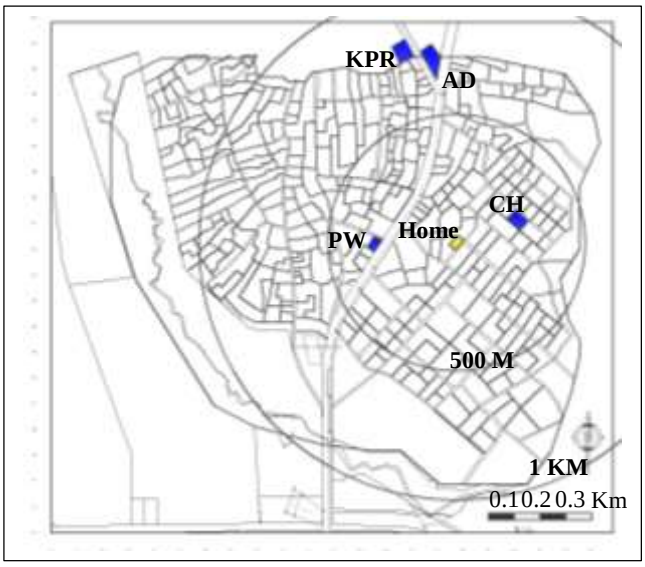


Figure 4.46: W/ro Abebech's household home range

4.4.2.3 Life story 3: Ato Addise Bekele

Household head: - Ato Addise Bekele

Tenure type: - private rural dwelling

Household profile:-

Ato Addise Bekele was born in 1981 in Kidigisa, which is the current residence in Kidigisa. From 1992 to 2000 he attended primary education in Kidigisa (Masbira) Primary School. He attended grade 9 to 10 in Yekatit 25/67 School and 11 to 12 in Wachemo Secondary School in Hosanna. During his secondary education from 2000-2003, he rented a house in Hosanna, since his family's house was 7KM away from the school.

In 2004, he joined Jimma University and graduated as a pharmacist in 2008. After graduation he was assigned to Semera University and worked there for three years. In 2000, Semera University sponsored him to study master degree in Addis Ababa University. However, he terminated the agreement before the graduation and joined hosanna Nigist Eleni Hospital in 2011. In 2015 he joined Wachemo University which is around 8km far from home and working as a lecture still now. He use Service bus and Bajaj for transportation.

Ato Addise Bekele got married with Ehitagegnew Fikre in 2014 and now he is a father of two. His wife is a teacher in Naremo Primary School. She use Bajaj for transportation. They live in three room modern building, constructed in a plot inherited from the family. The plot is located along the main asphalt road that goes from Hosanna to Wolkite. His family's home is located in the waking distance from his house. Therefore, they usually go to family house every Sunday.

Economic profile: -

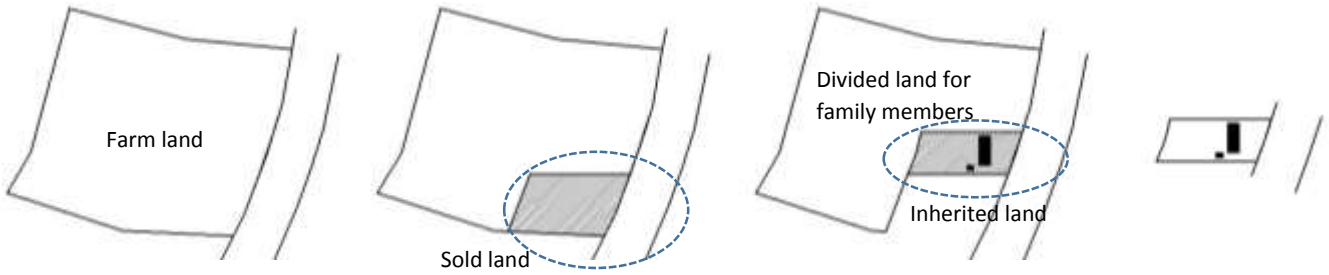
Currently the main income source of this household is government employment. They collect minimum of 13000 ETB birr per month. (See Annex 4E)

Transformation on infrastructure: -

Ato Addise's household started to live in Kidigisa since 2014, there were no significant change on infrastructure since that time. They use public water source (bono), solar system for energy, have private pit latrine and interact with relatives and community through *idir*.

Compound transformation

Originally the plot was part of Ato Addise's family farm beside main asphalt road. His family sold 500m^2 in 2013 and the remaining land divided for family members. Accordingly, Ato Addise inherited 500 m^2 land facing to main asphalt road and constructed modern CIS roof house which have three rooms. In 2014 he got married and started to live in his new house. (See Figure 4.47).



A) Original farm land before 2012

B) Plot of land sold in 2012

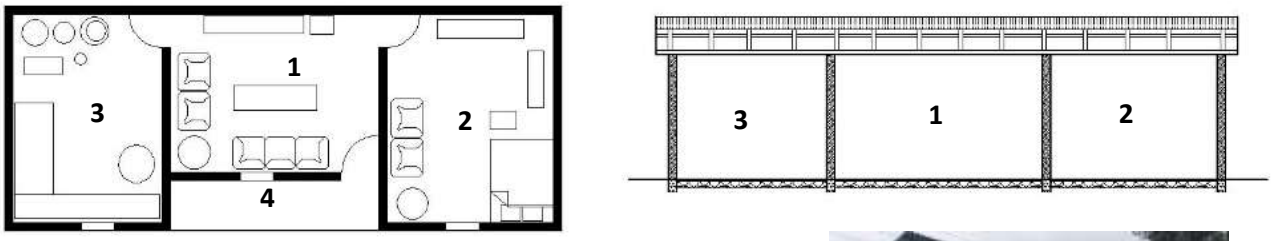
C) Inherited land in 2013

D) Current status

Figure 4.47: Compound transformation of Ato Addise's household

Building transformation

1, The main house constructed in 2013. (See Figure 4.48).



Legend
1, Living room
2, Master Bed Room
3, Kitchen and store
4, Verandah

Figure 4.48: Ato Addise's modern service house plan, section and pic

2, Toilet constructed in 2013. (See Figure 4.49).

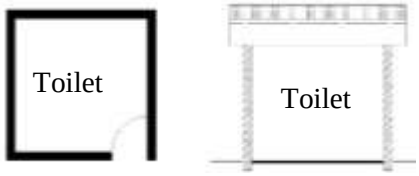
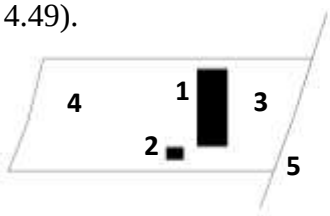


Figure 4.49: Ato Addise's toilet plan and section



Legend
1, Main modern building
2, Toilet
3, Front yard "Nafara"
4, Backyard
5, Access road

Figure 4.50: Components of Ato Addise's compound

Home range

Ato Addise's household access public water within 500M and Kebele admin, Health post, primary school and church within 1Km radius. His work place is Wachemo University which is 7Km away from home. (See Figure 4.51).

Legend
KPR: Ambicho Primary school
PW: Public water /Bono/
AD: Kebele Admin and Health post
CH: Church

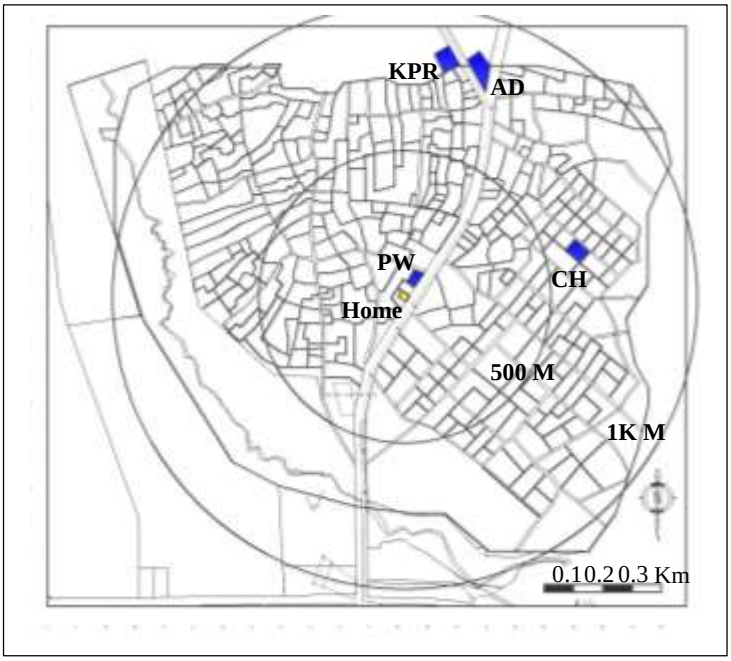


Figure 4.51: Ato Addise's household home range

4.5 Comparative analysis between the two cases: Ambicho and Kidigisa

4.5.1 Socio economic profile

Transformation rate is higher in Ambicho than Kidigisa, as shown in the table 4.49, percentages of newcomers in Ambicho is greater than that of Kidigisa. Existence of primary school since 1970's promoted commercial activities such shops and restaurants in Ambicho. Furthermore, Establishment of Wachemo University, construction of the Hosanna–Addis Ababa asphalt road passing through Ambicho and its favorable topography attracts newcomers. This makes the site, a strategic location for the town expansion. Currently the majority of land in Ambicho is transferred to newcomers in the past ten years, therefore the black market (informal transaction) of land is being shifting to Kidigisa since there is more available farm land to sell. As result, Kidigisa is transforming faster in the recent years while Ambicho is mounting to its maturity.

Illiteracy in Kidigisa is higher than Ambicho, existence of Ambicho Gode Primary School in Ambicho town since the time of Derg regime allowed most of Ambicho residents to join school. However, almost 68% of them quit education at grade eight and start business or travel abroad. Economic activity in Ambicho town since earlier time is one of the factors for this, many students quit education to trade khat or to open shop in Ambicho. In contrary, number of highly educated residents in Kidigisa exceeds that of Ambicho. This shows, previously education was the only alternative in addition to farming in Kidigisa.

Currently, 74.2% of economy in Kidigisa is generated from mixed sources, while it is 50% in Ambicho. Almost 22 % of households in Ambicho have only private business, while the number is as low as 3.2% in Kidigisa. Although commercial activity in Ambicho is much higher than Kidigisa, household income level is better in Kidigisa. Where 53.13% of households in Ambicho is low income while only 22.6 % are low income in Kidigisa. Their education level and higher remittance source which is 16.3% of income source helped them to maintain better income level. The positive value in Ambicho is majority of households are in the same economic level (see Table 4.49).

In contrast with income level, infrastructure and service is poor in Kidigisa compared to Ambicho. Currently Ambicho has one admin building, one private health center, one health post, one primary school and one KG. Whereas, Kidigisa has only one Admin building, one health post and one elementary school. Regarding electricity, small portion of Ambicho households have private meter and the rest get electricity through rent. While in Kidigisa there is no electricity, they use private solar and kerosene. Water source and access road is similar in both cases, they only have one public water source (bono) for each. And both settlements are accessed by unpaved ground while asphalt road passes through the center of the two sites.

Regarding sex distribution and household head both cases have similar characters. Even though, number of females exceeds number of males, it is males who comprise more than 87% of household heads in both cases.

No.	Parameter	Categories	Ambicho	Kidigisa
	Socio-economic profile			
1	Family size	Small size	37.5 %	25.8%
		Medium size	46.87%	32.26%
		Large size	15.63%	35.5%

2	Period of stay	New comers	43.75%	32.26%
		Natives	56.25%	67.74%
3	Sex distribution	Females	52.5%	51%
		Males	47.5%	49%
4	Means of land acquisition (ownership)	Squatting (buying land)	28.1%	6.5%
		Inheritance	68.75%	93.5%
		Rent	3.12%	0%
5	Household heads	Male	87.5%	87.1%
		Female	12.5%	12.9%
6	Education	Uneducated	3.43%	8.9%
		1-8 grade	68.13%	41.3%
		8-12 grade	20.6%	31.6%
		> 12	7.84%	18.2%
7	Means of income	Private	21.87%	3.2%
		Government	9.37%	6.5%
		Farming	18.75%	16.1%
		Mixed	50%	74.2%
8	Home range (distance from work place)	< 2km	57.3%	42.3%
		2-5km	21.4%	7.7%
		5-20km	5.6%	26.9%
		>20km	3.37%	6.7%
		Abroad	12.36%	16.3%
9	Household income level	The poorest of the poor	34.38%	29%
		Low income	53.13%	22.6%
		Middle income	6.25%	29%
		High income	6.25%	19.4%
10	Disability	Blindness	0.5%	0.8%
		Deafness	0%	0%
		Hearing disability	0%	0%
		Body part	0.5%	0%
		Mental disorder	0%	0.4%
		No disability	99%	98.8%
	Compound transformations			
1	Transformation type	Land use change	34.38%	29%
		Land fragmentation	6.25%	9.7%
		Dislocation	6.25%	0%
		Both (land use change + fragmentation)	53.12%	61.3%
2	Cause of transformations	Selling land For economic improvement	31.25%	9.7%
		Land fragmentation due to densification	18.75%	9.7%
		Land taken for new development	6.25%	0%
		Selling land fearing low compensation	6.25%	0%
		Multiple factors	37.5%	80.6%

	Building transformations				
1	Building type	Before 1987	Thatch roof	100%	100%
			Modern Building	0%	0%
		1987-2007	Thatch roof	86.36%	93.3%
			Modern Building	13.64%	6.7%
		2007-2017	Thatch roof	17.6%	13%
			Modern Building	82.4%	87%
2	Construction mechanism	Finished product		87.2%	77%
		Incremental approach		10.47%	20%
		Extension mechanism		2.33%	3%
3	Building conditions	Good	Thatch roof	6.45%	11%
			Modern Building	38.7%	39%
		Fair	Thatch roof	67.75%	42%
			Modern Building	58%	48%
		Bad	Thatch roof	25.8%	47%
			Modern Building	3.3%	13%
4	Source of finance	Saving		51.6%	47%
		Loan		0%	1%
		Family support (remittance)		24.7%	16%
		Selling property		16.2%	26%
		Combined sources		7.5%	12%
5	Construction skill	Local carpenter		80.6%	86%
		Family and relatives		12.9%	9%
		Combined		6.5%	5%
6	Transformations of source of finance	Thatch roof	Before 1997	Mostly saving	Mostly saving
			1997-2012	Saving + Remittance	And Selling property
			2012-2017	Remittance	Saving
		Modern bldg.	Before 1987	No bldg.	No bldg.
			1987-2012	Mostly saving	Mostly saving
			2012-2017	Saving + remittance	+ Selling property
7	Transformations of construction skill	Thatch roof	Before 1997	Mostly Local builders	Mostly family /relatives
			1997-2017	Local builders	Local builders
		Modern bldg.	Before 1987	No bldg.	No bldg.
			1987-2012	Mostly local builders	Mostly local builders
			2012-2017	Mostly local builders	Mostly local builders

Table 4.49: Comparative analysis between the two cases; Ambicho and Kidigisa

4.5.2 Compound transformations

Household Compound transformations in both Ambicho and Kidigisa is either land use change, land fragmentation or both. Compounds that comprise both land use change and land fragmentation is 53.12 % in Ambicho and 61.3% in Kidigisa. This shows that the use of the land is being changing from farm to residence or other use when it is 'sold' or transferred by inheritance. Compounds that comprise only land use change without fragmentation is 34.38% in Ambicho and 29% in Kidigisa. In most cases this type happens when the land is still occupied by first settler or when a plot of farm land transferred to newcomer for residential use. Compounds that comprise only land fragmentation is almost the same in both cases, which is 6.25% in Ambicho and 9.7% in Kidigisa. This type is rare because when the land fragment, it also changes its use at the same time. Another type of transformation is dislocation which is 6.25% in Ambicho and none in Kidigisa. Dislocation in Ambicho happens due to establishment of Wachemo University which was formerly farmers land. In general type of transformation in Ambicho is nearly similar with Kidigisa.

All Transformations in the two cases are happening due to different factors. These are selling land informally for economic improvement, land fragmentation due to densification, emerging of new development, and selling of land fearing low compensation cost. In both cases majority of households responded as the existence of multiple factors that determine compound transformations. However, there is a huge gap on percentages which is 37.5% in Ambicho and 80.6% in Kidigisa. In addition economic improvement, densification, new development and low compensation cost comprises 31.25 %, 18.75%, 6.25% and 6.25% in Ambicho and 9.7%, 9.7%,0% and 0% in Kidigisa respectively. Economic factor in Ambicho is more than threefold of Kidigisa, which matches with better commercial activities in Ambicho.

Generally, response of households from the two cases, shows most of the factors that affect transformations are either social or economic factors. According to key informants' from Ambicho and Kidigisa, physical determinants such as topography and climate are factors that triggered or attracted changes on these areas, since informal settlement in Ambicho and Kidigisa was initiated due to its comfortable topography and climate. Therefore, for these specific cases, physical factors are mostly related with formations while socio-economic factors are mostly responsible for transformations.

4.5.3 Building transformations

Traditional thatch roof house coverage in Ambicho and Kidigisa which was 100% before 30 years, was reduced to 86.36 % and 93.3% respectively, between 1987 and 2007 in both cases. Currently, this type of housing covers only 17.6% and 13 % in Ambicho and Kidigisa respectively. In contrary, modern CIS roof house coverage was none before 20 years, and now it become 82.4% and 87 % in both cases respectively. These figures shows fading of vernacular building culture and people choice of modern building and life style for different reasons. Surprisingly the newly introduced modern building type '*amora kinf*' which is found here and there is almost the same in the two cases. Based on key informants this type of typical construction spread not because of its good lay out or function but it is closely linked with human emotions and competitions among those who exercise better economic activity by selling land informally or using remittance money. Therefore, a purpose of a house is being transformed from its use value to symbolism as people value changes from need to ceremonial activity.

On the other hand, together with changing of building typology, construction skill and financing mechanism is also changing through time. Before 20 years, almost 100% of buildings where constructed by family members with relatives. However, with in previous ten years following introduction of modern building, local professional builders took over 80% of house construction skill on both traditional and modern buildings. Regarding housing finance previously it was raised through saving money collected from different sources such as selling property like cattle's. Currently, saving remain predominant source of housing finance, however the money for saving is collected from selling farm land informally or remittance money.

Compared to their income level, where majority of households in Ambicho and Kidigisa are low-incomes, saving seems doubtful source of housing finance. However, majority of households spend the money generated from remittance and/or land sell to construct new houses or to send one of household member to South Africa or United Arab Emirates, while their life style and economic status remains unchanged. It seems these people are housing poor who spend majority of their income to construct expensive houses. This matches with argument of Rapaport (1969) "-in Annam, as soon as a peasant has money he builds a house, beautiful but not comfortable, and beyond his means. There are more rich houses than rich families" (see section 3.8 of chapter three).

Generally, the transformations which is happening can be termed as peri-urbanization, but the change is mostly visible on spatial aspect such as building types and settlement pattern while life style of many households remain the same. A good example for this is, many households do not live in a newly built modern houses, and they choose traditional thatch roof type to live together with cattle's. And they use open cooking in the middle of the house '*midecha'* which makes the room warm. They say the modern house 'the clean and the cold one' and they reserve it for guests and children. The transformations in the buildings types are not intentional or planned considering changing of activities or other circumstances.

4.5.4 Settlement transformations

Characteristics and process of settlement transformations in Ambicho and Kidigisa is almost similar. In both cases, farm land is being transformed in to squatter settlement. Process of transformation starts by subdivision and informal transfer of plot of lands at the perimeter of farm land blocks, followed by construction of residential houses and then it continues to central part which is usually back yard farm of native farmers. As shown in the figures 4.4 and 4.9 above, transformations in Ambicho is faster than Kidigisa. In the case of Ambicho, all of the perimeter and central part of the land is already sold and now being crowded by newly built modern CIS roof houses. Whereas, in the case of Kidigisa, still there is a farm land at the backyard of traditional thatch roof houses.

4.6 Summary of findings

Hosanna is one of the oldest towns in SNNPRS, which was established in 1906. Since that time the town undergoes through different administrative and economic systems: feudal, social and capitalist system. Each system puts its own impact on the growth of the town. Hosanna town growth was stagnant during the regimes of Emperor Haile Selassie and *Derg.* Change on economic and administrative system brought remarkable growth since 1990's. However, the capitalist system allowed high-incomes to be privileged in all development areas. While, policy gaps and inefficient implementation strategies deprived the poor from access to land or housing and other services.

Further expansion of the town since 2000's created peri-urban areas in the surrounding Hosanna town. These areas exhibit socioeconomic, environmental and spatial transformations. Case sites, Ambicho and Kidigisa undergoes several transformations in the past ten years. Transformations in Ambicho started earlier than Kidigisa due to its location near the exit to Addis Ababa City and

availability of asphalt road and services such as schools and university. Therefore, infrastructure provision like electricity, road and health center is better than Kidigisa. Its morphology (figure-ground) is also denser than Kidigisa.

Transformation character and process is almost similar in both cases. Both Ambicho and Kidigisa possess land fragmentation and land use change through informal transaction of farm land. Spread of informal land transaction invaded farm land and changed livelihood base of many households.

The transformations also affected type of houses constructed in to peri-urban areas. Due to peri-urbanization, previous traditional thatch roof houses are replaced by modern CIS roof houses. Currently, number of traditional thatch roof house construction in Ambicho and Kidigisa vanishes to zero. While, number of modern CIS roof house construction increases each year.

In general, all transformations in Ambicho and Kidigisa is occurring informally without guide by plan. Some ethnic, socioeconomic and political factors contributed for the spread of informal settlement. In addition, the role of actors is high in peri-urban transformation process. If the process of informal transformation continue, it would become inevitable unless corrected by concerning body at the early stage.

CHAPTER FIVE

5 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

5.1.1 Cause and characteristics of transformations

As discussed on literature review, there are multiple factors with varying possibilities to influence a form of a house or settlement (Rappaport, 1969). The findings of this study also confirms the existence of multiple factors that influence the form of house and settlement pattern. Topography, economy, population, culture, security and politics are among the factors that affect formation and transformations. In addition, specifically in these cases, social factors such as remittance and political situations are found to be primarily responsible for spatial transformations in peri-urban areas. This helps to open another insight to be studied further with an assumption that physical factors are more responsible for formation while social factors are more responsible for transformations.

Because of these natural and socioeconomic factors, settlements at the two cases are being transformed from traditional agricultural villages to residentially dominated peri-urban settlement. These transformations involve land use change and land fragmentation. Furthermore, traditional thatch roof houses are being replaced by modern CIS roof houses '*korkoro bet'*. One can say these phenomena is rural-urban transformation or urbanization. However, based on widely accepted definitions of urban areas, it is difficult to categorize these settlements as urban. Peri-urban areas exhibit both characteristics of rural and urban areas. Similarly, Ambicho and Kidigisa are peri-urban areas, which have both urban and rural characteristics. Even though, preri-urbanization brings economic development, Ambicho and Kidigisa did not maintained other positive values of urban and rural characteristics. For instance, in the cases of peri-urban areas around Hosanna Town, for not being urban the settlements loses infrastructure and service and for not being rural the settlements loses farm land. In addition, for not being urban constructed modern buildings are not serving intended purpose since families choose to live in traditional thatch roof houses and for not being rural unnecessary cost is being invested to construct modern houses to satisfy only ceremonial purpose or once fame. Therefore, it is difficult to call these areas either urban or rural. Regarding their physical appearance they look urban, but regarding the way of life of their inhabitants they

possess rural features. These mismatch between the spatial and functional aspect of the settlement deprived the benefits of being either rural or urban.

In general, peri-urban areas around Hosanna town are 'transition sites' that are being transformed from rural to urban area. However, this transition is not one step process that transform directly from rural to urban, but – based on previous trends in Hosanna – it involves two steps. These are from rural to informal urban settlement (peri-urban) and then from informal urban settlement to formal urban settlement. During the period of this study, the cases sites, Ambicho and Kidigisa were informal settlements where there is enormous amount of unplanned constructions. According to government officials, there is economic incapability to pay compensations and to develop the land by providing infrastructure and services. Therefore, it seems this is a continuing phenomenon that proof the inevitability of informal settlement, especially in the developing world (Payne, 1977).

5.1.2 Space, activity and meaning transformations

Settlement level

Most of spatial transformations in the settlement is followed by transformation of activity and meaning of place. For instance, when spatial transformation such as land fragmentation occurs with the land use/activity/ change from farm to residence, it also change meaning of the place. For example, open spaces such as grazing land and forest where cattle's grew, elders interact and children play is now lost and become a memory that remain with elders.

Sometimes due to socio economic and natural factors, meaning change may precedes spatial and activity changes. Therefore, due to these factors, the meaning of place might change or remain the same depending on the outcome of transformations. Changing and unchanging of meaning has its own impact on spatial and activity transformations. In the first case, meaning change would result with spatial and activity change. For example, there was a ritual space in Kidigisa called '*hungrame*[33]', where worship activity and tradition justice court '(*shengo*)' was exercised, is now lost following introduction and wide spread of Protestantism. Now what is left is *hungurame,* a '*zigba*[34]*'* tree, and memory, while the traditional worship place is replaced by Protestant Churches and the traditional justice system is now performed at the compound of the local community leader

[33] *Hungrame* was a ritual place in Kidigisa where worship and traditional justice court was exercised.
[34] *Zigba*: local name for indigenous tree in Ethiopia.

(*dan nefera)*. Here, introduction of a social (religious) factor 'Protestantism' changes the meaning of place *hungurame*, which in turn resulted with a spatial and activity change of the place.

Secondly, meaning of place remain unchanged due to some socioeconomic factors. For example, an attempt to re-demarcate and regularize peri-urban areas around Hosanna town, which are under administration of Lemmo Wereda, was failed due to community leaders and residents resistance not to be part of Hosanna town. The meaning that they give for the surrounding land is a 'fate for existence of their clan'. They believe that further expansion of the town would engulf their land and eventually their clan would disappear if it is included in to the town administration. Further, Lemo as a wereda will lose economic advantages from the area. (See Annex 7E). For this reasons, they stick with the meaning they gave for the surrounding land. However, this didn't prevented the area from transformations. Because, impact of urbanization forced majority of residents (original landholders) to transfer (sell) majority of the land informally for the newcomers.

Meaning is subjective which vary from person to person depending on sex, age, education status etc. while, spatial and activity change can be conceived similarly by all community members. The meaning variance among members of household over a given land became source of conflict in many households, when some members of household consider the lands as a heritage that can't be 'sold' and the others consider it as an asset that can be changed and transferred for economic improvement. Similarly, when a land is 'sold' by household head without recognition of household members, it raise a conflict between household members. Sometimes each heir claims ownership over informally sold land and occasionally it will lead to conflict that extends to murder.

Compound level

Components of a typical farmer compound in the case sites are: wide front yard *'nafara'*, traditional houses *'goye'e'*, backyard vegetation *'wesa*[35]*'* and farm land. Zoning of these spaces are put hierarchically based on level of privacy or publicity of activity, age and sex of a person. *'Nafera'* appears next to entrance and is the most public space in the compound, used as a children play ground, family gathering, cattle rearing, thrashing crop and ritual activities. Usually, *nafara* is dominated by children and elders unless there is special occasion. Hadiya people believe that wide, green and clean 'nafera' bring good fortune *(gada'a),* but this is impossible with the absence of

[35] *Wesa* is local name of enset.

'nafera' itself. Currently because of transformations *'nafera'* is disappearing. However, some of the new fragmented plots still have small size *'nafera'* to maintain its meaning.

Similarly, meaning of houses and back yard *'enset'* and vegetable farm is also changing with spatial and activity change. *'Enset'* plant which is the main source of food '*kocho (wasa)*[36]*'* in the area located at the back yard hierarchically next to houses, since they frequently commute there to prepare food. Backyard farm is semi-private space, which is dominantly used by women since they are responsible for food preparation. Extent of *'enset'* farm represents the wealth and wisdom of its owner in the society, since *'enset'* plant can resist drought and is able to stay for many years before harvesting and it is considered as stored food for the future. Farm land is the most public space of a household, usually it appears next to *enset* farm. Most of the time the location of farm land is out of the compound and can be accessed by strangers. The task in the farm land is mostly the responsibility of household heads, usually men and youngsters, they have intensive work during plough, planting seeds and crop harvesting. Currently, emergence of other options to secure food need in the community changes meaning given to *enset* and crop farm and this allowed farm land fragmentation and land use change.

To sum up, this type of transformations shows flexibility of human being to drop existing meaning and cope up with new change in order to survive. When there is a new option it stick with the new one, therefore there is no permanent meaning. Spatial configurations and activities would always change unless the meaning is mandatory to survive.

Building level

Almost in all households of original settlers, types of houses in the compound have changed from traditional thatch roof to modern CIS roof houses '*Korkoro bet'*. Following the typology change activity and meaning of space is also changing with in a houses. In tradition thatch roof houses all activities contained in one room and the space is divided hierarchically based on activities it serve. Therefore each space have its meaning even if the meaning vary based on age group or sex.

Later when modern CIS roof '*Korkoro bet'* is introduced some activities shift to it and accommodate some activities like sleeping space and guest reception. So traditional thatch roof house continue as

[36] Kocho (wasa): is local name given for the food produced from enset

a kitchen and cattle space. In some cases, it is reserved as a guest house and some elder families who grew in traditional house with cattle's, choose to live there allowing modern house for children. In contrary, some also leave children in traditional house with cattle.

In general, following typology and spatial transformations meaning of space in the houses is disturbed and in some cases, it become subjective that depend based on age group or personal claim of space. Therefore a space that is built for some activity and purpose has been replaced by another activity and purpose during transformation. This shows, meaning of space will change with the changing of activity while spatial configuration remain the same.

5.1.3 Outcomes and threats of transformations

Transformation in Kidigisa and Ambicho is accepted positively by almost all residents. Economic activation on the area and informal transfer of land allowed them to generate income temporarily. However, in the long run it will have negative consequences. Major outputs and related threats of transformations in both cases are insecure tenure, future slum, informality, environment degradation and loss of spatial heritage (see section 3.4 of chapter three).

The land in both settlements is occupied informally and the inhabitants have no secure tenure. Original dwellers have legal user right over the farm land. However, most of the land transferred to newcomers and become informal settlement without legal title deed. Furthermore, some of the modern buildings which are built in informally actually are not occupied; they are built to claim the land and give some legal ground for its transfer. In most cases, a plot of land with a simple shed structure is 'sold' again to another new owner. Based on key informant's data a plot of land is 'sold' (transferred) up to ten times within in the past ten years. Each new owner who 'buys' the land will gain double profit while selling the land after few months. Through this process, the price for un-serviced land with no secure tenure reaches ETB600 - ETB1,000 per $1m^2$ land which was ETB60 - ETB120 per square meter, before five years. Many brokers and speculators are main actors of these activities. They facilitate and sometimes directly engage in the land 'selling' and transformation process. Due to the rapid growth of informal provision of land when compared to the shortcomings of the government to pay compensation and supply serviced land, informal land transfer has become inevitable. Unless the government follow new strategies rather than expropriation and land grabbing to develop the peri-urban areas, demolition of constructions and other properties will affect economy of many households and the area as a whole.

If the current trend of transformation continues, excessive fragmentation and overcrowding will lead to future slum, where there are concentration of poverty, informality, high proportion unemployment, and inadequate service and infrastructure. In addition, data collected from key informants reveals most of informally transferred plots are not giving any service – neither farming nor residence; but waiting as an item to be exchanged for profit by speculators. These transformation highly reduce productivity of farmers and eventually will lead to poverty (see section 3.4.1.1 of chapter three).

Another threat of transformation is loss of spatial heritages and traditional skills. Originally, the settlements were known for their multi-functional open-spaces and ritual places like *hungurame*, currently these spatial heritages are totally lost. At the compound level, excessive fragmentation of land lead to loss of hierarchical division of compound and constituent spatial elements such as wide front yard (*nafara*). In addition, pre-existing traditional thatch roof houses are being replaced by modern *'korkoro bet'*. For the casual observer, adopting new building and settlement culture seems fashionable or better. However, the way it is practiced now is unsustainable compared to the vernacular culture, since vernacular architecture uses local material, techniques and skills.

In addition, high rate of urbanization and rapid change of existing settlements significantly affected the environment of Ambicho and Kidigisa. Following population increase, deforestation, pollution, loss of farm land and increased built up area become main features of the settlements. Due to lack of planning and monitoring precious natural resources are being harmed and, in some cases, gone forever. They will cost a lot or become impossible to recover unless properly planned and managed today.

In general, transformations in both settlements may seem positive because of the current temporary economic gains. However, continuing on the current trend would maximize the above mentioned outcomes and threats.

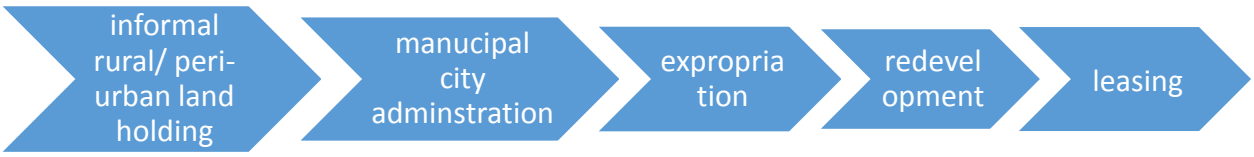
5.2 Recommendations

5.2.1 Policy recommendations

Currently, there is no clear structure or policy direction to administer the land in the peri-urban areas. Both the urban and rural administrations claim the authority to administer the peri-urban areas. In addition, due to ethnic and socioeconomic factors Lemmo Wereda claims surrounding peri-urban areas of Hosanna to be in its jurisdiction. This Administrative bias in transitional peri-

urban areas open power vacuum that allowed informality to be out of anyone's jurisdiction. The land policy should consider resolving these contradiction and administrative ambiguity between rural and urban land administrations over transitional peri-urban areas. This can be achieved by setting integrated and coordinated approach between the two administrative zones.

In addition, the current urban land development process has to be revised to increase the advantages of local peri-urban land-holders. Previously, social tie and livelihood base of low incomes are being disturbed since land holding rights of original settlers or farm lands that were formerly the livelihood base of local communities are being lost by expropriation decision of city administrations (see section 3.5.1 of chapter three and Graph 5.1). These become the major constraints experienced by local peri-urban farmers in the process of urbanization. So far, peri-urban livelihood issues are hardly addressed in urban development policy making and planning, which usually rather focus on physical issues such as land use, housing supply to the urbanities and infrastructure development to the area. However, none of them are addressed so far. Therefore, to insure equitable development MOUDHC[37] in general and city administrations in particular need to incorporate peri-urban policy formulation and implementation process as a priority agenda.



Graph 5.1: Current urban development process

Graph 5.2: Proposed urban development process

Instead of forced eviction and expropriation employing peri-urban land formalizing and regularization as a new channel (see section 3.5.3 of chapter three) would solve various economic, social and political problems. The first thing to consider is except land speculators most of peri-urban land holders are low-incomes who used informal channel (see section 3.5.2 of chapter three)

[37] MOUDHC: Ministry of Urban Development, Housing and Construction

as an option to answer housing need due to government insufficiency to manage housing delivery and urban growth. Since citizens have the right to housing, it is not appropriate for the government to expropriate peri-urban land holders unless it able to satisfy housing needs of low incomes through the formal channel. The current expropriation practices also created political instability and distrust between the community and government (Achamyeleh, 2014). Therefore, in order to maintain political stability, low-incomes livelihood and social structure it is better to follow the new channel of peri-urban development process which include peri-urban land registering, formalizing, regularization and renewal (see Graph 5.2). In so doing, controlling land speculators and further expansion of informal settlement has to be done in line with peri-urban land formalizing and regularization.

Finally, current state controlled centralized urban development approach has to be decentralized to empower local governments to mobilize local resources and skills in order to develop areas in their respective administrations. Local governments should take responsibility to bring equitable and efficient development. Community discussion making and involvement could also insure its sustainability.

5.2.2 Roles of local government and community leaders

Local government insufficiency to provide housing and serviced urban land is one of the main reasons for expansion of informal settlements. Most of the informal settlers are low income people who are unable to access land through formal channels. Therefore, in order to reduce informality and to bring equitable development, local governments should work effectively to meet housing need of the poor. So far, in all housing strategies, low-incomes and the poor's were not addressed. Even though, the aim of cooperative housing and integrated housing development program (IHDP) was to include low-incomes, it is not implemented as said. Therefore, future housing strategies should consider proper planning and implementation strategies to address low-incomes and the poorest of the poor of different town sizes. Facilitating the link with micro-finance and saving institutions would be one of the strategies which enable the poor to raise housing finance.

The current land leasing system allowed unlimited tender participation and lease holding for one person. Absence of economic level category for competition marginalizes the low income from any participation in the formal property market. Even if this group has been engage in the informal land holding, recent involvement of high income groups in the peri-urban informal transaction has made

the problem even worse. Therefore, limiting the number of lease holding per person, arranging lease competition based on income, and focusing on specific target group (low–income) while developing alternative housing delivery strategies would allow low-incomes to rely on formal channel instead of informal settlement. This in turn would alleviate the problem of informal expansion to some extent.

Regarding development of peri-urban areas, local governments should work together with community leaders since they have important role in stabilization of informal settlement and conflict resolutions. The government should arrange awareness creation programs, trainings and discussion sessions for community leaders to reach on consensus on peri-urban development process. Therefore, creating common understanding and agreement on development approach helps community leaders to convince communities and to mobilize local resources to develop the area. Furthermore, based on information from the communities, it also helps to control expansion of informal settlements by taking measure on land speculators and kebele officials who facilitate informal land transactions.

5.2.3 Community

Findings of this study reveals transformations in most of households happen incidentally, either for economic improvement or as a fashion to adopt new culture. Community with the help of elders and community leaders should discuss on how to preserve and advance previous vernacular building culture instead of adopting new building culture. The discussion should also include how to stop informal land transaction and secure their benefit formally by collaborating with government bodies.

5.2.4 Urban planners

So far planning of secondary cities and towns were commissioned by regional governments. There were also centralized system for plan revisions and regulatory mechanism which lacks inclusion of community interest and actual situations on the ground. Previous planning trends rather focus on technical issues than considering complex system of socio-economic, ethnic, cultural and political realities of the society. Thus, imposing such technical plans which have no community acceptance become source of ethnic and political conflict in Ethiopia. Therefore, in order to bring inclusive and sustainable development, the first thing to be considered while planning is getting acceptance by the community. Community participation and involvement is crucial for successful implementation

of plans. Once the community is convinced it is possible to undertake planning considering social (human) and physical factors. Involvement of the community in all phases of planning is important for sustainability of development. Therefore, the following steps are recommended to be employed by urban planners in order to reduce negative impacts of transformation of peri-urban areas and to direct their rural-urban transition towards creating a prosperous and sustainable future:

Step 1: *community involvement and participation*: community leaders have great role on stabilization and conflict resolution in transitional peri-urban areas. Therefore, instead of forced eviction and land expropriation it is better for local governments to collaborate with local community leaders and residents. Setting common understanding is important to maintain and/or rehabilitate peri-urban livelihood, unless peri-urban land holders would be marginalized when the new development comes. The collaboration is important to control further expansion of informal settlement. It also helps to resolve conflict and distrust between the people to people and people to the government.

Step 2: *planning the area considering current settlement pattern and existing situations in order to have minimum destruction over individual properties:* contextual considerations during planning minimize government spending by reducing compensation costs. It also benefit property holders by insuring minimum destructions. Planning should also include two important issues that could guide spatial planning. First, it insures proper and justified compensation for expropriation of properties, and second, it preserves spatial heritages and vernacular building and settlement culture.

Step 3: *implementation of the plan*: this step needs raising fund and finance preparation for the implementation of the plan. If the finance is insufficient, it is possible to include phasing in the implementation strategies. Phasing should consider priority based on spatial and socio-economic aspects. The plan can be revised as needed during implementation. However, the most important thing to be considered is monitoring the proper implementation of the plan in order to minimize unexpected outcomes, such as misuse and misappropriation of resources. Modern land management systems such as cadaster and land registration would help to insure successful implementation and reduce misappropriation.

To sum up, insuring community participation and involvement in each step is vital for successful implementation of plans and to achieve sustainable development goals in transitional peri-urban areas.

5.2.5 Further study areas

As stated in the scope of this research, the main focus of this study is spatial transformations in Ambicho and Kidigisa. Therefore, areas like spatial heritage and vernacular building techniques, which are peripherally touched in this research, should be studied further. Furthermore, other aspects of transformations such as economy, culture, social and environment have to be studied in more depth. This helps to have a more thorough understanding of transformation by studying it from different dimensions.

In addition, some findings of this research, such as the causes of transformations, need to be studied in detail. These include: policy gap, administrative and economic incapability, migration and remittance, informal land transaction, and role of actors.

Generally, since this research is delimited to the two case sites it is difficult to generalize the finding to all transitional peri-urban areas. To consider a wider implementation measures, other cases should be studied by employing the same research procedure or any other valid methods.

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ANNEXES

Annex 1: Standard Questionnaire

Names of Interviewer: _____

Names of interviewee: _____ Site Location:_____ date_____

1. **Profile**

1.1. House hold profile

House number _____Tenure type/ownership _____Head of house hold _____Period of stay _____

Family size _____ Male_____Female _____

Background

Where did you come from before you started residing in this neighborhood? What was your reason to move to this neighborhood?

_____

_____

1.2. **Personal profile**

No	Name	Relationship with the HH	Gender	Year of birth	Marital status	Disability	Expenditure/ month in birr	Income / month in birr	Kind of Employment / Education	Special Skills	Job location	Transportation to work	Remark

2. Major changes/transformations at the compound level with in previous fifteen years.

2.1. Is there any transformations that occurred at the compound level? Yes ☐ No ☐

2.2. What was the characteristics of transformation? Segregation/land fragmentation ☐ Land use change ☐ Other

_____

_____

2.3. If there is any segregation what was the original size and how it is reduced to current size?

_____

2.4. If there is any Land use change what was the original use and how it is changed to current use?

_____

2.5. What are the factors that cause transformations? (Segregation, land use change and others...)

Effect of urbanization: - section of land sold for new comer ☐ Densification: - Divided for sons/daughters ☐ taken for development ☐

selling land informally due to low compensation cost ☐

others_____

3. Major changes/transformations at the building level

No	List different type of buildings that has been constructed in the compound	Year of construction	Purpose of the building	Who constructed the building C-contractor F-Family member L.C- local carpenter >>Specify others	Building material			Building technique			Construction process I-Incremental/ upgrading E-Extensions FP-finished product >>specify others	Building condition B- Bad F- Fair G- Good	Source of finance S-saving C-Credit/ loan FS- Family support SP- selling property such as cattle >>specify others	How much it costed
					floor	wall	roof	floor	wall	roof				

1														
2														
3														
4														
5														
6														

4. Major changes/transformation at the settlement level

4.1. Describe how the land use of settlement transformed with in previous fifteen years' time frame.

_____

_____

4.2. What are the major factors that cause transformations in settlement level?

Natural factors such as earth quake, flood, landslide... etc. ☐ Density: population increase ☐ Effect of urbanization; life style change ☐

others _____

4.3. What are the major problems and threats in the settlement transformation?

Farm land invasion ☐ un-serviced land ☐ lack of infrastructure ☐ unplanned settlement ☐ informalism ☐

others; _____

_____

5. Basic information/physical infrastructure and social infrastructure

5.1. Transformation on physical infrastructure and social infrastructure

No	Infrastructure **Use codes below to fill the table	Transformation process							
		Source/type	**2017**	**Source / type**	**year**	**Source/type**	**year**	**Source/ type**	**year**
1	**Water >> PM –private meter, PB-public/bono, R-rent, ST-stream, >>Specify others**								
2	**Electricity >>PM-private meter, R-rent, K-kerosene, No-no electricity. >>specify others**								
3	**Telephone >>P-private , M-mobile No-no telephone, >>specify others**								
4	**Access road >> AS-asphalt, CS-cobblestone, P-pista, UG-unpaved ground. >>specify others**								
5	**Sanitation >>PT- public toilet, CT- communal toilet, P-private toilet, F-forest >>>specify others**								
6	**Kitchen >> CK-communal Kitchen, PK-private kitchen, No-no kitchen >>specify other**								
7	**No. of rooms per household**								
8	**No. of bed rooms**								
9	**No. of person per bedroom**								
10	**Means of social interaction >> ID-IDIR, EK-EKUB,FA-family, FR-Friendship, >>specify others**								
11									

5.2 Transformation on communal spaces and social activity

No.	Activity	Space In 2017	meaning	Impact of transformation On social life	Space In …….	meaning	impact of transformation on social life	Space in …….	meaning	impact of transformation on social life
1	>>traditional Justice/ shengo									
2	Cultural ceremony >>demera...									
3	>> community meeting									
4	Wheat Thrashing space >> ehil mewukya									
5	Play ground									
6	Grathing land >>gitosh meret / nefera									
8	Worship place									
9	Bathing Washing cloth									

5.3 Transformation on social service and distance from home.

NO.	Social service	Distance from home In KM >> 2017	Impact of transformation on social life	Distance from home In km year……..	Impact of transformation on social life	Distance from home In km year……..	Impact of transformation on social life
1	KG						
2	Primary school						
3	High School, TVET						
4	College						
5	Health post						
6	Health center						
7	Hospital						
8	Church						
9	mosque						
10	Worship center						
12	Market place						
13	Administrative center						
14	Police station						

5.4 What are major impact of spatial transformation on the socio-economic aspect of the society?

Attract commerce ☐ increase social mix ☐ invasion of farm land ☐ change of life style/building culture ☐ environment degradation/ pollution ☐ reduce social interaction and social infrastructure ☐ increase developed/serviced land ☐ increase informality ☐

5.5 do the transformation have positive impact on native dwellers/farmers? Yes ☐ NO ☐

justify your answer

_____

_____

5.6 What do you suggest for the future development of your settlement?

_____

_____

6 draw compound site plan and its transformation; include descriptions

year	2017	Year……	Year……..	Year……
Site plan				

7 Draw building plans and its transformations; Include descriptions

Building type and year of construction	2017	Year……	Year……	Year……

Annex 2: Life story questionnaire

Name _____**House #** _____**location**_____ **date** _____

1. **Major life events;**

1.1 impact of life event on spatial transformation

Activity	**Place and date of birth**	**Place lived in time frame**				**Education and training in place and time frame**				**Job experience in place and time frame**				**Relationship in place and time frame**			
		Year >>												**upbringing**	**marriage**	**children**	**Others >>**
Major life events																	
Impact on spatial transformation																	

1.2 Impact of spatial transformation on personal/family life

Year >>	2017								
Spatial transformation									
Impact on personal/family life									

2 Time diary

2.2 What are your daily activities?

2.2.1 During regular days

Time range >> filled based on interviewee personal schedule >> use local time	Year……..		Year……..		Year……..		Year……..		remark
	Activity	Place	Activity	place	Activity	place	Activity	place	

2.2.2 During special days (weekends or others) – Sunday

Time range >>fill based on interviewee schedule >> use local time	Year>>		Year>>		Year>>				remark
	Activity	place	Activity	place	Activity	place	Activity	place	

2.2.3 What other activities do you have

Year>>	2017			
weekly				
monthly				
yearly				
other				

2.3 How do you use the different domestic spaces (house and compound)? (perception diagram)

Year>> 2017	Year>>	Year>>	Year>>

2.4 How do the other members of the house hold use the different domestic spaces (house and compound)? (perception diagram)

Year>> 2017	Year>>	Year>>	Year>>

2.5 How do you understand the different domestic spaces and activities in these spaces? (Open spaces, streets,)

spaces	Year>>				Year>>				Year>>			
	Activity/ usage	meaning	Feeling about space	livability	Activity/ usage	meaning	Feeling about space	livability	Activity/ usage	meaning	Feeling about space	livability
1												
2												
3												
4												
5												
6												

2.6 How do you understand the different communal facilities in relation to your activities? (common toilet, shower, streets,)

spaces	Year>>				Year>>				Year>>			
	Activity/ usage	meaning	Feeling about space	livability	Activity/ usage	meaning	Feeling about space	livability	Activity/ usage	meaning	Feeling about space	livability
1												
2												
3												
4												
5												
6												

Annex 3: Key Informant questionnaire

Key Informant Name _____ **location**_____

1. **Personal Profile**
   - **1.1. Name** _____**Gender**_____**Position** _____ Age _____

     Living experience in the settlement _____**Education:** _____
   - **1.2. Role in the community? Community leader** ☐ **kebele leader** ☐ **professional** ☐

     other _____
2. **When did human settlement started on that area?**_____
3. **What was the character of original settlement?** _____
4. **What were major elements / land uses/ of original settlement?**

   _____

   _____
5. **Is there any transformation that happen on the settlement pattern and land use? Yes** ☐ **No** ☐
6. **What are the major changes that occur within previous fifteen years?**

No	Existing land use >>2017 >> specify location using code labeled on the map.	Transformation process												
		Land use	Purpose of transformation	year	Land use	Purpose of transformation	year	Land use	Purpose of transformation	year	Land use	Purpose of transformation	year	remark
1	residence													
2	Farm land													
3	Grathing land													
4	Open space													

5	forest													
6	Worship place													
7	market													
8														

Other changes

_____

_____

7. **What was the factors that cause transformations?** Natural factors such as earth quake, flood, landslide... etc. ☐ Density: population increase ☐ Effect of urbanization; life style change ☐ land selling due to low compensation cost ☐
others _____

_____

8. **What are the major land uses in the settlement now?** Residence ☐ farm ☐ open space ☐ commerce ☐
others _____

_____

_____

9. **What is the character of transformation at these moment?** Land segregation/land division ☐ land use change ☐ informal/unplanned settlement ☐
others _____

_____

_____

10. **What are the major problems and threats of the settlement?** Farm land invasion ☐ un-serviced land ☐ lack of infrastructure ☐ unplanned settlement ☐ informalism ☐
others; _____

_____

11. **What do you suggest for the future development of these settlement?**

_____

_____

Annex 4: Life story Analysis (house hold profile)

A) Ato Yohannes's household profile

No.	Name	Relation with HHH	Gender	Year of birth	Marital status	Income/Month ETB	Employment/education	Job location	Special skill	transportation	remark
1	Ato Yohannes	HHH	M	1958	M	3000	Farmer	Ambicho	trade	On foot	
2	W/o Fentaye	Wife	F	1969	M	1500	housewife	Ambicho	Tilf...	On foot	
3	Ashenafi .Y	Son	M	1992	S	3000	Trade	Hosanna	….	Bajaj	
4	Asmelash.Y	Son	M	1994	S	10000	Trade	S.Africa	No	Plane	
5	Teshale .Y	Son	M	1997	S	-----	Student	Hosanna	>>	Bajaj	
6	Dejene .Y	Son	M	1999	S	-----	Student	Ambicho	>>	On foot	
7	Amanuel.Y	Son	M	2001	S	-----	Student	Ambicho	>>	On foot	
8	Muluken.Y	Son	M	2003	S	-----	Student	Ambicho	>>	On foot	
9	Tade.Y	Son	M	2009	S	-----	Student	Ashe	>>	On foot	
10	Hana.Y	Daughter	F	2016	S	-----	No ….	Ambicho	>>	…..	

B) W/ro Degnesh's household profile

No.	Name	Relation with HHH	Gender	Year of birth	Marital status	Income/Month ETB	Employment/education	Job location	Special skill	transportation	Remark
1	W/ro Degnesh.	HHH	F	1967	M	2080	Kitchen servant	Ambicho	-----	On foot	
2	Melaku Haile	son	M	1987	M	1800	Daily labor	Ambicho	------	On foot	
3	Embet Haile	Daughter	F	1989	S	-----	student	Hosanna	-----	Bajaj	
4	Abunu Haile	Son	M	1991	M	-----	Student	Hosanna	-----	>>	
5	Mistirnesh Haile	Daughter	F	1997	S	-----	Student	Hosanna	-----	>>	
6	Zerfnesh Haile	Daughter	F	1999	S	-----	Student	Hosanna	-----	>>	
7	Lemlem Haile	Daughter	F	2001	S	-----	Student	Hosanna	-----	>>	
8	Samuel Haile	Son	M	1994	S	-----	Student	Hosanna	-----	>>	

C) Ato Tariku's household profile

No.	Name	Relation with HHH	Gender	Year of birth	Marital status	Income /Month ETB	Employment/ education	Job location	Special skill	transportation	remark
1	Ato Tariku B	HHH	M	1981	M	3000	Farmer	Fonqo	----	Taxi	
2	W/o Tarekech	Wife	F	1986	M	0	housewife	Ambicho	----	On foot	
3	Yidnekachw .T	Son	M	2009	S	-----	Student	Ambicho	----	On foot	
4	Tinebeb .T	Daughter	F	2013	S	-----	-------	Ambicho	----	-----	
5	Wubrest .T	Daughter	F	2015	S	-----	--------	Ambicho	----	----	

D) Ato Tadesse's household profile

No.	Name	Relation with HHH	Gender	Year of birth	Marital status	Income/Month ETB	Employment/ education	Job location	Special skill	transportation	remark
1	Ato Tadesse.T	HHH	M	1970	M	3500	Auditor	Hossana	----	Motor	
2	W/o Fanaye.S	Wife	F	1985	M	-----	House wife, student	Ambicho, WCU	Tilf	Bajaj	
3	Melkamnesh.G	Relative	F	1992	S	-----	Student	Hosanna	….	Bajaj	
4	Tekalign .T	Relative	M	2004	S	-----	Student	Kidigisa	No	On foot	
5	Yabsira Tadesse	Son	M	2004	S	-----	-----	-----	>>	On foot	
6	Ature Ergicho	G.Mother	F	1941	M	-----	-----	-----	>>	On foot	
7	Dagagu Anise	Worker	M	2002	S	----- 0916286878	labor	home	>>	On foot	

E) Ato Addise's household profile

No.	Name	Relation with HHH	Gender	Year of birth	Marital status	Income /Month ETB	Employment/education	Job location	Special skill	Transportation	remark
1	Ato Addise.B	HHH	M	1981	M	10,000	Farmer	Ambicho	---	Bus	
2	W/ro Ehite	Wife	F	1986	M	3000	housewife	Naremo	---	Bajaj	
3	Waluda Addise	Son	M	2014	S	-----	---	Kidigisa	---	----	
4	New born	Daughter	M	2016	S	-----	---	Kidigisa	---	-----	

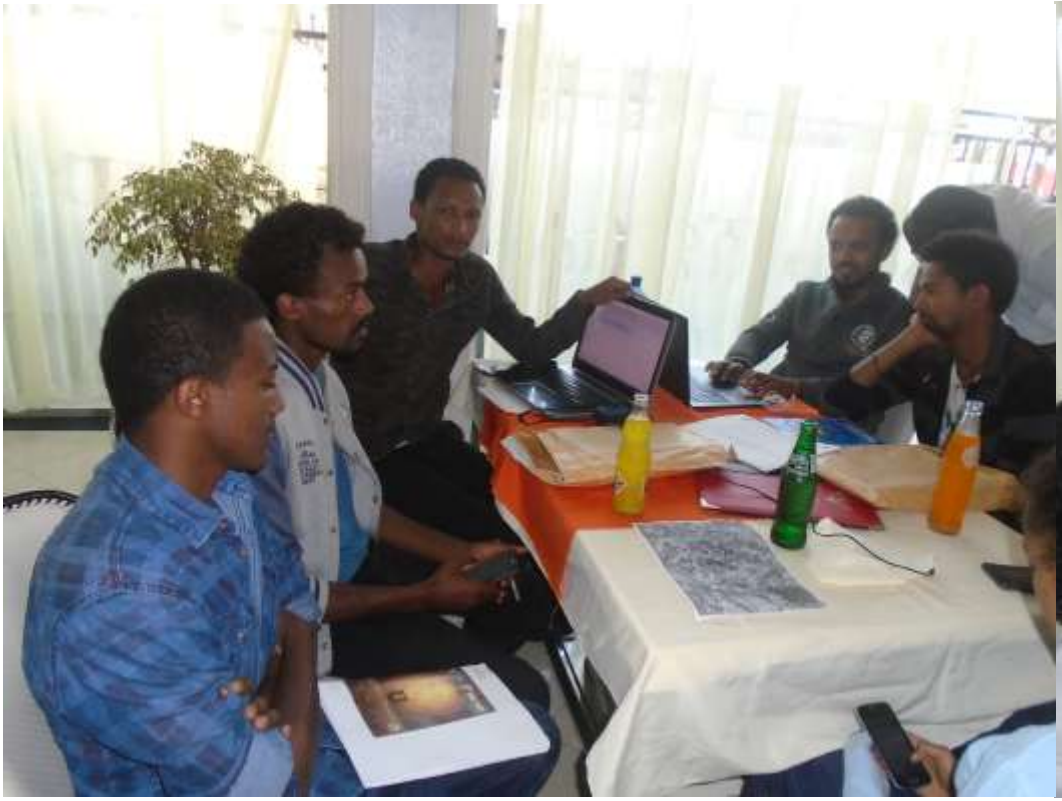
F) W/ro Abebech's household profile

No.	Name	Relation with HHH	Gender	Year of birth	Marital status	Income/Month ETB	Employment/education	Job location	Special skill	transportation	remark
1	W/ro Abebech	HHH	F	1959	M	4000	Trade	Kidigisa	trade	Bus	
2	Ato Hailu.T	Husband	M	1969	M	7000	Trade	S.Africa	….	Plane	
3	Tsedeke Hailu	Son	M	1989	S	-----	Student	Hosanna	….	Motor	
4	Tenaye Hailu	Daughter	F	1993	S	-----	Student	Kidigisa	---	On foot	
5	Etnesh Hailu	Daughter	F	1995	S	-----	Student	Kidigisa	---	On foot	
6	Tsega Hailu	Son	M	1997	S	-----	Student	Kidigisa	---	On foot	

Annex 5: Important pictures during data collection

A) Data collectors training

B) Discussion on pilot test feedback



C) Pilot test and onsite training for data collectors

D) Participating on activities to develop trust in the community

E) Partial view of Ambicho and Kidigisa

Annex 6: Services and communal space activities

A) Wheat thrashing in Ambicho and Kidigisa

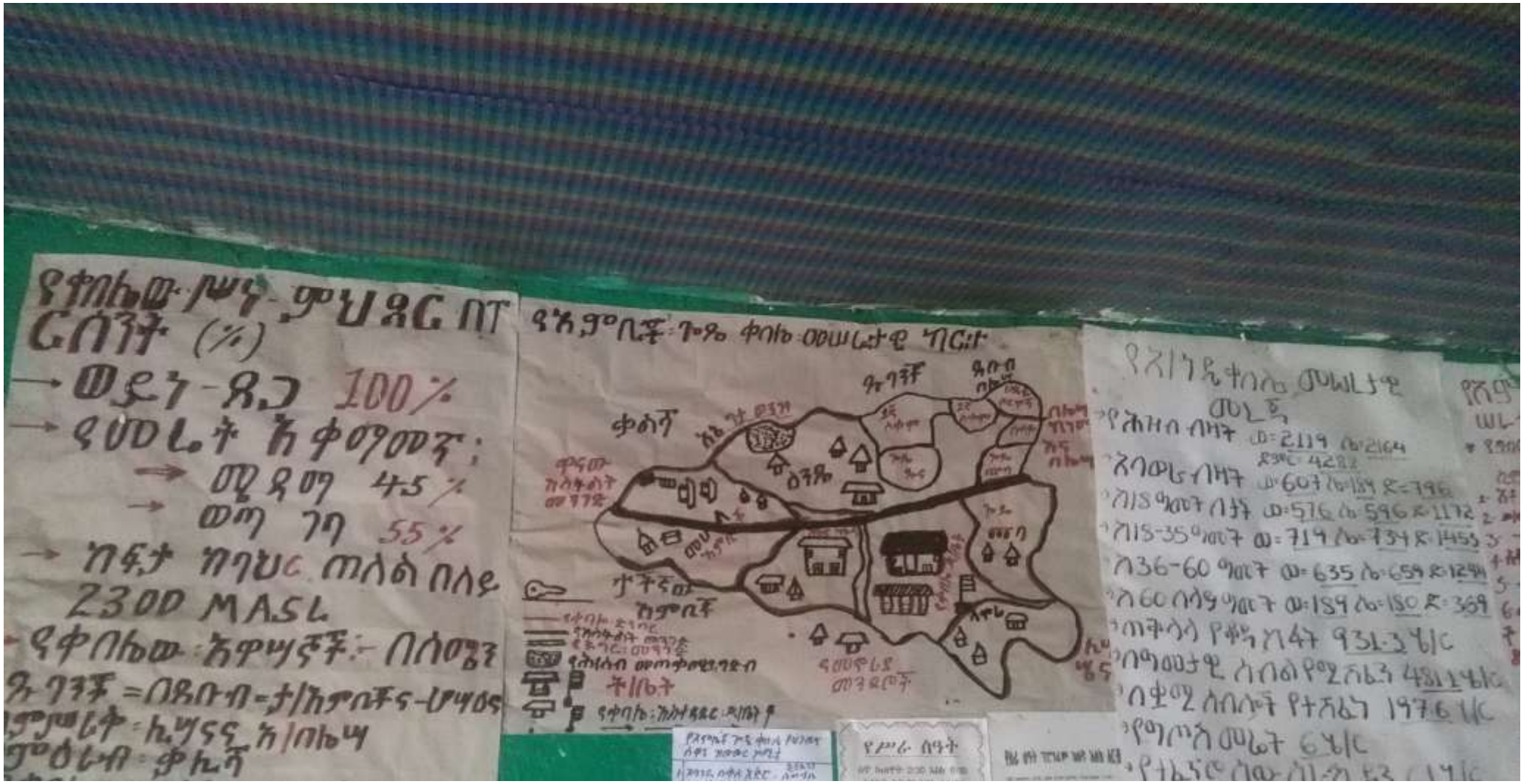
B) Public water source (bono) in Ambicho

C) Public water source (bono) in Kidigisa

D) Public toilet in Ambicho

Annex 7: Maps and secondary data

A) Ambicho map and secondary data collection (Picture taken from Ambicho kebele office: shows Ambicho map and socio-economic data)

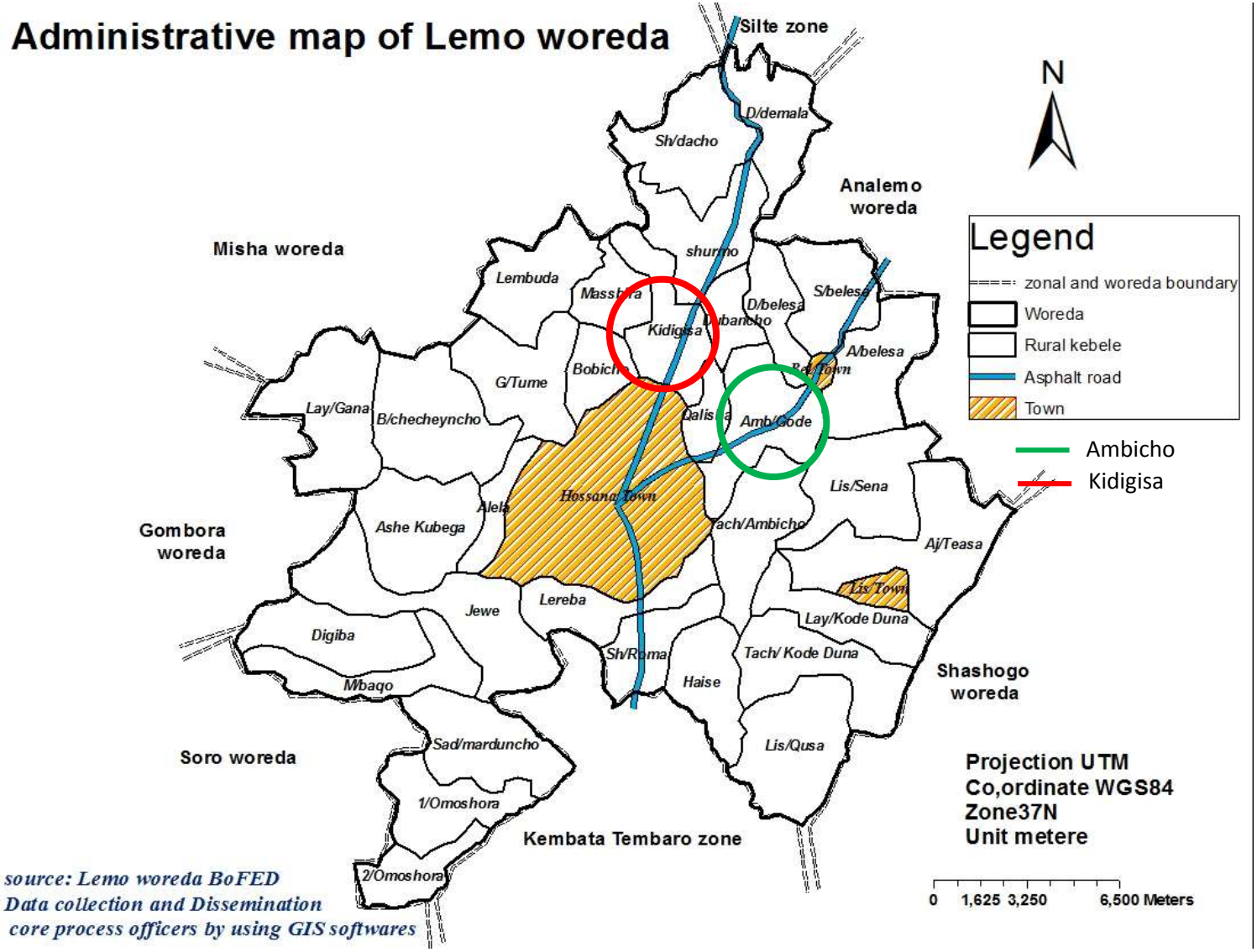


B) Kidigisa map and secondary data collection (Picture taken from Kidigisa kebele office: shows Kidigisa map and socio-economic data)

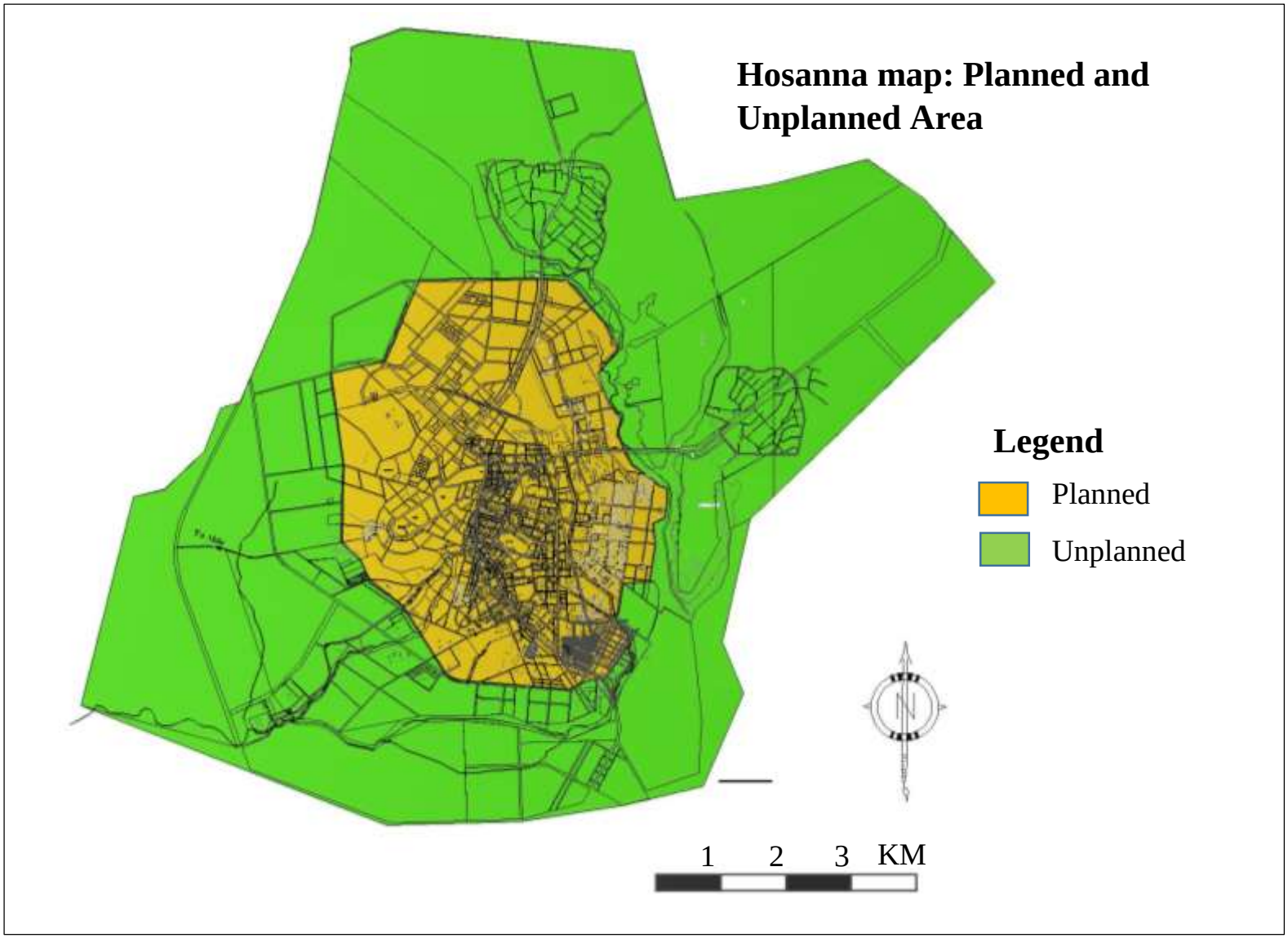
C) Randomly selected households during physical scanning in Kidigisa

D) Randomly selected households during physical scanning in Ambicho

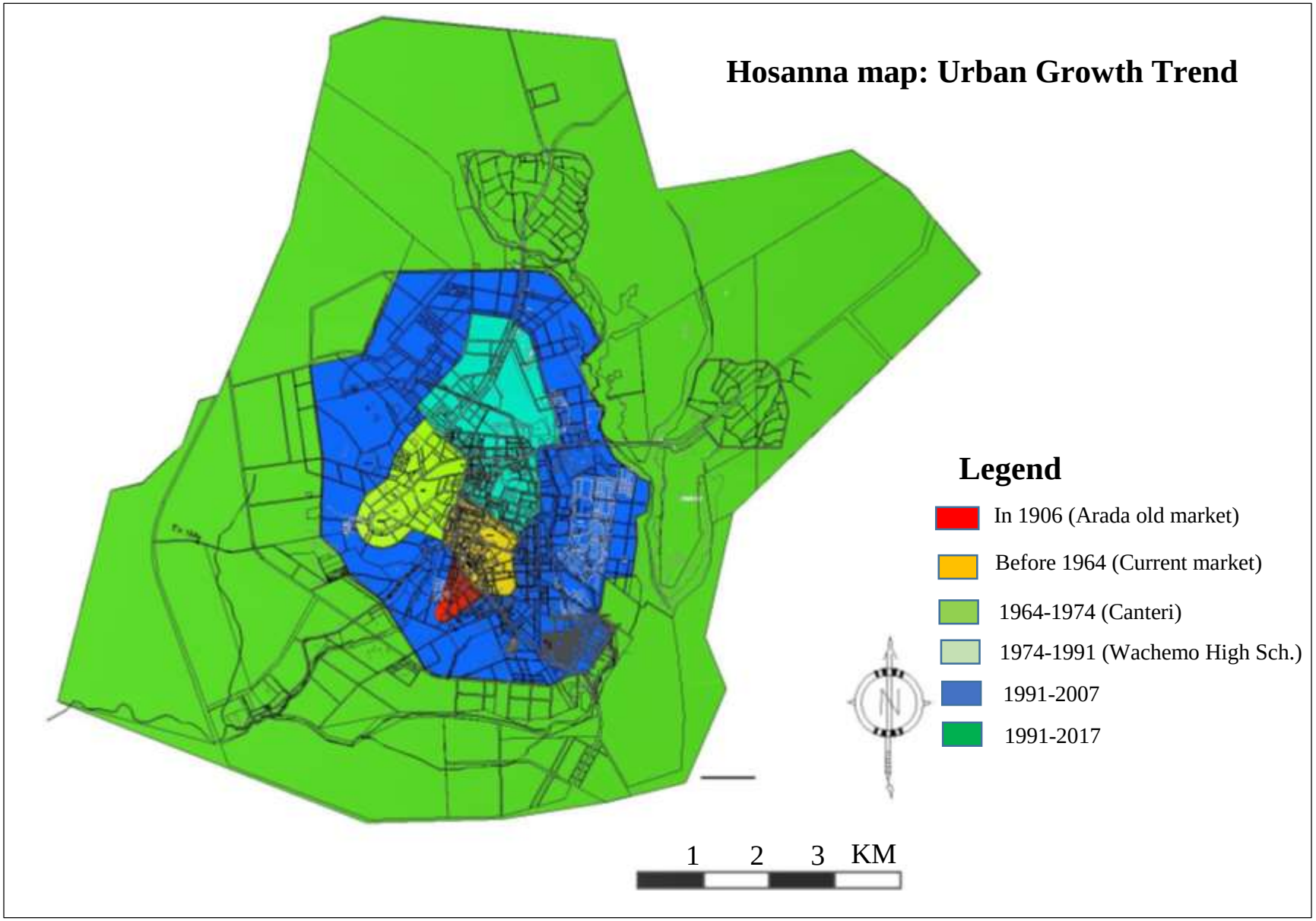
E) Map of Lemo Woreda (Hosanna town and surrounding peri-urban area)



F) Planned and Unplanned Hosanna



G) Hosanna Town urban Growth Trend



Annex 8: Key Informants

A) List of Informants

Name	Age	Position	Education	Location
Abegada Mulatu Ashebo	45	Cultural/traditional leader	Elementary	Ambicho
Dana Manebo Bunxe	70	Cultural/traditional leader	No formal education	Ambicho
Ato Tamirat Ayele	32	Kebele Leader	College	Ambicho
Dana Tilore Gibicho	105	Cultural/traditional leader	No formal education	Kidigisa
Dana Girma Ambo	74	Cultural/traditional leader	No formal education	Kidigisa
Ato Fekadu Lophiso	33	Kebele Leader	College	Kidigisa
Abegaz Bekele Washe	64	Cultural/traditional leader	No formal education	Kidigisa

B) Cultural/traditional leader in Ambicho (Dana Manebo Bunxe)

C) Cultural/traditional leader in Kidigisa (Dana Tilore Gibicho)

Annex 9: Support letters

A) Support letter from EiABC

EiABC

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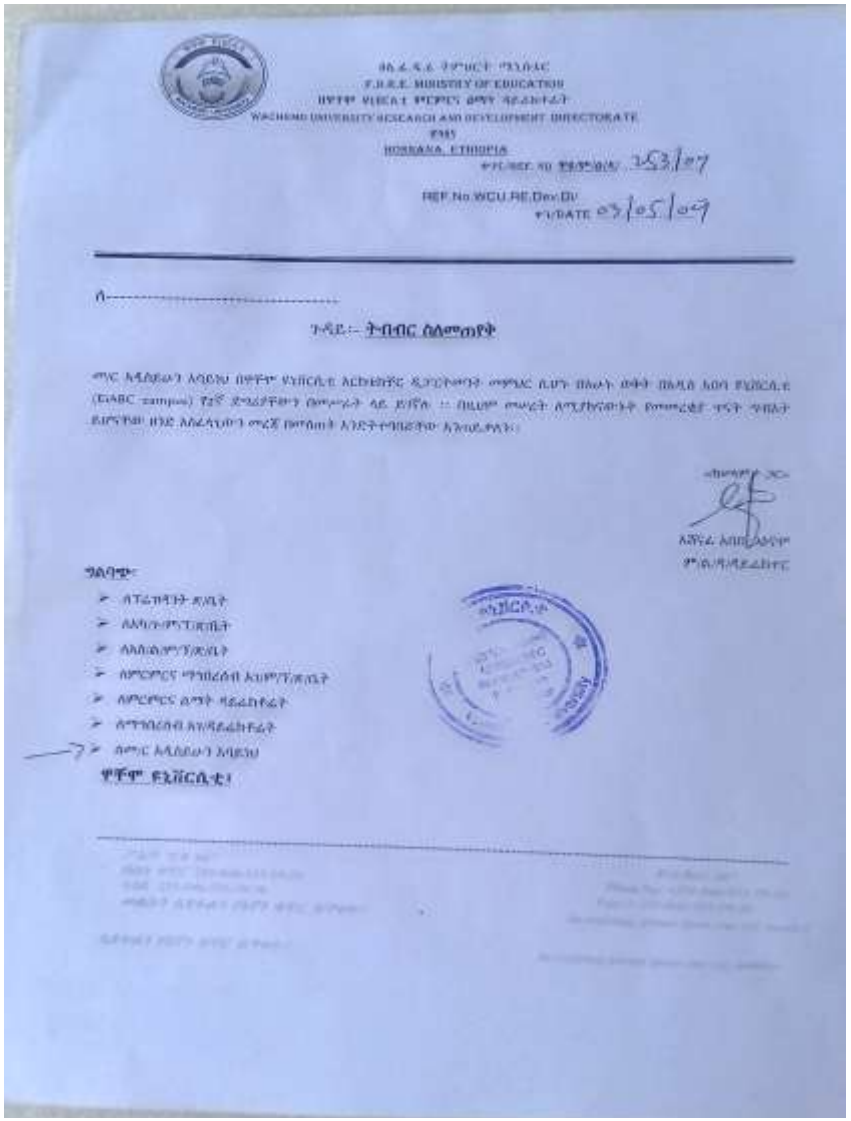
EiABC

B) Support letter from Wachemo University



WACHEMO UNIVERSITY RESEARCH AND DEVELOPMENT DIRECTORATE

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POST SCRIPT

During thesis defense, important comments were forwarded from board of examiners. The comments were seriously taken and re-considered during refining of final draft for final submission.

The major comments forwarded were: to include non-food expenditure on assumption for income categorization since previous assumption considered only food expenditure; to justify how saving accounts majority of housing finance since majority of households are low-incomes; to justify choice of method in relation to research questions; to omit the fourth specific objective of the study; and to elaborate case selection criteria and number of cases.

The comment given on the relevance of fourth specific objective on page 6 remains unchanged since it is included to show the study also covers identifying potential problems and suggesting possible solutions in addition to investigating characteristics and process of transformations. Regarding case selection, only two cases are selected based on the criteria on page 16, due to time and financial limitations to study the whole peri-urban areas surrounding Hosanna Town. Another comment was on justification of case-study method selection, it was written as it favors 'how' questions only, while three of the research questions are 'what' questions. Based on the comment it is re-written since case study favors both 'what' and 'how' questions (see page 10).

Based on the comments, income categorization reconsidered non-food expenditures. Previous assumption which was based on food-poverty line is now replaced by new assumption which considered to use absolute poverty line (discussed on page 84). Based on this assumption percentage of the poorest are increased since it includes non-food expenditures. In contrary with high percentage of low incomes, majority of households responded as saving accounts majority of housing finance. Saving seems a doubtful source compared to their income level, however these households save majority of income from various sources such as remittance and land sell for housing finance than other expenses. Therefore, they would be better said as housing poor (discussed on page 142).

Other minor comments, such as formatting and mapping issues are corrected on respective chapters. Another suggestion to include argumentation for detailed recommendations is also reconsidered.