



SEEK WISDOM. ELEVATE YOUR INTELLECT AND SERVE HUMANITY!

Addis Ababa University

ADDIS ABABA UNIVERSITY

COLLEGE OF SOCIAL SCIENCES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

**URBAN EXPANSION AND ITS EFFECTS ON AGRICULTURAL COMMUNITIES:
THE CASE OF DEWEY HAREWA WEREDA, OROMO ADMINISTRATION ZONE,
AMHARA REGION, ETHIOPIA**

By Ali Feleke

August 2024

Addis Ababa, Ethiopia



Addis Ababa University

SEEK WISDOM. ELEVATE YOUR INTELLECT AND SERVE HUMANITY!

ADDIS ABABA UNIVERSITY

COLLEGE OF SOCIAL SCIENCES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

**URBAN EXPANSION AND ITS EFFECTS ON AGRICULTURAL COMMUNITIES:
THE CASE OF DEWEY HAREWA WEREDA, OROMO ADMINISTRATION ZONE,
AMHARA REGION, ETHIOPIA**

By: Ali Feleke

**A Thesis Submitted to the Department of Geography and Environmental
Studies of Addis Ababa University in Partial Fulfillment of the
Requirements for Degree of Master of Arts in Geography and
Environmental Studies**

Advisor: Professor Solomon Mulugeta

August 2024

Addis Ababa, Ethiopia

Addis Ababa University

School of Graduate Students

Department of Geography and Environmental Studies

APPROVAL SHEET

This is to certify that the thesis prepared by **Ali Feleke** entitled “**Urban Expansion and its Effects on Agricultural Communities: The Case of Dewey Harewa Wereda, Oromo Administration Zone, Amhara Region, Ethiopia,**” and submitted to the partial fulfillment of requirements for the degree of master of art in Geography and Environmental Studies compiles with the regulation of the university and meets the accepted standards with respect to originality and quality.

Approved by:

Internal examiner: _____ **Signature** _____ **Date** _____

External examiner: _____ **Signature** _____ **Date** _____

Advisor: _____ **Signature** _____ **Date** _____

Chair of Department or Graduate program coordinator

DECLARATION

I, the undersigned, declare that this thesis entitled “**Urban Expansion and its Effects on Agricultural Communities: The Case of Dewey Harewa Wereda, Oromo Administration Zone, Amhara Region, Ethiopia**” is my original work, prepared under the guidance of **Professor Solomon Mulugeta**. All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been presented either in part or in full for the purpose of earning any diploma or degree in any other higher learning institution.

Declared by:

Confirmed by Advisor:

Name: Ali Feleke

Name: Professor Solomon Mulugeta

Signature: _____

Signature: _____

Date: _____

Date: _____

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to Professor Solomon Mulugeta, who served as my advisor. Words cannot fully convey how deeply appreciative I am of everything he has done for me. His guidance, teachings, and professional critiques have been invaluable in helping me make this work a success. I am immensely grateful to him.

I would also like to extend my appreciation to the employees of the Daway Harawa Woreda municipality for their generosity during the initial evaluation of the data set that formed the foundation of this study. Additionally, I am thankful to the displaced sampled household heads in the study areas who willingly participated in the research.

Finally, I would like to express my heartfelt appreciation to all my friends, interview participants, enumerators, and focus group members for their timely participation and valuable contributions.

TABLE OF CONTENTS

Contents	pages
APPROVAL SHEET	I
DECLARATION	II
ACKNOWLEDGEMENT	III
TABLE OF CONTENTS.....	IV
LIST OF TABLES.....	VII
LIST OF FIGURES.....	VIII
ACRONYMS AND ABBREVIATIONS	IX
<i>ABSTRACT</i>	X
CHAPTER ONE	1
1. INTRODUCTION	1
1.1. Background of the Study.....	1
1.2 Statements of the Problem.....	3
1.3. Objectives of the Study	4
1.3.1. General Objective	4
1.3.2. Specific Objectives:	4
1.4 Research Questions/Hypothesis	5
1.5. Significance of the Study.....	5
1.6. Scope of the Study	5
1.7. Limitation of the Study.....	6
1.8. Organization of the Thesis	6
CHAPTER TWO	7
2. REVIEW OF RELATED LITERATURES.....	7
2.1 Introduction	7
2.2. Definitions and Basic Concept	8
2.3 Theoretical review	10
2.4 Nature of Urbanization in Africa	11
2.5 Nature of Urbanization in Ethiopia	11
2.6 Driving Forces for Urban Expansion.....	12
2.6.1 Demographic factors.....	13
2.6.2 Government policy-related factors.....	13
2.7 Physical Urban Expansion and its Effects on Agricultural Communities.....	14
2.8 Impacts of Urban Expansion	16

2.8.1 Positive impacts of urban expansion	16
2.8.2 Negative impacts of urban expansion	16
2.9 Consequences of Urban Expansion.....	17
2.10 Compensation and Expropriation in Ethiopia	18
2.11 Rural-Urban Linkage.....	19
2.11 Rural-Urban Linkage.....	19
2.12 Impact of Urban Expansion on Small Towns.....	20
2.13 Cernea’s Impoverishment Risks and Reconstruction (IRR) Model	21
2.13.1 Economic issues	21
2.13.2 Socio-cultural issues.....	22
2.13.3 Social welfare issues	22
2.14 Empirical Literatures	23
2.15 Conceptual Framework.....	24
CHAPTER THREE	25
3. DESCRIPTION OF STUDY AREA AND METHODOLOGY	25
3.1 Introduction	25
3.2 Description of the Study Area	25
3.2.1 Location.....	25
3.2.2 Physical Characteristics of the Study Area.....	27
3.3.3 Socio-economic conditions	27
3.3. Research Methods	29
3.3.1. Research design	29
3.3.2. Research approach.....	29
3.3.3. Sampling techniques and selection procedures	30
3.3.4 Data collection instruments.....	31
3.3.5 Data analysis method and presentations	33
CHAPTER FOUR	34
4. DATA PRESENTATION, ANALYSIS, AND DISCUSSIONS.....	34
4.1. Introduction	34
4.2. Questionnaire Response Rate.....	34
4.3. Demographic Results	35
4.4 Socio- Economic Condition of Respondents	38
4.4. Asset Ownership of Respondents	38
4.5. Causes and Effects of Awareness on urban expansion.....	42
4.6. Compensation	45
4.7. Rehabilitation made by Stakeholders	46

4.8. Livelihood Effects, Coping Strategies	48
CHAPTER FIVE	52
5. CONCLUSIONS AND RECOMMENDATIONS	52
5.1. Conclusions	52
5.2. Recommendations	54
5.3. Directions for Future Research	54
REFERENCES	55
Appendices	62
Appendix I	62
Appendix II	67
Appendix III	68

LIST OF TABLES

Tables	Pages
Table 3.1: Population characteristics of Daway Harawa woreda	28
Table 3.2: Sampling distribution based on obtained from target population.....	31
Table 4.1: Demographic results	37

LIST OF FIGURES

Figures	Pages
Figure 2.1. Global trends of urbanization growth rates from 1950 to 2050 (UNDESA, 2018).....	12
Figure 2.2: Conceptual framework of the study area.....	25
Figure 3.1. Map of the Research Area	26
Figure 3.2: Partial view of urban expansion in study area.....	33
Figure 4.1: Respondent's distribution with town (kebele)	35

ACRONYMS AND ABBREVIATIONS

CSA	Central Statistics Agency
DHWFEDO	Dewey Harewa Woreda Finance And Economic Development Office
DHARDO	Dewey Harewa Agricultural and Rural Development Office
DHPC	Dewey Harewa Plan and Commition
DIDR	Development-Induced Displacement and Resettlement
FAO	Food and Agricultural Organization
HH	House Hold
GIS	Geographic Information System
IRR	Impoverishment Risks and Reconstruction
LULC	Land use/land cover dynamics
NGOs	Non-Governmental Organizations
RUL	Rural-Urban Linkage
SPSS	Statistical Package for Social Science
UN	United Nation
UNCHS	United Nation Center for Human settlements
UNDESA	United Nation Department of Economic and Social Affairs
UNCTAD	United Nation Conference on Trade and Development

ABSTRACT

The primary objective of this research is to examine urban expansion and its effects on agricultural communities, focusing on the case of Dewey Herewa Wereda in the Oromo administrative zone of Ethiopia. This study employs both descriptive and explanatory research designs and utilizes a mixed-method approach, combining quantitative and qualitative methods to collect the necessary data. A sample of 182 displaced households was randomly selected from two towns and three peripheral kebeles. The researcher gathered both numerical and non-numerical data, utilizing primary and secondary sources. A questionnaire, including both open-ended and closed-ended questions, was distributed to respondents and key informants. Descriptive statistics were used to analyze demographic variables, presented through frequency, percentage, pie charts, bar charts, and cross-tabulation. Inferential statistics, including one-sample t-tests, Chi-square tests, and paired t-tests, were also conducted. The data analysis was performed using SPSS Version 24 (Statistical Package for Social Sciences). The results indicate that the assets reported by respondents, such as farmland measured in timad, cereal yield per quintal, number of livestock, and number of permanent trees and fruits, decreased by more than half after the expansion of the towns. Additionally, the study found that, except for land compensation for house construction ($\text{sig}=0.085>0.05$), the remaining types of compensation (monetary compensation, land for farming, land for commerce, and land for storage) were generally perceived as fair. The researcher recommends that monetary compensation alone is insufficient. To enhance the capacity of displaced farmers and add value to their compensation, it is essential to provide skills training, job opportunities, residential land, and access to credit. Special attention should be given to people with disabilities and the elderly.

Keywords: urban expansion, compensation, peri urban, livelihood strategies, agricultural communities, Dewey Herewa Wereda

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study

Urban expansion is a global phenomenon, deeply embedded in the history of urban areas across the world. This process can be traced back to ancient civilizations, including Babylonians. In Ethiopia, the roots of urban development stretch back to the Axumite Kingdoms of the 14th century, with Axum emerging as the first major political and religious center in the northern part of the country (Friew, 2010).

The continuous process of altering land use that characterizes urban expansion is a complicated social and economic issue. It is commonly related to a city's population and economics, but it can also be linked to information regarding geography, transportation, land use, social structure, and economic type (Lin et al., 2003). When farmland is transformed into urban built-up areas, the amount of land available for crop and food production decreases. Since the 1970s, when the industrialization policy was enacted and a large number of young people were enticed to reside in towns, many developing countries have witnessed urban expansion. The enormous influx has put a strain on current social services and challenges the state to satisfy the demands of an expanding urban population. Built-up regions spread into the hinterlands and peri-urban areas because of the need for dwellings and supporting services (Eshetu, 2017).

Urbanization is encroaching on arable agricultural land in emerging markets, including Africa (Firman, 2009). This trend has led to increased ecological and social vulnerability in several developing countries, leaving people homeless, disempowered, and uprooted (Aboda et al., 2019).

According to the World Bank Group (2016), Ethiopia has been experiencing greater urbanization growth than Sub-Saharan Africa, with a projected urbanization rate of 5.4%. Expanded from 4.45 million in 1984 to 22.88 million in 2021, a 41.4% increase. In addition to these, in 2018, urban population shares (20.76%) of the total population and natural growth accounted for 40% of the rapid urbanization expansion, followed by migration from rural to urban areas (33%), and reclassification of rural communities (24%). There are already 159 towns with a population of more than 20,000 people, up from 85 in 2007; by 2037, there are

projected to be over 440 (Thega, 2021). The World Bank in August 2024 stated that 23.16 percent of Ethiopians were living in urban areas in 2023.

The urbanization rate of Amhara Regional State is outpacing that of the rest of the country. According to Ethiopia's national census forecast from 1994 to 2007, multiple towns in the regional state are developing at a rate of more than 6% per year, which is faster than the national average of 4% for urbanization. (Asfaw et al. 2020).

The region's exceptional urban population expansion has resulted in a significant demand for urban land for the construction of residential buildings, infrastructure, and services. According to the Amhara Regional State Urban Development, Housing, and Construction Bureau, about 15,000 peri-urban farmers' agricultural property was expropriated, and the land was then leased to 129,594 urban residents. Towns have therefore expanded horizontally as a result of demographic forces. This expansion has far-reaching ecological, socio-economic, and environmental implications, particularly for urban peripheral areas. The primary obstacle to the urbanization process is the quick conversion of a sizable portion of prime agricultural land in peri-urban areas to urban land uses. Although the issue is greater in small and medium-sized towns, this tendency will worsen the expropriation of agricultural households even further and may cause food poverty and social instability in the surrounding areas. Gebeyehu et al. (2022).

Daway Harawa Woreda is located in Amhara regional state, Oromo Administration zone, and consists of twelve kebeles, ten of which are rural and two of which are urban (Bora and Harewa), both of which are expanding in terms of population and physical size. Bora and Harewa were developed into towns and began to be administered by municipalities in 2006 and 2010, respectively. Those towns developed and expanded through dispossession of farmland and grazing land from agricultural communities. Still, the evicted (displaced) households mostly live in the towns, but their livelihoods are mainly engaged in agriculture and other time-consuming economic activities, which may merely cover their daily needs.

According to the Dewey Harewa wereda Municipality Office document (2023), the population size of Bora town is estimated at 7694 and that of Harewa town is estimated at 5349. The total area coverage of the two towns was previously estimated at a few hectares in 2015/16, but today it is rising rapidly. The increase in area coverage was the result of the integration process of the peripheral agricultural farmlands into their surrounding kebeles.

1.2 Statements of the Problem

Ethiopia is experiencing significant urbanization, transitioning rapidly from agricultural to urban land use due to extensive urban development costs. Uncontrolled urban expansion negatively affects the natural environment and rural livelihoods across many Ethiopian towns. This urban growth not only influences regional organization and socio-economic dynamics but also has far-reaching consequences, particularly impacting nearby rural communities (Muluwork, 2014).

Evicted farmers, who often lack educational development and rely on time-consuming agricultural activities that barely meet their daily needs, face severe repercussions from displacement. Such evictions from urban peripheries exacerbate poverty, disrupt communities, and undermine the long-term sustainability of their livelihoods (Amare and Alemu, 2015). Additional research highlights that these consequences further deteriorate the conditions of evicted households, affecting their housing, employment, education, physical and mental health, family life, culture, and overall well-being. Zemenfes et al. (2014).

Horizontal urban expansion in Ethiopia often overlooks the concerns and interests of agricultural communities. Instead, it primarily aligns with urban growth rates and market development goals, which has led to conflicts between residents and farmers. This is because planners frequently ignore the usage rights of those who rely on the land for agriculture (Adam, 2014).

Dewey Herewa wereda has been predominantly in the production of “Kchat” (*Catha edulis*), cereal products such as sorghum, teff, millet, and other fruits and vegetables. However, production of Kchat (*Catha edulis*) and other cereal products had declined tremendously as a result of agricultural land being converted for residential and commercial users specifically around Bora and Herewa towns.

It sounds like Dewey Herewa wereda has been experiencing significant urban expansion, leading to considerable changes in the local agricultural landscape. The report from the Dewey Harewa Wereda Municipality highlights that between 2013 and 2018, approximately 361 farmers were displaced from their farmlands due to this expansion. This kind of transition often raises concerns about the impact on local food production and the well-being of those who are displaced.

However, in Ethiopia, most studies of urban expansion and its effects on small towns have focused on Addis Ababa and other large and medium-sized cities. They concentrate on the spatial-temporal characteristics of expansion, with insufficient emphasis on the socioeconomic side. This study looked at local agricultural communities in general, with an emphasis on evicted farmer households. The study region is well-established for institutional and residential construction, which is facilitated by the leasehold land management framework. However, little attention has been paid to urban expansion and its effects on the livelihoods of local agricultural communities living in areas of rapid urbanization in the study area.

Further studies on the effects of urban growth have been carried out in Ethiopia. For example, Mefekir (2017) explained that the causes of urban expansion include rural urban migration, natural growth, reclassification of farmland, and so on. Fekade (2021) also reveals that the horizontal development of urbanization in urban areas has an impact on peripheral dwellings, which in turn affects people's livelihoods, particularly in agricultural communities.

As a result, the researcher set out to fill a gap in the literature about the nature, magnitude, and outcomes of the coping mechanisms used by displaced agricultural communities in Dewey Harewa Wereda, especially in Bora and Harewa towns, which is the main gap to be addressed. Therefore, the primary concern of this research is to examine urban expansion and its effects on agricultural communities in the study area.

1.3. Objectives of the Study

1.3.1. General Objective

The general objective of this study was to examine urban expansion and its effects on agricultural communities in Dewey Harewa Wereda of the Ormo Administration Zone of the Amhara Region in Ethiopia.

1.3.2. Specific Objectives:

- ✚ To examine the extent of the urban expansion on agricultural communities
- ✚ To identify the causes of respondents' awareness of urban expansion.
- ✚ To assess the feedback of respondents satisfaction level on compensation.

- ✚ To investigate interventions made by the concerned bodies and the nature, magnitude, and outcomes of the coping strategies used by the community.

1.4 Research Questions/Hypothesis

The main focus of this study was to examine urban expansion and its effects on agricultural communities in Dewey Harewa Wereda of the Ormo Administration Zone of the Amhara Region in Ethiopia. The findings of the study were answering the following main research questions and null hypothesis in the study area.

- ✚ The average asset of respondents before and after urbanization was not different.
- ✚ Were the causes and effects of respondents' awareness statistically independent?
- ✚ The respondent's satisfaction level with compensation was not averagely fair.
- ✚ What roles did the government and communities themselves play in rehabilitation and in defining the livelihood effects experienced?

1.5. Significance of the Study

As previously mentioned, the objective of the study is to look into how agricultural communities are affected by urbanization. Therefore, it was hoped that the findings of these studies would provide some insight into how rural communities and urban dwellers alike are affected by urban expansion. In doing so, it would give policymakers, non-governmental organizations, and regional and local governments participating in urban and rural development programs a great deal of insight into the nature of the problem surrounding the topic under consideration. It would highlight significant areas that require more study on the subject at hand.

Finally, this study is expected to give some important uses, like pointing out the following:

- To make inferences and make decisions about the effects of the urban expansion on agricultural communities.
- To provide information for policymakers.
- It paves the way for researchers to conduct further research.

1.6. Scope of the Study

The study was conducted in Dewey Harewa Woreda in the Oromo Administration Zone of the Amhara region, on the agricultural communities of Bora and Herewa towns and three peri-

urban kebeles. The expansion of the towns horizontally over the peripheral areas from their original size was being assessed. As a result, those people's agricultural land and other resources and assets were transferred to urban residences and other institutions. Local leaders and municipality servants were the participants of this study. Therefore, the study concentrates on urban expansion and its effects on agricultural communities. The most important urban expansion dynamics were significantly observed near fertile peripheral irrigated land and agricultural farmland in the surroundings of the two towns. Following this, an estimated 361 farmers in the urban development have been dispossessed of their agricultural farmland, irrigated land, grazing land, and forest land property since the years 2013 up to 2018 (Dewe Harewa municipality data, 2023). By using simple random sampling technique, a total of 182 households were displaced for the purpose of the questionnaire, 10 for focus group discussion, and 8 for the key informant interview. The study also employed primary and secondary sources to collect useful information. This study also focuses on the causes, effects, and coping strategies used by the community on urban expansion in the study area.

1.7. Limitation of the Study

In the course of the study, the researcher faced difficulties getting the required data for the research work from the respected offices. Workers of the respected offices were busy for interviews and other secondary data provision during the data collection period.

Moreover, the researcher encountered constraints such as money, time, unwillingness of school staff members to reduce workloads, limited access to internet service, and lack of the skill of analyzing data using SPSS. Being reluctant of other bodies was also a major problem, and the researcher also overcomes these obstacles by engaging in other activities, like walking a considerable distance on foot and using private Wi-Fi.

1.8. Organization of the Thesis

This study was organized into five chapters. Chapter one covered the background of the study, statement of the problem, research objectives, research hypothesis, significance of the study, scope of the study, and organization of the thesis. The second chapter deals with a literature review; it highlights existing literature on the subject obtained from published books, journals, annual reports, and so on. The third chapter organized the study methodology and dealt with the description of the study area, research design, sampling technique, instruments and

measurement techniques, data collection procedures, and data processing techniques. Chapter four covered the results and data analysis, including presentation, data analysis, and interpretation. Finally, chapter five concentrates on conclusion, recommendation, and direction for future research.

Term

In this study, **peri-urban areas** are considered as areas amidst dense settlement (urban areas) and less dense settlement (rural areas). These are areas partly sharing the characteristics of both urban areas and rural areas, then symbolizing the transitional zone between urban areas and rural areas. Peri-urban areas are places where existing livelihood regimes dissolve or change and households draw on their minimal assets for new livelihood strategies.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURES

2.1 Introduction

This chapter includes definitions and basic concepts, theoretical review, nature of urbanization in Africa, nature of urbanization in Ethiopia, driving forces for urban expansion, physical urban expansion and its effects on agricultural communities, impacts of urban expansion, consequences of urban expansion, compensation and expropriation in Ethiopia, rural-urban

linkage, impact of urban expansion on small towns, Cernea's impoverishment risks and reconstruction (IRR) model, empirical literature, and conceptual framework.

2.2. Definitions and Basic Concept

Urbanization refers to the process by which urban areas expand, involving both the horizontal and vertical growth of physical structures within these regions. This expansion often leads to the loss of agricultural land, natural landscapes, rangelands, parks, and scenic areas, as noted by Melesse (2004). The process is driven by a variety of factors, including population growth, economic development, and technological advancements.

Urban expansion, often synonymous with urban sprawl, describes the outward spread of urban settlements into surrounding areas traditionally used for agriculture or other non-urban functions. This phenomenon is prevalent in both developed and developing countries, though the impacts can vary significantly. In developing nations like Ethiopia, urban expansion is frequently associated with negative consequences. According to Fekadu (2015), rapid urban expansion in Ethiopia is primarily driven by factors such as high natural population growth, rural-to-urban migration, and spatial urban development.

Urban development encompasses the social, cultural, economic, and physical evolution of cities. It involves the underlying processes that contribute to the growth and transformation of urban areas.

Urban growth refers to the increase in the absolute size of an urban population, which can occur at the level of individual settlements or across a broader collection of settlements, such as at the national level. Fox and Goodfellow (2016) defined urban growth as a key driver of urban expansion, influencing the overall development trajectory of urban areas.

The urban periphery, often referred to as the peri-urban area, consists of open countryside that is largely occupied by agricultural communities. These areas are typically characterized by a rural settlement pattern, which is gradually encroached upon by expanding urban settlements.

Livelihood: Chambers and Conway (1992) define a sustainable livelihood as one that can endure and recover from shocks while maintaining or enhancing its capabilities and assets, both now and in the future.

Natural capital: This includes land, water, and biological resources such as trees, pasture, and biodiversity.

Financial capital: This comprises liquid assets such as money or savings. In this study, it extends beyond financial assets to include easily disposable goods like livestock, which might be classified as natural capital in other contexts. Financial capital also covers income levels, their fluctuation over time, the distribution of financial savings within society, access to credit, and debt levels.

Physical capital refers to assets created through economic production, including infrastructure like roads, irrigation systems, electricity, and housing.

Human capital: defined by the quantity and quality of the workforce available. At the household level, it is influenced by household size as well as the education, nutrition, skills, capacity, and health of household members.

Social capital encompasses any assets, including rights or claims that arise from group membership. This includes the ability to call on friends or family for help during times of need, support from trade or professional associations (e.g., farmers' associations), and political influence over leaders or politicians to secure assistance. Social capital can be viewed as a function of the power an individual or group holds and the type and extent of interaction within a specific social framework.

Agricultural communities are those populations that inhabit rural areas and primarily engage in agriculture, including crop and livestock production, as well as related activities such as forestry, fisheries, and the management of land and water resources (Ciparisse, 2003). These communities rely heavily on agricultural assets, which include agricultural land, livestock, farming facilities, and machinery used in the production of crops and livestock.

Compensation, as defined by Proclamation No. 455/2005, refers to the payment made by a government body to individuals or communities whose properties have been expropriated. This compensation can be provided in the form of cash or in-kind, depending on the circumstances. The process of compensation is intended to address the loss of assets, whether partial or complete, among the affected population. The proclamation outlines a detailed strategy for

ensuring that those who lose assets due to expropriation are adequately compensated, taking into account all forms of asset ownership or use rights.

2.3 Theoretical review

Urban expansion and growth have been explained through several theories that address the economic, social, and political dynamics contributing to this phenomenon. Below are key theories that provide insights into the underlying mechanisms of urban growth:

Economic benefits primacy theory posits that urban growth is driven by the superior economic opportunities available in cities compared to rural areas. According to this theory, cities provide higher productivity, job opportunities, and investment potential, which attract people and foster further expansion (Krugman et al. 2014). The economic benefits primacy theory emphasizes the agglomeration of diverse economic activities and the resulting economies of scale as driving forces behind urban expansion. According to Wubetu (2019), individuals are motivated to migrate from rural areas to urban centers, or from one urban area to another, in search of better economic opportunities. This migration, whether rural-to-urban or urban-to-urban, leads to an increase in the urban population. Consequently, urban centers expand towards peripheral areas as they accommodate the growing population and the demand for economic activities.

Urban social production theory, on the other hand, emphasizes that urban environments are shaped by social processes and power dynamics. Urban areas are more congested and densely populated than rural and peripheral regions. Despite this density, urban areas have a significant pulling power that attracts people. This attraction is primarily due to continuous social interaction, which eventually leads to the congregation of large populations within a smaller land area compared to rural regions. This theory highlights how social relations, class structures, and collective actions influence urban development, suggesting that cities are products of both economic and social factors (Harvey, 1973). Historically, cities have developed for various reasons, including defense, trade, and as political or religious centers. With the advent of industrialization, cities experienced a more intensive use of existing buildings, changes in land use patterns, and inevitable outward expansion into peripheral areas (Ibid.).

2.4 Nature of Urbanization in Africa

In the mid-20th century, many African nations transitioned from colonial rule to independence, leading to a concerted effort towards development. This period marked a significant shift as resources began to concentrate in core urban areas, driven primarily by two key factors: extensive rural-to-urban migration and natural population growth (Bodo, 2015). Unlike other regions, African urbanization exhibits distinctive patterns.

Despite the significant emigration of Africans for economic, recreational, and religious purposes, the continent remains one of the fastest urbanizing regions globally. For instance, while many African regions are still predominantly rural and less developed, the urban population on the continent is projected to more than triple from 395 million in 2000 to 1.339 billion by 2050, constituting 21% of the world's projected urban population (UNDESA, 2019).

A study by Asfaw et al. (2007) highlighted that the rapid population growth necessitates unprecedented investments in infrastructure and poses significant challenges for political and social institutions, particularly in Sub-Saharan Africa. The demographic dimensions of urbanization in East African countries underscore the urgent need for comprehensive planning and resource allocation to address these challenges.

2.5 Nature of Urbanization in Ethiopia

Ethiopia remains predominantly rural, with only 20% of its population residing in urban areas. However, this is poised to change significantly in the coming years. According to projections from the Ethiopian Central Statistics Agency, the urban population is expected to triple to 42.3 million by 2037, growing at an annual rate of 3.8%. Meanwhile, the 2015 Ethiopia Urbanization Review predicts an even faster rate of urbanization, estimating a 5.4% annual growth rate. This would result in a tripling of the urban population by 2034, with 30% of the country's population living in urban areas by 2028. Alongside rapid urbanization, Ethiopia is also experiencing a demographic shift. The labor force, which has doubled over the past two decades, is projected to reach 82 million by 2030, up from 33 million in 2005. To harness this demographic dividend, creating job opportunities in urban areas will be crucial (Abebaw, 2019).

The transformation from rural to urban land use has had profound effects on the environment, economy, and social structures. Agricultural land, often repurposed for industrial and service

sector development, has displaced many households, resulting in livelihood disruptions and social consequences (DFID, 1999). Ethiopia, the second-most populous country in Africa, has experienced a rapid urbanization process, particularly following the implementation of economic development and privatization policies aimed at fostering national growth (Shiferaw, 2017).

Despite the economic benefits, Ethiopia’s rapid urbanization has led to unplanned expansion, loss of farmland, and environmental degradation. According to Koroso et al. (2021), the urban expansion of Ethiopian cities has often outpaced infrastructure development and service provision. The study by Jenberu and Admasu (2020) identified migration as a key driver of this rapid urbanization. However, the factors driving the spontaneous development of urban areas and their implications have been less understood. This oversight has hindered the development of effective urban management strategies, leading to the emergence of informal settlements and slum-like conditions in expanding urban areas.

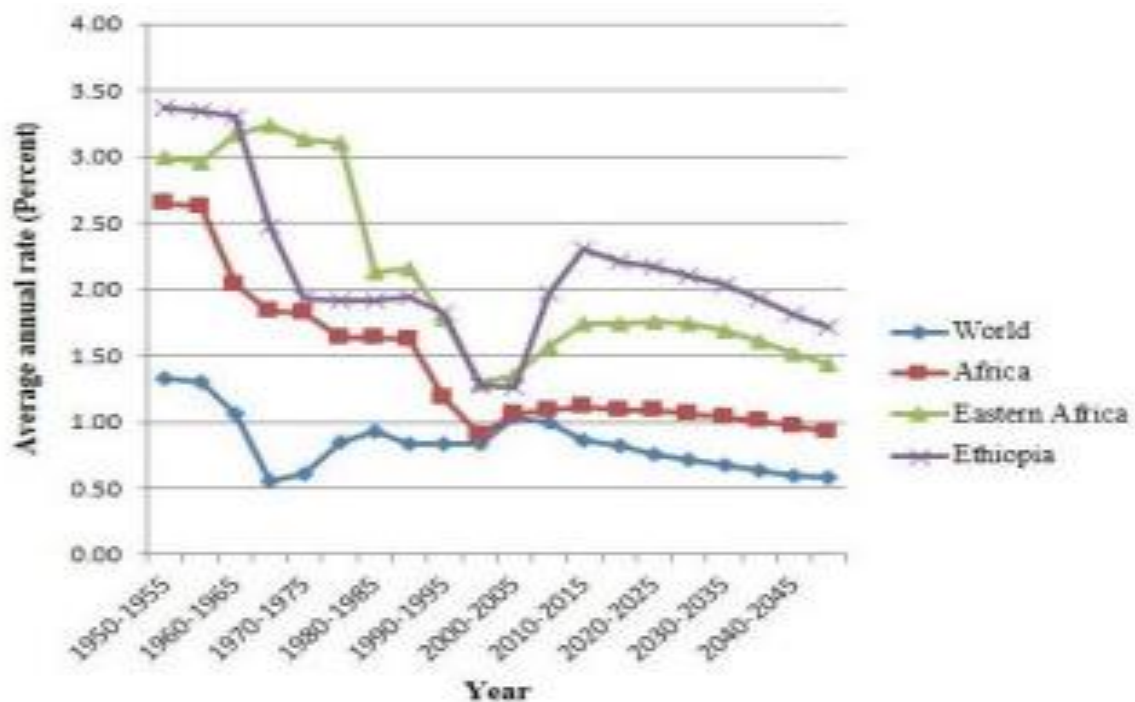


Figure 2.1. Global trends of urbanization growth rates from 1950 to 2050 (UNDESA, 2018)

2.6 Driving Forces for Urban Expansion

Urban expansion, commonly referred to as urban sprawl, is a global phenomenon where cities rapidly grow and extend to accommodate increasing populations. This expansion into

neighboring rural areas is driven by two major factors: spatial urban growth and demographic changes, including high birth rates and rural-to-urban migration (Fanny et al., 2017). The primary driving forces behind urban expansion can be categorized into demographic and policy-related factors. Each of these is explored in detail below.

2.6.1 Demographic factors

According to Kassahun and Tegegne (2018), the two most significant contributors to urban expansion are in-migration (which includes both rural-to-urban migration and urban-to-rural migration) and natural population increase. Urban growth essentially results from two primary demographic processes:

Rural-to-urban migration: This process has been a key driver of urban growth since the inception of cities. It is motivated by various factors, including perceived economic opportunities, insecurity in rural areas, and issues related to climate or economic conditions. Rural-to-urban migration significantly contributes to the expansion of urban areas as people move from rural regions in search of better living conditions and opportunities.

Natural population increase: This involves the interplay of increased fertility rates and decreased mortality rates. As birth rates exceed death rates, the population grows, contributing to the demand for more residential and commercial space in urban areas.

2.6.2 Government policy-related factors

Government policies play a crucial role in shaping urban expansion. The reclassification of land from rural to urban categories is a notable factor that drives urban sprawl. According to Taketel (2015), many towns are expanding into their peripheries, converting former villages and agricultural lands into urban areas. This transformation often requires infrastructure development such as roads, social amenities, and industrial facilities, which can lead to the displacement and resettlement of rural communities (Kedir, 2010).

Urban expansion and the associated land use and land cover (LULC) changes often stem from a mix of geographical and socio-economic factors, including population growth, government policies, and economic development (Kassahun and Tegegne, 2018). Specifically, rising household incomes, investments in infrastructure like roads, inefficient land use practices, and

poor land policies contribute to the spread of urban areas. In wealthier nations, the demand for larger suburban lots also drives suburbanization (Zheing and Kahn, 2013).

As towns expand, they impact the surrounding areas, particularly the suburbs, by altering the natural resource base and converting land from its original use to new urban purposes (Puertasa et al., 2014). Urban expansion can manifest in various forms, such as increased residential density, redevelopment of existing areas, and the creation of new urban lands from previously non-urban areas (Angel et al., 2005). The consequences of urban expansion extend beyond population growth, significantly affecting environmental ecosystems. Issues such as water scarcity, deforestation, and increased flood risks are notable environmental impacts of urban sprawl (Puertasa et al., 2014).

2.7 Physical Urban Expansion and its Effects on Agricultural Communities

Land use and land cover (LULC) dynamics, particularly the expansion into peripheral areas, play a crucial role in shaping the socio-economic systems of agricultural communities and influencing sustainable development. Urban sprawl, characterized by the physical expansion of cities into surrounding rural areas, is a significant driver of LULC changes. This phenomenon leads to the conversion of agricultural lands, forests, and other natural or semi-natural areas into urban environments (Leulsegged et al., 2012). The implications of these changes are far-reaching, affecting both agricultural productivity and local ecosystems.

I Impact on agricultural lands

One of the most immediate effects of urban expansion is the loss of cropland. As urban areas extend into rural regions, valuable agricultural land is often converted for residential, commercial, or industrial uses (Leulsegged et al., 2012). This reduction in arable land can lead to a decrease in agricultural output, which not only affects the income of farmers but also has broader implications for food security and local economies. The encroachment of urban development on farming areas disrupts traditional agricultural practices and may force farmers to adapt to new methods or abandon their land altogether.

II Effects on forests and natural areas

Urban sprawl also leads to the destruction of forests and natural habitats. Forests, which provide critical ecosystem services such as carbon sequestration, water regulation, and soil preservation, are often cleared to make way for new developments (Leulsegged et al., 2012).

This loss of forested areas contributes to a decline in biodiversity as the habitats of various wildlife species are destroyed. The conversion of natural areas into urban landscapes not only reduces the available habitat for wildlife but also disrupts ecological processes and can lead to the extinction of local flora and fauna.

III Socio-economic implications

The socio-economic impact of LULC changes extends beyond the immediate loss of land and resources. As urban areas encroach on agricultural zones, rural communities may face economic hardship due to diminished agricultural productivity. Additionally, the displacement of farming communities and the alteration of traditional livelihoods can lead to social disruption and decreased quality of life (Leulseged et al., 2012). The reduction in available green space and natural areas can also affect community well-being, as these areas often provide recreational opportunities and contribute to the overall quality of life.

IV Policy and planning considerations

Addressing the impacts of urban expansion requires a comprehensive understanding of LULC dynamics and their drivers. Effective land use planning and urban management policies are essential for mitigating the negative effects of sprawl on agricultural communities. Policymakers must consider the needs of these communities in their planning processes, integrating strategies that balance urban growth with the preservation of agricultural lands and natural ecosystems. This includes developing policies that protect valuable agricultural areas from encroachment, promote sustainable land use practices, and support the resilience of rural communities (Leulseged et al., 2012).

The physical expansion of urban areas into peripheral regions has significant implications for agricultural communities and the environment. The loss of cropland, destruction of forests, and socio-economic impacts highlight the need for thoughtful land use planning and policy development. By addressing these issues, it is possible to achieve a more sustainable balance between urban growth and the preservation of agricultural and natural resources. This approach will help ensure the long-term viability of both urban and rural communities, contributing to overall sustainable development (Leulseged et al.).

2.8 Impacts of Urban Expansion

Urban expansion significantly influences both the economic landscape and the environmental sustainability of cities. The growth of urban areas often leads to increased costs, which can push local working-class populations away from certain roles, such as employment in local government positions (Tessema, 2017). In many developing countries, suburbanization is driven by urban challenges and improvements in infrastructure, while central cities continue to densify (Glaeser & Steinberg, 2017).

Peri-urban zones—areas on the outskirts of urban centers—are particularly vulnerable to the impacts of urbanization. The conversion of these areas for urban use often results in the loss of valuable farmland, diminishing farmers' livelihood assets (Muluwork, 2014). As urban areas encroach on natural resources and agricultural systems, they create new landscapes characterized by a blend of urban and rural features (Satterthwaite et al., 2010).

2.8.1 Positive impacts of urban expansion

Urban expansion can yield several benefits. Residents of peri-urban areas often gain improved access to a range of services, including healthcare, education, banking, and postal services, as well as professional services such as legal advice (Tegegn, 1998). Additionally, the proximity to urban centers provides better access to employment opportunities and modern amenities compared to those living in more remote rural areas. Urban growth also stimulates economic activity through the development of small and micro enterprises and cooperatives, creating job opportunities (Ahlem, 2017).

2.8.2 Negative impacts of urban expansion

Despite its benefits, urban expansion has several adverse effects, particularly on surrounding agricultural areas. The need for cities to accommodate growing populations often leads to the encroachment on agricultural land, resulting in the displacement of farmers and the degradation of valuable farmland (Dayong, 2004). As urban centers expand into fertile agricultural areas, the resulting loss of farmland reduces agricultural production and forces displaced farmers to migrate to nearby urban centers. In Ethiopia, for example, regional governments are increasingly expropriating agricultural land for urban expansion, which alters land use and landscapes (Solomon, 2006). This shift often leaves farmers, who may lack education and

skills, struggling with unemployment and poverty due to their reliance on agriculture for their livelihood.

Urbanization also contributes to environmental issues such as solid waste disposal and land degradation. Urban centers produce more solid waste than they can manage, leading to pollution in surrounding rural areas. Industrial, residential, and institutional waste often ends up contaminating farmland on the urban periphery, degrading its quality and productivity.

Moreover, rapid urban growth results in the overexploitation of natural resources in peripheral areas. Urban residents typically have consumption patterns that exceed the carrying capacity of their local environment. The high demand for resources such as firewood, charcoal, and construction materials by urban centers depletes rural resources, including farmland, forests, and wildlife, often causing irreversible environmental damage (McGranahan, Satterthwaite, & Tacoli, 2004).

Finally, urban expansion can lead to conflicts, particularly over land acquisition. As urban areas encroach on rural zones, conflicts arise between various stakeholders, including smallholder farmers, investors, and local governments (Tegegn, 1997). In Ethiopia, for instance, the conversion of rural farmland to urban uses such as industry, commerce, and housing has intensified land acquisition conflicts, reflecting the broader challenges of managing urban growth.

2.9 Consequences of Urban Expansion

The phenomenon of rapid urban expansion in developing countries is frequently characterized by unplanned development on the periphery, leading to high infrastructure costs. Even when urban expansion is planned, the development of infrastructure often fails to align with the extensive areas of low-density land use that emerge. Consequently, urban expansion tends to generate a range of social, environmental, and economic challenges (Bhatta, 2010). Despite these challenges, urban areas continue to attract migrants from rural areas due to the greater opportunities they offer. Between 1990 and 2020, approximately 14 million hectares of land in developing countries are projected to be converted for urban use. This rapid urbanization inevitably results in the loss of agricultural land, a trend that is part of the broader economic development process and often brings substantial economic benefits.

However, the drive towards urban and industrial growth, combined with the neglect of the agricultural sector, has led to significant degradation of prime agricultural lands. This process suggests that as urban expansion progresses, agricultural communities will increasingly face adverse social and economic impacts.

2.10 Compensation and Expropriation in Ethiopia

Compensation is generally understood as actions intended to make up for losses incurred by those who were negatively impacted by land purchases or who were displaced as a result of such transactions. The primary goal of compensation is to redress the adverse effects experienced by these individuals. Typically, compensation is provided as a one-time payment, either in cash or in kind. However, individuals who have suffered losses due to the construction of infrastructure—such as project offices, townships, canals, transmission lines, and other facilities—often do not receive adequate compensation. This inadequacy arises because these losses are frequently improperly accounted for. Similarly, the impacts of large projects, like dams, on downstream communities and on those who lose their homes and livelihoods due to land being repurposed for compensatory afforestation are often neither fairly assessed nor valued. Anuar and Mohammednasir (1998).

Article 40(3) of the Ethiopian Constitution stipulates that land is owned collectively by the Ethiopian people and the state. While land cannot be sold, every citizen has the right to own and utilize it. Furthermore, under Article 40(5) of the FDRE Constitution, the government is authorized to expropriate private property for public use, provided that fair compensation is given equivalent to the property's value. Ethiopia's land policy allows the government to acquire land through compulsory purchase for development projects. The Proclamation to Provide for the Expropriation of Land Holdings for Public Purposes and Payment of Compensation (Proc. No. 455/2005) outlines this process. According to this proclamation, compensation should be provided for the value of labor and capital invested in the land, as well as for permanent improvements made to the land. However, in practice, local governments often do not compensate for certain types of work, such as land clearance, irrigation ditches, and terracing, arguing that these efforts are reflected in the land's productivity. Additionally, no compensation is provided for indigenous trees or common land (Andrew, 2007).

2.11 Rural-Urban Linkage

Rural-urban interactions are a crucial component of the livelihood strategies for households in both areas. These interactions manifest through the movement of people (migration), natural resources, products, goods, and services, as well as through income diversification methods such as urban agriculture and non-farm rural employment. Despite their importance, rural and urban development are often addressed in isolation in many developing countries, with limited consideration of their interconnectedness beyond market linkages.

Urban-Rural Linkages (RUL) extend beyond mere market connections and involve a complex web of interactions and processes. Recognizing the interdependence between urban and rural systems is essential, as well-planned initiatives in one area can positively influence the other (Tacoli, 2002). These linkages have the potential to drive sustainable human development for both urban and rural populations. Key to this process is the generation and management of knowledge, along with capacity development, which enhances our understanding of how these functions and flows operate.

Understanding the existing factors that exacerbate the urban-rural divide, as well as those that foster linkages, is critical. There remains a global knowledge gap regarding the dynamics of small and intermediate cities, which house half of the world's urban population. This gap underscores the importance of exploring urban-rural interactions to fully grasp their impact (Brian et al., 2014).

2.11 Rural-Urban Linkage

Rural-urban interactions are a crucial component of the livelihood strategies for households in both areas. These interactions manifest through the movement of people (migration), natural resources, products, goods, and services, as well as through income diversification methods such as urban agriculture and non-farm rural employment. Despite their importance, rural and urban development are often addressed in isolation in many developing countries, with limited consideration of their interconnectedness beyond market linkages.

Urban-Rural Linkages (RUL) extend beyond mere market connections and involve a complex web of interactions and processes. Recognizing the interdependence between urban and rural systems is essential, as well-planned initiatives in one area can positively influence the other (Tacoli, 2002). These linkages have the potential to drive sustainable human development for

both urban and rural populations. Key to this process is the generation and management of knowledge, along with capacity development, which enhances our understanding of how these functions and flows operate.

Understanding the existing factors that exacerbate the urban-rural divide, as well as those that foster linkages, is critical. There remains a global knowledge gap regarding the dynamics of small and intermediate cities, which house half of the world's urban population. This gap underscores the importance of exploring urban-rural interactions to fully grasp their impact (Brian et al., 2014).

2.12 Impact of Urban Expansion on Small Towns

Urban expansion significantly affects small towns, often in ways that are both profound and multifaceted. Small towns, which are home to a substantial portion of the world's urban population, experience unique challenges and opportunities as they grow and integrate into broader urban systems. The impact of urban expansion on these smaller urban centers can be examined through several key dimensions:

Infrastructure and services: As urban areas expand, small towns often face pressures to upgrade and expand their infrastructure and services. Rapid growth can lead to strain on existing facilities such as water supply, sanitation, transportation, and healthcare services. The challenge lies in balancing the need for development with the capacity of local governments to provide adequate services. Bhatta (2010) highlights that even well-planned urban expansion can result in mismatches between infrastructure development and the sprawling, low-density patterns of land use.

Economic opportunities and challenges: Urban expansion can stimulate economic development in small cities by creating new opportunities for businesses and increasing employment. However, it can also lead to economic disparities as small cities struggle to compete with larger, more developed urban areas. The conversion of land from agricultural to urban uses often benefits higher-value sectors but may undermine local economies reliant on traditional industries (Francis, 2013). Small cities may face difficulties in attracting investment and sustaining economic growth without strategic planning and support.

Social dynamics and livelihoods: The growth of small towns can alter social dynamics, affecting local communities and lifestyles. As these cities expand, they may experience shifts in demographic composition, with increased migration from rural areas and changes in the socio-economic structure. The integration of rural and urban systems through mechanisms such

as migration and income diversification can offer new opportunities but also create social tensions and inequalities (Tacoli, 2002). Small towns must navigate these changes while maintaining social cohesion and providing for the needs of diverse populations.

Environmental impacts: Urban expansion in small towns often leads to environmental challenges, such as habitat loss, increased pollution, and changes in land use patterns. The spread of urban areas can encroach on natural landscapes and agricultural lands, leading to environmental degradation. Small towns may lack the resources and expertise to implement effective environmental management practices, which can exacerbate the negative impacts of growth (Francis, 2013).

Knowledge and planning gaps: A significant gap exists in understanding the dynamics of small cities and their interactions with surrounding rural areas. Brian et al. (2014) emphasize that small and intermediate cities, which house a substantial portion of the urban population, are often overlooked in research and policy-making. This lack of attention can result in inadequate planning and support for these cities, hindering their ability to manage growth effectively and leverage potential benefits.

Rural-urban linkages: Small towns play a crucial role in the rural-urban continuum. Effective management of rural-urban linkages can enhance the benefits of urban expansion, fostering more sustainable development. By strengthening connections between urban and rural areas, small towns can facilitate the flow of resources, information, and economic opportunities, which can mitigate some of the negative impacts of rapid urbanization (Tacoli, 2002).

2.13 Cernea's Impoverishment Risks and Reconstruction (IRR) Model

Michael Cernea's Impoverishment Risks and Reconstruction (IRR) Model, developed in the 1990s, is a framework designed to analyze the risks of impoverishment associated with displacement due to development projects and propose strategies to mitigate these risks. Unlike the Scudder-Colson model, which outlines various stages of relocation, Cernea's model focuses on identifying intrinsic impoverishment risks and the processes required for reconstructing the livelihoods of displaced individuals (Stanley, 2004).

2.13.1 Economic issues

Landlessness: Displacement often leads to the involuntary loss of land and other assets, resulting in the loss of shelter, access to resources, and means of livelihood. This can occur whether or not the affected individuals are required to move to a new location (Stanley, 2004).

Joblessness: Displaced individuals frequently face significant risks of losing their employment, whether in urban or rural settings. The challenge of finding new jobs is substantial and requires considerable investment, with unemployment or underemployment often persisting long after the physical relocation (Robison, 2003).

Loss of access to common property: For many displaced people, particularly those from poorer backgrounds, the loss of access to common property resources—such as pastures, forests, water bodies, and burial grounds—can severely degrade their income and livelihood. Government relocation schemes often fail to adequately compensate for the loss of these common resources, leaving displaced households to confront multiple economic risks simultaneously. Effective resettlement initiatives need to address these complex combinations of resource loss and replacement (Zeneb, 2019).

2.13.2 Socio-cultural issues

Social disarticulation: displacement can lead to the fragmentation of communities and the weakening of social networks and life-support systems. This can cause increased powerlessness and dependence among the displaced, particularly when they are unable to resettle with their original social groups or adapt effectively to new contexts (Zeneb, 2019).

Marginalization: Displaced families may experience a loss of economic power, leading to a downward mobility spiral. The skills and knowledge acquired in their previous location may become obsolete or underutilized, resulting in economic and social marginalization. To combat this, resettlement programs must focus on building new skills and providing educational opportunities to enhance the displaced individuals' ability to adapt to their new environment (Stanley, 2004).

2.13.3 Social welfare issues

Homelessness and Food Insecurity: Immediate challenges such as homelessness and food insecurity are often addressed by resettlement programs. However, once these short-term issues are resolved, many programs may neglect other critical risks, such as long-term food security and health care. Addressing these risks is crucial for the sustained well-being of displaced populations (Cernea, 2004).

Increased morbidity and mortality: The stress and environmental changes associated with displacement can lead to increased health problems and mortality rates. Although some

resettlement projects manage these challenges effectively, they often stop short of addressing other risks that could contribute to ongoing social welfare issues. (Zeneb, 2019).

Loss of access to community services: Displacement can result in the loss of essential public services, such as health care and education. This disruption can be costly both in the short term and the long term, particularly for the education of children, which is vital for their future prospects (Stanley, 2004).

Violation of human rights: Displacement and the loss of property without fair compensation can constitute violations of human rights. Beyond economic and social rights, arbitrary displacement can lead to violations of civil and political rights, including arbitrary arrest, degrading treatment, disenfranchisement, and loss of political voice. It can also result in communal violence when new settlers are introduced into existing populations (Cernea, 2004).

Cernea (2004) advocates for a focused approach to mitigating these risks, emphasizing the need for targeted strategies and adequate financing. Effective resettlement should address issues such as land restoration, job creation, housing, community reconstruction, and social inclusion. To minimize impoverishment risks, an integrated approach involving the affected population and other stakeholders, including local leaders, NGOs, and host communities, is essential (Robison, 2003).

The IRR model highlights that development-induced displacement inevitably involves a range of impoverishment risks. By focusing on economic, social, and welfare issues, it aims to guide the development of comprehensive strategies to support the reconstruction of displaced individuals' livelihoods and social capital (Zeneb, 2019).

2.14 Empirical Literatures

Globally, urbanization has accelerated, with a growing proportion of people residing in urban areas. In 2010, 51.6% of the global population lived in cities, and by 2020, this figure had increased to 56.2%. Urbanization rates are significantly higher in developed countries, reaching 79.2%, compared to 51.6% in developing nations. In contrast, least developed countries (LDCs) have a lower urban population, with only 34.6% residing in urban areas. Over the past decade, urbanization has been most notable in developing regions, particularly in Asia and Oceania, where the urbanization rate rose from 43.1% in 2010 to 49.8% in 2020. In contrast, urbanization in developing regions of the Americas has been relatively modest, with levels already comparable to those in developed countries (UNCTAD, 2021).

The expansion of urban areas into surrounding peripheral zones often leads to significant loss of farmland. For example, in China, rapid urban growth results in the annual loss of nearly one million hectares of arable land, which is repurposed for infrastructure, industrial, commercial, and residential developments (Dayong, 2004). This extensive land conversion presents substantial challenges for developing economies, particularly in creating job opportunities and meeting basic needs. Unlike the process in developed nations, urbanization in many Third World countries is often driven more by rural "push" factors than urban "pull" factors.

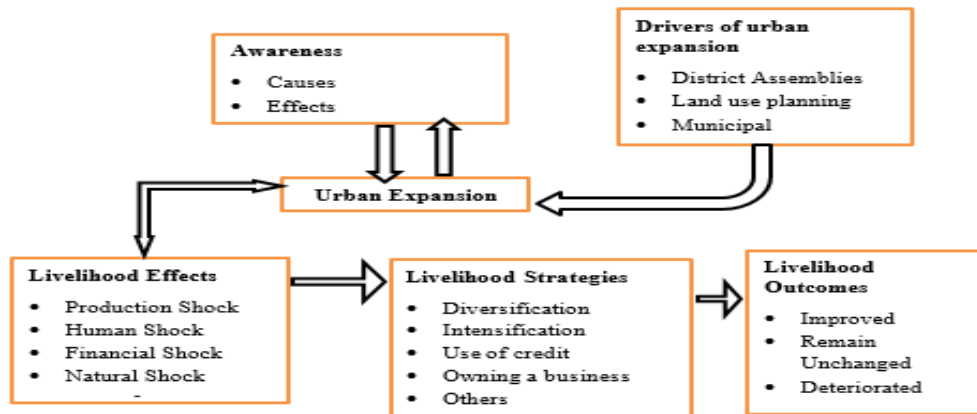
The impact of urban expansion on impoverished populations is profound, as it reduces the availability of natural resources critical to their livelihoods. When agricultural land is lost, farming households may be forced to abandon their agricultural activities, with significant socio-economic consequences. For instance, the loss of one hectare of farmland in Vietnam is associated with an average job loss of 13 people, and in Hanoi.

In Ethiopia, urbanization is neither participatory nor supportive of displaced farmers, resulting in adverse effects on their livelihoods. Women and youth are particularly vulnerable to these impacts. According to Gebeyehu et al. (2022), households that have been evicted due to urban expansion experienced a decrease in consumption expenditure amounting to 5,936.92 Ethiopian Birr compared to non-evicted households. Beyond economic repercussions, the displacement caused by rapid urban growth also affects social welfare and socio-cultural aspects of life for the displaced. These effects include increased food insecurity, homelessness, and social marginalization, which arise from the breakdown of previously cohesive social structures within farming communities (Muluwork, 2014). Additionally, the development of non-farm economic sectors has not kept pace with the needs of displaced agricultural communities.

2.15 Conceptual Framework

A schematic presentation of the conceptual framework illustrating the impacts of urban expansion on agricultural communities that guided this study is depicted in the following figure. The framework highlights key variables that contribute to awareness prior to urban expansion, such as the age of the household head, the educational level of household members, the year of asset loss, and others. It also considers the perceived effects among respondents who lost assets before and after urban expansion, including factors like training, reactions, shifts in occupation, and other variables. Additionally, the conceptual framework outlines the

role of local government in rehabilitating displaced farmers, as well as the major livelihood shocks or effects and the coping strategies employed by the community.



Source: own prepared

Figure 2.2: Conceptual framework of the study area

CHAPTER THREE

3. DESCRIPTION OF STUDY AREA AND METHODOLOGY

3.1 Introduction

This chapter outlines a description of the study area, which includes location, physical characteristics, and socio-economic condition. The comprehensive methodology employed in the research. It is organized into five distinct sections to provide a clear and systematic approach to the study. Each section is detailed as follows:

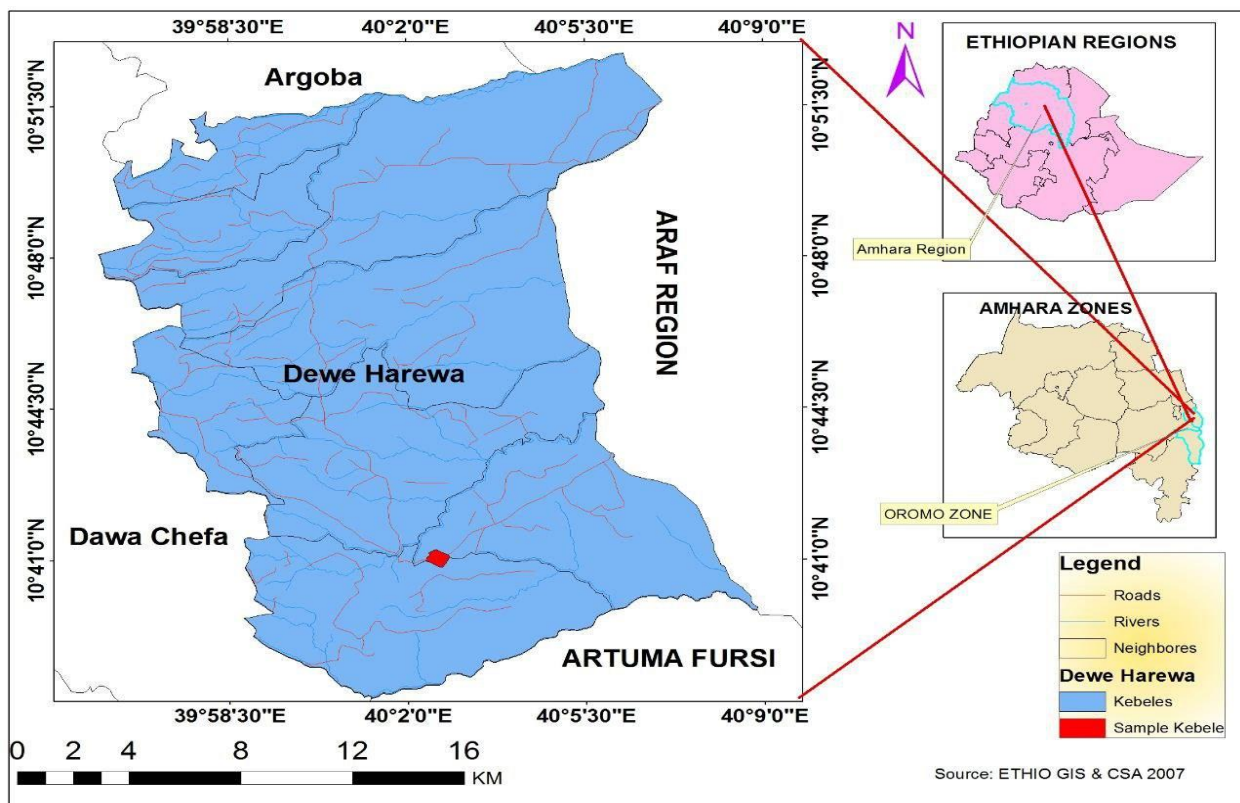
3.2 Description of the Study Area

3.2.1 Location

Daway Harawa Woreda is situated within the Oromia Administration Zone of the Amhara National Regional State in Ethiopia. The administrative center of Daway Harawa Woreda is Bora town, which is positioned approximately 355 kilometers from Addis Ababa, the national capital, and 585 kilometers from Bahir Dar, the regional capital. Additionally, it is situated about 30 kilometers from the zonal center, Kemissie town. Another notable town, Harewa, is

located in Dewey Harewa Woreda. Harewa is roughly 353 kilometers from Addis Ababa, 583 kilometers from Bahir Dar, and about 28 kilometers from Kemissie town (DHPC, 2022).

As noted by Kebede (2020), the Oromia Administration Zone underwent a significant restructuring in March 1993, when it was separated from the South Wollo and North Shewa Zones of the Amhara National Regional State, resulting in the formation of the Oromia Administration Zone. Subsequently, Dawey Harawa Woreda was formally delineated in 2001 as a distinct administrative unit, following a decision by the regional government to split it from the former Chaffa Gola Dewera Hmedo Woreda. Dawey Harawa Woreda is bordered by Artuma Fursi Woreda to the south, Dawa Chaffa Woreda to the west, Argoba Administration Woreda to the northwest, Bati Woreda to the northeast, and the Afar National Regional State to the east. The woreda is divided into 12 kebeles, of which 10 are rural and 2 are urban. The absolute geographic coordinates of Dawey Harawa Woreda range from 10°57'00" N to 11°28'30" N latitude and from 39°04'00" E to 39°21'00" E longitude.



Source ETHIO GIS & CSA 2007

Figure 3.1. Map of the Research Area

3.2.2 Physical Characteristics of the Study Area

Agro-climate

Dawey Harawa woreda is characterized by two of Ethiopia's five distinct agro-climatic zones. The dominant zone is the Qolla/Tropical, which covers approximately 63.16% of the woreda's total area. The remaining 36.84% falls within the Woinadega/Sub-tropical zone. The average annual rainfall in the area ranges from 600 to 983 mm. The region experiences bimodal rainfall, consisting of the Belg/Bega and the Mehr/Keremt seasons. The Keremt season, which is the major rainy period, brings substantial rainfall and is often associated with high soil erosion, leading to gully formation (DHWFEDO, 2023).

Topography

The elevation of Dawey Harawa woreda varies between 960 and 2243 meters. The topography includes undulating land (41.5%), mountainous areas (13.25%), and flat or plain surfaces (45%), with the remaining 0.25% being valleys (DHPC, 2022). The majority of the woreda features slopes ranging from level to moderately sloping, which covers about 57.28% of the land. Steeper slopes are also present, with 28% of the land described as sloping, 12.8% as strongly sloping, and 1.7% as moderately steep (DHPC, 2022).

Vegetation Cover and Land Use

According to the Dawey Harawa Woreda Plan Commission (2022), the predominant land use is cropland, which constitutes 69.4% of the total area. Other land cover types include open forest (9.6%), shrubland (10.2%), grassland (8.5%), and sparsely vegetated grassland (2.3%). The woreda covers a total area of 46,792 hectares (467.92 square kilometers), with 32,447 hectares dedicated to cultivation. Additionally, 9,265.8 hectares are covered by shrubs, bushes, and forests, while 3,977.75 hectares are used for grazing.

3.3.3 Socio-economic conditions

Based on the 2007 national census by the Central Statistical Agency of Ethiopia (CSA), Dawey Harawa Woreda had a population of 41,359, comprised of 20,431 males and 20,928 females. Recent figures from the woreda plan commission show an increase in the population to 65,215 with 32,661 males and 32,554 females. Of this population, 52,172 reside in rural areas, while

13,043 live in urban areas. The average family size is between 5 and 6 members, and the sex ratio in 2023 is approximately 50.14% male and 49.86% female (Daway Harawa Woreda Office, 2023).

The population density in Dawey Harawa is 111.17 people per square kilometer, lower than the regional average of 149.46 people per square kilometer. The main economic activity in the woreda is agriculture, with a predominant mixed farming system that includes both crop production and livestock rearing. Key cash crops include Kchat (*Catha edulis*), and other widely cultivated crops are Sorghum, Teff, and Millet. Additionally, the region grows legumes such as lentils (*Lens culinaris*) and beans (*Phaseolus vulgaris*), as well as nuts like almonds (*Prunus dulcis*). Fruit cultivation includes mangoes (*Mangifera indica*), oranges (*Citrus × sinensis*), lemons (*Citrus limon*), apples (*Malus domestica*), papayas (*Carica papaya*), and bananas (*Musa acuminata*).

Agriculture is the primary livelihood for 97.3% of the population. However, the sector faces challenges such as floods, erratic rainfall, land shortages, pests, and diseases. Livestock production also plays a significant role, with livestock such as oxen, cows, sheep, goats, and camels providing food, income, and transportation (Daway Harawa Woreda Office, 2023).

In addition to agriculture, the woreda’s residents, particularly in urban areas, engage in various commercial activities. These include food production, shopkeeping, carpentry, and trading, with a notable emphasis on Kchat (*Catha edulis*) (Daway Harawa Woreda Office, 2023).

Table 3.1: Population characteristics of Daway Harawa woreda

Year	Total Population			Urban Population			Rural Population		
	M	F	T	M	F	T	M	F	T
2015	28,038	28,824	56,862	4,764	4761	9,525	23,274	24,063	47,337
2016	28,365	29,168	57,533	4,837	4,834	9,671	23,528	24,334	47,862
2017	28,682	29,488	58,170	5,412	5,408	10,820	23,270	24,080	47,350

2018	29,877	29,905	59,782	5,991	5,982	11,973	23,886	23,923	47,809
2019	29,812	30,513	60,325	6,063	6,058	12,121	23,749	24,455	48,201
2020	30,594	31,133	61,727	6,137	6,132	12,269	24,457	25,001	49,458
2021	31,705	31,817	63,522	6,215	6,210	12,425	25,272	25,825	51,097
2022	32,165	32,192	64,357	6,486	6,484	12,970	25,679	25,708	51,387
2023	32,661	32,554	65,215	6,523	6,520	13,043	26,138	26,034	52,172

Source: DHPC (2023)

3.3. Research Methods

This study utilized systematic procedures, techniques, and tools to gather, analyze, and interpret data to test hypotheses.

3.3.1. Research design

The study employed both descriptive and explanatory research designs. The descriptive research design was used to describe the activities and phenomena associated with urban expansion and to present the results derived from the explanatory design. This design provided a detailed depiction of the current state of urban expansion. Conversely, the explanatory research design aimed to test hypotheses regarding causal relationships between variables. By combining these two designs, the research was able to both describe and explain the interactions and effects within the study area.

3.3.2. Research approach

The study mainly employed quantitative research approaches and supplementary qualitative research approaches. Quantitative data were collected through closed-ended questionnaires and

recorded sheets. Qualitative data were gathered via semi-structured interviews and focus group discussions. The integration of these data types occurred during the interpretation and discussion phases to strengthen the overall results.

3.3.3. Sampling techniques and selection procedures

The report from the Dewey Harewa Wereda Municipality highlights that between 2013 and 2018, approximately 361 farmers were displaced from their farmlands and others due to this expansion. The target population for this study comprised all displaced households due to urban expansion between 2013 and 2018. The study employed a multistage probability sampling method, utilizing both probability and non-probability techniques.

Purposive sampling was used to select the two rural kebele towns, as urban expansion significantly impacted agricultural communities in these areas. This method allowed the selection of towns directly affected by urbanization.

Probability sampling, specifically simple random sampling, was applied to select displaced households from the towns and three peri-urban kebeles. The sample size was determined using Yamane's formula (Yamane, 1967), with a margin of error of 5% and a confidence level of 95%. The formula is given by:

$$n = \frac{N}{1 + N(e^2)} = \frac{361}{1 + 361(0.05^2)} = 190 \text{ (rounding up)}$$

Where, n = Sample Size

N= Size of the target population

e= the estimated should be within 5 % of the true value (0.05)

Accordingly, the sample is determined as follows: $n_j = \frac{N_j \cdot n}{N}$

Where, n_j = Number of sample to be selected from j stratum

N_j = total number of population in each strata

N = total household of the studied area

n = selected total sample

Table 3.2: Sampling distribution based on obtained from target population

Towns	Displaced household heads			Displaced Sample household heads		
	Urban	Rural	Total	Urban	Rural	Total
Bora	186	42	228	98	22	120
Harewa	107	26	133	56	14	70
Total	293	68	361	154	36	190

Source: Survey Result, 2023

3.3.4 Data collection instruments

Primary data were collected using several instruments, including questionnaires, key informant interviews, focus group discussions, and direct observations.

Questionnaires were the primary tool for data collection. These were structured and carefully designed to ensure comprehensive data collection. Based on insights gained from field observations and literature reviews, a structured questionnaire was administered to randomly select household heads. To facilitate this process, six high school graduates who were familiar with the local language and culture (Amharic and Afan Oromo speakers) were recruited. These enumerators received one day of training on the questionnaire's content, ethical considerations, and data collection techniques. They were instructed on how to present and explain each question to respondents and were advised to inform participants about the survey's purpose before commencing the interviews. Continuous supervision by the researcher ensured the quality of the data collected, with each household interview averaging about one hour.

Key Informant Interviews: The researcher developed interview guides for key informants, including displaced farmers, municipal experts, kebele administrators, and community elders. Municipal experts and office heads were prioritized in the selection process due to their direct involvement in the issue, ensuring they could provide more comprehensive data compared to other respondents. Community elders were also included to offer valuable historical perspectives on changes over time that younger participants might not be able to provide. Purposive sampling was used to select the participants for these key informant interviews. In total, 8 individuals (6 males and 2 females) were interviewed, representing various sectors. The

group comprised two females from the municipality, two individuals from the Office of Land Management of Dawey Harawa Woreda, two community elders and displaced farmers, and two kebele administrators. These interviews yielded in-depth insights into urban expansion and its impacts on agricultural communities in the selected towns.

Focus Group Discussions (FGDs): The study highlighted the critical role of knowledge creation and solution generation by those directly affected by the research, particularly individuals whose livelihoods were impacted. Well-informed community members were especially valuable in addressing qualitative issues not captured by the household survey. To capture a broad range of perspectives, focus group discussions (FGDs) were organized with participants representing diverse cross-sections of the community, varying in sex, age, social status, and their level of impact from urban expansion. Two FGDs were conducted, totaling 10 participants. The first group, comprising 6 participants (5 males and 1 female), included government officials and office experts. The second group, consisting of 4 male participants, represented the affected population from two towns. Participants were selected in collaboration with development agents and local administration, and the FGDs provided valuable insights and helped triangulate data from other sources.

Additionally, the researcher developed interview guides for key informants, including displaced farmers, municipal experts, kebele administrators, and community elders. Municipal experts and office heads were prioritized due to their direct involvement in the issue, ensuring they provided more comprehensive data. Community elders were included to offer historical perspectives on changes over time that younger participants might not be able to provide. Purposive sampling was used to select participants for these key informant interviews. A total of 8 individuals (6 males and 2 females) were interviewed, representing various sectors. This group included two females from the municipality, two individuals from the Office of Land Management of Dawey Harawa Woreda, two community elders and displaced farmers, and two kebele administrators. These interviews offered in-depth insights into urban expansion and its effects on agricultural communities in the selected towns.

Field Observation: The researcher collects firsthand information about urban expansion and its socio-economic impacts on rural kebeles adjacent to the towns. The researcher directly observed the areas where urban expansion was occurring and assessed the living conditions of the displaced agricultural communities. This method provided a tangible understanding of the physical and socio-economic changes taking place.



Source: own filed survey, 2022

Figure 3.2: Partial view of urban expansion in study area

Secondary data sources included various published and unpublished materials such as books, journals, research reports, magazines, and official statistics and reports.

3.3.5 Data analysis method and presentations

Data analysis was performed using SPSS Version 24 (Statistical Package for Social Sciences). SPSS facilitated data regrouping and summarization for easier interpretation. The analysis included both descriptive and inferential statistics.

Descriptive statistics involved summarizing the key characteristics of the dataset using numerical tools such as frequencies, percentages, mean scores, standard deviations, and relative importance indices. These tools helped in accurately representing the data.

Inferential statistics were used to explore relationships between variables. For example, chi-square tests, paired t-tests, and one-sample t-tests were used to analyze various aspects of urban expansion's effects.

CHAPTER FOUR

4. DATA PRESENTATION, ANALYSIS, AND DISCUSSIONS

4.1. Introduction

In this chapter, the questionnaire is used to address all the objectives of the study. In order to meet the objectives of the study, the data that was gathered from the primary source using a questionnaire was analyzed, presented, and interpreted, and also the information that was obtained from the FGD and interview was used as supplement information. Based on the results obtained through data analysis, a valid conclusion was drawn.

Therefore, descriptive statistics were employed to analyze demographic variables with frequency and percentage through pie charts, bar charts, and cross-tabulation. Under inferential statistics, one sample t-test, a chi-square, and a paired t-test were analyzed. Based on the results obtained through data analysis, a valid conclusion was drawn.

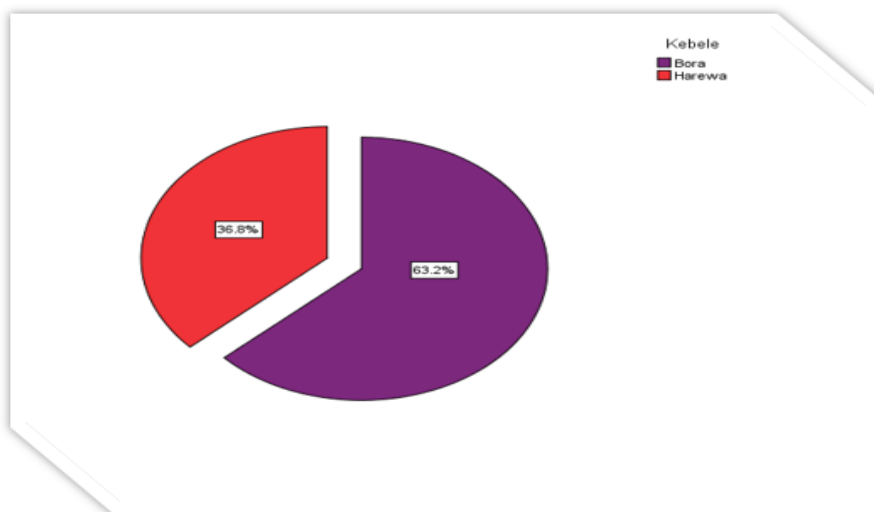
4.2. Questionnaire Response Rate

The research questionnaires were distributed to communities that live in Bora and Harewa Kebele. Out of 190 questionnaires, due to incompleteness and missing values, only 182

(95.8%) were usable for further analyses, and the remaining 8 (4.2%) were uncollected and discarded. According to Rubin & Babbie (2010), the response rate of 95.8% is significant.

4.3. Demographic Results

Demographic variables have a great role in extracting information and profiles about respondents' background status. Hence, demographic variables such as kebele, residence, settlement, gender, age, family size, marital status.



Source: Survey result via SPSS, 2023

Figure 4.1: Respondent's distribution with town (kebele)

The case study of Daway Harawa Woreda has a total of twelve kebeles, of which ten are rural and two are urban, namely Bora and Harewa. According to the researcher's assessment, urban expansion was more severe in Bora and Harewa towns than in the others. As we can see from Fig. 4.1, the peri-urban area was undertaken at the kebele of Bora and Harewa of the town. The majority of the participant households in the kebele of Bora accounted for about 115 respondents, or 63.2%, and Harewa had 67 respondents, which also accounted for 36.8%. This implies that the majority of the respondents are Bora, with higher urban expansion in those areas, and the area is larger due to its expansion in the area under study.

Table 4. Demographic results

Variables	Categories	Residence					
		Urban		Rural		Total	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Gender	Male	118	79.7	27	79.4	145	79.7
	Female	30	20.3	7	20.6	37	20.3
Age	Below 30	4	2.7	1	2.9	5	2.7
	31-40	43	29.1	2	5.9	45	24.7
	41-50	29	19.6	7	20.6	36	19.8
	51-60	32	21.6	10	29.4	42	23.1
	61-70	7	4.7	7	20.6	14	7.7
	Above 70	33	22.3	7	20.6	40	22
Family Size	1-2	61	41.2	7	20.6	68	37.4
	3-4	65	43.9	7	20.6	72	39.6
	5-6	14	9.5	10	29.4	24	13.2
	7-8	6	4.1	4	11.8	10	5.5
	9-10	2	1.6	3	8.8	5	2.7
	Above 10	0	0	3	8.8	3	1.6
Marital Status	Single	9	6.1	4	11.8	13	7.1
	Married	88	59.5	20	58.8	108	59.3
	Divorced	29	19.6	7	20.6	36	19.8
	Widowed	22	14.9	3	8.8	25	13.7

Source: Survey result via SPSS, 2023

As shown in Table 4.1, 79.7% and 79.4% were male and 20.3% and 20.6% of them were female in urban and rural areas, respectively. The survey result on age, summarized in Table 4.1, revealed that 29.4% of the respondents living in rural areas were elderly, i.e., between 51 and 60 years of age. However, the number of young respondents is the smallest (2.7%) in rural areas. On the contrary, the result indicated that a large number (29.1%) of adults, i.e., those between 31 and 40 years of age, have made their lives in towns. This means that, due to urban expansion, adult people have chosen urban life instead of rural life in the study area.

In this study, a survey was conducted to determine the number of families in terms of family size, and most of the respondents (29.4%) living in rural areas have 5-6 families, while most of the respondents living in cities have about 3-4 families. This means that urban dwellers have a better understanding of family planning.

In a survey conducted on the status of marriage, the married community in both urban and rural areas holds the largest share, covering 59.5% and 58.8%, respectively. However, in urban areas, unmarried (single) respondents have a lower share (6.1%), while in rural areas, 8.8% of their spouses have died (widowed). This revealed that, according to the result in Table 4.1, marital status does not follow the same trend in urban and rural areas.

4.4 Socio- Economic Condition of Respondents

The researcher collected data from different educational background and income source of the society for the purpose of obtain balanced and varied information.

Table 4.2 Socio- economic condition of respondents

Variables	Categories	Residence					
		Urban		Rural		Total	
		Frequenc y	Percent	Frequen cy	Percent	Frequenc y	Perce nt
Education Status (Househol d)	Illiterate	44	29.7	21	61.8	65	35.7
	Primary	64	43.2	9	26.5	73	40.1
	Secondary	33	22.3	3	8.8	36	19.8
	Diploma	7	4.7	1	2.9	8	4.4
Income Sources	Farming	145	41.1	33	58.9	178	97.8
	Non- Farming	3	99.2	1	0.8	4	2.2

Source: Survey result via SPSS, 2023

In terms of education level, this study in Table 4.2 showed that the majority (61.8%) of people living in rural areas were not educated, while urban (43.2%) residents have completed primary education better than rural residents. Therefore, this study shows that education and urbanization are related variables.

In this study, sources of income were categorized into agricultural and non-agricultural sources. Although the kebeles (Bora and Harewa) have been urbanized recently, it is not difficult to estimate that the majority of rural residents earn their income from agricultural activities, while urban residents are supported by non-agricultural activities.

4.4. Asset Ownership of Respondents

The asset loss of respondents was presented in accordance with the particular variables. The most important assets for the peripheral farming community that would play a significant role

in making a living are agricultural livelihood assets, including land size per “Timad ”, amount of annual cereal per “kuntal”, number of permanent trees and fruits, livestock (cows, donkeys, cows, oxen, goats and sheep) and number of houses. Accordingly, this assessment focused on investigating and measuring the extent of asset loss among farmers at the household level. The average asset of respondents was measured on the basis of before and after urbanization.

Table 4.3: Paired samples statistics

Asset Type		Mean	N	Std. Dev	SE Mean
Land Size	Before	4.2299	182	1.1339	.08406
	After	2.1773	182	.61806	.04581
Cereal	Before	21.27	182	7.030	.521
	After	12.48	182	4.918	.365
Livestock	Before	36.61	182	12.711	.942
	After	10.66	182	5.536	.410
House	Before	1.36	182	.513	.038
	After	1.33	182	.750	.056
Tree and Fruit	Before	131.52	182	47.703	3.536
	After	69.25	182	29.777	2.207

Source: Survey result via SPSS, 2023

As indicated in Table 4.2, the assets that were recorded as property by the respondents, i.e., amount of farmland in "Timad," cereal per "quntal," number of livestock, and number of permanent trees and fruits, before the expansion of the city, showed a decrease of at least more than two times compared to the average asset after urban expansion. However, the average number of houses before and after expansion is close, and the difference is not satisfactory.

Table 4.4: Paired samples test

Asset Type		Paired Differences			T	Df	Sig. (2-tailed)
		Mean	95% CI of the Difference				
			Lower	Upper			
Land Size	Before – After	2.04	1.97	2.14	46.69	181	.000
Cereal	Before – After	8.79	7.96	9.63	20.76	181	.000
Livestock	Before – After	26.0	24.61	27.29	38.32	181	.000
House	Before – After	0.03	-0.069	0.124	0.555	181	.580
Tree and Fruit	Before – After	62.3	54.53	70.01	15.87	181	.000

Source: Survey result via SPSS, 2023

As with the paired *t*-test, there is a *t*-statistic and degrees of freedom (df) that have a significance level associated with them.

Hypothesis Testing

H₀₁: There is no change of land size per ‘Timad’ due to urban expansion.

The *t*-test in this study tests the hypothesis that there is no difference between an average land size before and after urban expansion. The *t*-statistic and its associated significance level ($p < .000$) indicate that this is not the case, and vice versa. From the results in Table 4.3, one can say that there was a significant average difference between land size before and after urban expansion ($t_{181} = 46.69, p < 0.00$). On average, the land size before urban expansion was 2.053" timad "higher than after expansion, with a 95% CI [1.97, 2.14]. Therefore, the urban expansion in the study area highly impacted the agricultural communities, causing them to lose their farmlands.

H₀₂: There is no change in the amount of cereal per ‘kuntal’ due to urban expansion.

The *t*-test in this study tests the hypothesis that there is no difference between the average amount of cereal per kuntal’ before and after urban expansion. As of the statistical evidence in Table 4.3, the difference in cereal production was an average of 8.791 with a significance difference of $t(181) = 20.76, P < .001$). The implication here is that the ways of food found after urban expansion decreased by 20.76 compared with before urban expansion.

As with the paired *t*-test, there is a *t*-statistic and degrees of freedom (df) that have a significance level associated with them.

H₀₃: There is no change in the number of livestock due to urban expansion.

Livestock assets in the context of this study comprise of camels, donkeys, cows, oxen, goats, and sheep. According to the information collected in Table 4.3, on average, the number of livestock before urban expansion was 25.95 TLU (Tropical Livestock Unit) higher than after expansion. This showed farmers were obliged to sell all or minimize the number of livestock assets or lose them fully due to urban expansion. That means urban expansion was directly associated with the loss of livelihood assets (livestock) of farmers.

H₀₄: There is no change in the number of houses due to urban expansion.

According to ownership of house for residence as indicated from Table 4.3, on the contrary, the number of houses before and after urban expansion had no significant difference ($t_{181} = 0.555, p < 0.580$). The implication here is that government intervention for making farmers have shelter was a good performance.

According to key informants of the governmental offices of Bora and Herewa municipality and Dewey Herewa land administration office statements, the displaced households, each of them, were getting only one 500-meter square of residential land in an urban area. The implication here is that government intervention for making farmers have shelter was a good performance and is practically applied for all displaced farmers without discrimination.

H₀₅: There is no change in the number of trees and fruits due to urban expansion.

In the context of rural agricultural communities, income sources include permanent trees and fruits, in which the farming communities depended on the cultivation planted once, which means production gives continuous income for a long time after it was planted once. As Table 4.3 revealed, on average, the number of permanent trees and fruits before urban expansion was 62.27 higher than after expansion. This showed that the farming communities that depended on the cultivation of permanent trees and fruits have been discriminated against by urban expansion.

According to the focus group discussion statements of the respondents, the local administration was strongly enforced to displace the population from their own original residence due to the urban development projects. At the initial time, the local government representative met with us about leaving the farmland, but the way we were displaced did not get full responses at that time, so we were forced to leave our agricultural land and livelihood assets. On the other hand, the local government representative of the town municipality and rural land expropriation and compensation manager and experts told them the expropriation programs were done based on Proclamation No. 455/2005, and the government gave compensation for the displaced household based on their lost land and assets. The researcher concludes that the expropriation program in Bora and Harewa towns inadequately addressed the impacts of urban expansion on evicted households. Officially, households are supposed to be compensated at 10 times the market value of what can be produced on their land. However, in practice, their land use for production was not time-limited, leading to a lack of focus on the farmers' ability to produce throughout their lifetimes. Furthermore, the compensation did not account for the value of natural resources that had become sources of livelihood and reserves for the displaced households. Benefits derived from agricultural activities, such as access to communal grazing land, wood for fuel, water resources, and construction materials, were overlooked in the compensation process.

Elders who earned income from long-term land rentals, youths who supported their families through farm land contracts but did not own land during the distribution, and individuals who made a living by supplying construction materials or engaging in traditional metalworking faced significant hardships. These groups experienced severe impacts as they had to relinquish their land without sufficient preconditions or clarity about the compensation process. The shift of natural resources, particularly land, from rural to urban activities exacerbated these challenges, and the proclamation related to displacement was not clearly communicated to the affected households.

4.5. Causes and Effects of Awareness on urban expansion

I Causes of awareness on urban expansion

Table 4.5: Causes of awareness on urban expansion

S/No	Variables	Pearson Chi- Square			
		Value	Df	sig	Decision
1	Age of HH Head	47.165	10	0.000	Rejected
2	High Education Level in HH member	36.413	8	0.000	Rejected
3	Education Level of HH Head	30.733	6	0.000	Rejected
4	Social Interaction	61.112	4	0.191	Accepted
5	Year of Asset Loss	21.045	4	0.000	Rejected

Source: Survey result via SPSS, 2023

Hypothesis Testing

H_{01} : Age of household head and awareness are independent.

H_{02} : High education level in household members and awareness are independent.

H_{03} : Education level of household heads and awareness are independent.

H_{04} : Social interaction and awareness are independent.

H_{05} : Year of asset loss and awareness are independent.

According to Table 4.4, age of household head, high education level in household member, education level of household head, and year of land loss were rejected with sig = 0.000. It revealed that these variables were recorded as the main causes in this survey conducted to measure the perceptions of respondents who lost their assets before urban expansion. However, based on sig=0.191>0.05, the result shows that there was no contribution of social interaction to awareness exchange. This is a clear indication that there was no underlying cause for the awareness of communities of urban expansion, whether their association was low, medium, or high.

II Effects of awareness on urban expansion

Table 4.6: Effects of awareness on urban expansion

S/No	Variables	Pearson Chi-Square			
		Value	df	sig	Decision
1	Reaction	43.285	2	0.000	Rejected
2	Expectation for compensation	24.622	4	0.000	Rejected
3	Training	15.399	2	0.000	Rejected
4	Family Size	14.548	10	0.149	Accepted
5	Residence	12.424	2	0.002	Rejected
6	Income Source	23.178	2	0.000	Rejected
7	Shifting Occupation	8.715	2	0.013	Rejected
8	Life Style	50.117	4	0.000	Rejected

Source: Survey result via SPSS, 2023

Hypothesis Testing

H_{01} : Reaction and awareness are independent.

H_{02} : Expectation for compensation and awareness are independent.

H_{03} : Training and awareness are independent.

H_{04} : Family size and awareness are independent.

H_{05} : Residence and awareness are independent.

H_{06} : Income source and awareness are independent.

H_{07} : Shifting occupation and awareness are independent.

H_{08} : Life style and awareness are independent.

In addition to identifying issues for prior understanding (awareness), the community's understanding of events before and after the urban expansion was measured using different critical variables. Among these parameters were reactions, expectation for compensation, taking training, family size, residence, income sources, shifting occupational fields, as well as current life standards.

However, according to the sig value (sig <0.05) in Table 4.5, all events except family size (sig = 0.149>0.05) were influenced by community awareness. Therefore, a sig. value in Table 4.5 indicates that it was not possible to determine the change in family planning whether the community has awareness or not.

4.6. Compensation

It is stated in the proclamation of landholding expropriation for the public purposes and payment of compensation. Article 8, sub articles 3 and 4, says that anybody, whether urban or rural, subjected to expropriation of land, has a right to get money compensation and a plot of land for the construction of a house for residence (proclamation No. 455/2005); therefore, the government pays compensation to communities that have lost their assets.

Table 4.7: Respondents' Feedback on Compensation

Compensation Type	Test Value = 3					
	T	Df	Sig.(2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Compensation with money	19.22	181	.000	1.060	.95	1.17
Land for house construction	-1.73	181	.085	-0.148	-.32	0.02
Land for farm activity	-16.50	181	.000	-1.082	-1.21	-0.95
Land for commerce	-16.48	181	.000	-1.060	-1.19	-0.93
Land for stocking	-15.28	181	.000	-1.110	-1.25	-0.97

Source: Survey result via SPSS, 2023

The proclamation of landholdings expropriation for the public purposes and payment of compensation, Article 8, Sub Article 3 and 4, says that anybody, whether urban or rural, subjected to expropriation of land, has a right to get money compensation and a plot of land for the construction of a house for residence (proclamation No. 455/2005). The study result revealed that except for money compensation, the remaining compensation with land for house construction, compensation of land for farm activity, compensation of land for commerce, as well as compensation of land for land for stocking were generally found below the test value of 3 as assessed by the study.

In the focus group discussion with representatives of the evicted households, most participants noted that the government intervention program primarily focused on providing monetary compensation and offering information about farmland eviction. Key informants, including leaders and managers from urban land management, as well as experts from rural land expropriation and compensation departments, revealed that efforts for the rehabilitation of the evicted began only in 2016 E.C. According to the focus group discussions, there was significant opposition between local government bodies. Compensation amounts for lost land assets were not administered according to the planned guidelines or coordinated efforts, leading to considerable distress among displaced households. The local government's approach was criticized for neglecting the rehabilitation of evicted households, with the municipality focusing on expanding peri-urban areas for development while leaving the responsibility for eviction management to the rural land administration. Conversely, rural land development experts argued that the municipality should have been responsible for providing alternative opportunities, such as residential land, small enterprise sites, urban agriculture plots, and essential services and infrastructure for the displaced.

Overall, although the local government's rehabilitation program for evicted farmers began with good intentions, it was poorly organized and ineffective. The intervention was minimal, limited mainly to a few activities. This conclusion is supported by evidence showing a decline in the total annual income of evicted farmers post-eviction, indicating adverse socio-economic impacts due to urban expansion.

Key informants from the Dewey Harawa administration office and municipal officers acknowledged that current efforts for joint rehabilitation of the evicted population are inadequate. However, they plan to improve future initiatives by diversifying job opportunities, supporting small enterprises, and developing urban farming activities. Preparations are underway for land allocation for manufacturing and constructing sheds to facilitate product sales for the displaced population.

4.7. Rehabilitation made by Stakeholders

A one-sample t test was calculated to find the mean value of each activity to compare against the standard mean value, or T-VALE of 3. As shown from Table 4.7, among the 6 provision activities selected for rehabilitation of agricultural communities, there was a negative mean

difference except for the for the provision of infrastructure and utilities. Although all showed a statistically significant difference value of $P < .001$.

When compared each provision activity individually against the mean difference, provision of infrastructure/utility was found above the expected mean value of 3 (i.e., 1.121) and showed better performance than others. But the rest of the provision activities, namely the provision of training on all about compensation, the provision of training about entrepreneurship, the provision of training about saving and credit skills, creating networking with institutions for loans, and the provision of input support for agriculture purposes, had a mean difference of -1.258, -1.269, -1.104, -1.159, and -1.324, respectively. It showed that their performance was significant according to the standard or expected mean of 3.

Table 4.8: Intervention of stakeholders providing provision of different support

Provision for community	Test Value = 3					
	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Infrastructure/ Utility	22.56	181	.000	1.121	1.02	1.22
Training on all about compensation	-23.96	181	.000	-1.258	-1.36	-1.15
Training about entrepreneurship	-22.40	181	.000	-1.269	-1.38	-1.16
Training about saving and credit skill	-22.00	181	.000	-1.104	-1.20	-1.01
Networking with institutions for loan	-22.13	181	.000	-1.159	-1.26	-1.06
Input support for agriculture purpose	-26.24	181	.000	-1.324	-1.42	-1.22

Source: Survey result via SPSS, 2023

As of the focus group discussion and key informants' information statements, participation for the purpose of rehabilitating displaced farmers' was only to show the local government support made for the provision of benefit packages such as infrastructure/utility, training on all about compensation/entrepreneurship, saving (credit skills), networking with institutions for loans, and input support for agriculture purposes.

The following conclusion was drawn based on the information provided by farmer respondents and key informants as well as the researcher witnessed. In general, even though the program designed by the local government to rehabilitate evicted farmers has started lately, the initiative and motivation for intervention found a good start, but the support/intervention of the responsible body is now not satisfactory.

4.8. Livelihood Effects, Coping Strategies

Under this section, the researcher investigated the livelihood effects due to urban expansion, coping strategies, and the final outcomes after taking different strategies to ascertain the nature, magnitude, and outcome of the coping strategies.

The researcher grouped the selected shocks into four independent groups, namely production, human, financial, and natural shocks. These shocks were influenced by urban expansion in different degrees of strength as a result of findings.

Table 4.9: Shocks/ livelihood effects due to urban expansion

Shocks	Mean Score	SD	RII (%)	Rank
Production	3.96	0.963	79.2	1
Human	3.32	1.308	66.4	4
Financial	3.50	1.283	70.0	3
Natural	3.80	0.941	76.0	2

Source: Survey result via SPSS, 2023

As Table 4.8 shows, the relative importance index (RII) value of production, natural, financial, and human shocks were 79.2, 76, 70, and 66.4%, respectively. Based on the RII values, they have been arranged with their corresponding ranks.

As a result, production shocks were the most commonly reported. Obtained through interview, production shocks included crop loss, loss of livestock, damage to infrastructure, food storage facilities, etc. were the typical livelihood effects. This result was consistent with Thornycroft, 2017 Concl. He concluded that multiple factors caused unexpected crop and livestock losses.

In Table 4.8, natural shocks were the second most commonly reported. This finding, according to the data obtained from the interview, suggests that the possibility of increasing natural shocks associated with climate change, degradation, deforestation, etc. were the most significant livelihood effects due to urban expansion. Thornycroft, 2017 suggests that natural shock was the most severe leading factor for livelihood coping strategies. While financial stocks were ranked in the third line, which included loss of remittance and wage, failure of self-owned businesses, and expenditure on social events, were the most prevalent livelihood effects that have existed due to urban expansion.

Human shocks were the last reported (Table 4.8). As the interview data indicated, the increase in independents, the death of household members, and serious illness or injury were the main indicators under human shocks that resulted in urban expansion.

Table 4.10: Livelihood strategies for defending livelihood shocks

Strategies	Urban		Rural	
	Proportion (%)	Rank	Proportion (%)	Rank
Diversification	63.51	4	61.76	3
Intensification	22.97	7	85.29	1
Reducing food consumption	78.38	2	70.59	2
Use of credit	81.75	1	50.00	4
Renting free houses	41.22	6	3.33	8
Owning a business	71.62	3	35.29	5
Being a member of safety net	14.44	8	17.65	6
Being wage earner	49.32	5	11.76	7

Source: Survey result via SPSS, 2023

Urban expansion towards the rural communities in different ways could have an effect on the change of traditional farming for income generation due to the loss of different assets. However, the participants in the focus group discussion stated that farmers were obliged to take different strategies such as diversification (either a change in cropping pattern or the farming opting for other non-farming optional like poultry farming animal husbandry) , intensification the process of increasing the inputs of agricultural resource such as seeds, labor, fertilizer etc.), reducing food consumption, use of credit, renting free houses, owning a business, being a

member of the safety net program, and being wage earners. The proportion (i.e., the number of respondents taking the coping strategies per total residential at urban/rural) of taking these strategies was different according to urban and rural dwellers.

Using multiple response questions for this study, Table 4.9 showed that when income source was a problem at the household level for rural dwellers, the first three coping strategies applied were intensification (85.29%), reducing food consumption (70.59%), and diversification (61.76%). In different ways, use of credit (81.75%), reducing food consumption (78.38%), and owning a business (71.62%) were the main strategies that have been applied by urban dwellers to improve their standards of living. While renting free houses and being a member of the safety net program were the least options of coping strategies for rural and urban dwellers, respectively.

Malmberg and Tegenu (2010) concluded that as households grow and land becomes less accessible through demographic causes, households are obliged to intensify their production through intensification. Intensification could not increase production in the long run as there is a limit to area expansion and household labor productivity. In the absence of investment and change in technology, households will be forced to engage in non-farming activity, and this leads to an increase in the number of town markets (owning a business).

Somewhat, in a general way, this result is similar to Muluwork Z. (2014). It revealed that the various compensations provided for farmers were not supplemented with the provision of skill training and know-how on how to use the money compensation for alternative livelihood strategies that could help establish their own business venture for diversifying income sources.

Livelihood outcome is the rest of the strategies that are adopted by households in order to overcome the shock to build asset bases as opposed to poor livelihoods, which deplete asset bases, thereby increasing vulnerability.

Table 4.11: Livelihood outcomes after taking different strategies

Outcomes	Urban		Rural		Total	
	Frequency	percent	Frequency	percent	Frequency	percent
Improved	21	14.18	4	11.76	25	13.73
Remain Unchanged	68	45.94	23	67.64	81	44.51
Deteriorated	59	39.86	7	20.58	76	41.75
Total	148	100	34	100	182	100

Source: Survey result via SPSS, 2023

It can be seen in Table 4.10 that the current life standard of majority communities remained unchanged in rural and urban areas at 45% and 67%, respectively. Next, 39.86% of urban residents said that their lives have deteriorated after urban expansion; similarly, 20.59% of rural residents said their living standards have declined, as Table 4.10 shows.

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The primary purpose of this study was to investigate urban expansion and its effects on the expansion of agricultural communities. In the study area, the displaced peri-urban rural kebeles in the process of urban expansion were Bora and Harewa. The primary data were acquired using a structured questionnaire. The focus group discussion and key informant interview, as well as the reviewing of supplementary sources, were used to support the results obtained through data analysis. The study employed both descriptive and explanatory techniques. The study was conducted based on a household survey of 182 sample farmer household heads selected out of 359 populations in two towns whose assets are lost in the process of urban expansion. Out of the total sample respondents, about 148 (81.3%) households were urban residential, while the remaining 34 households were from rural dwellers.

The study result for sample respondents showed that the majority of respondents were male and the remaining 20.3% and 20.6% of them were female in urban and rural areas, respectively. According to age category, the majority of the household heads occurred within the age range of 49-58 years in both urban and rural areas. The survey was conducted to determine the household members in terms of family size, and most of the respondents (29.4%) living in rural areas have 5-6 household members, while most of the respondents (43.9%) living in towns have about 3-4 household members. And the married community in both urban and rural areas holds the largest share, covering 59.5% and 58.8% for each. According to educational level, the majority (61.8%) of people living in rural areas were not educated, while urban (43.2%) residents have completed primary education better than rural residents.

As stated in the focus group discussion, participants have confirmed that the outcomes gained from nonfarm alternative economic activities were not equal in value to the lost assets. Additionally, due to the reduction in farm size and loss of livelihood assets, evicted farmers annual income amounts obtained from various sources, such as farming and non-farming activities, were found to decrease after eviction.

Surveyed from the study indicated that the assets that were recorded as property by the respondents, i.e., amount of farmland in timad, cereal per quintal, number of livestock, and number of permanent trees and fruits, before the expansion of the city, showed a decrease of about more than two times compared to the average asset after urban expansion.

Under Chi-Square tests, the result showed that age of household head, high education level in household member, education level of household head, and year of land loss were barriers to the level of awareness for agricultural community. In addition to identifying issues for prior understanding (awareness), the community's understanding of events before and after the urban expansion was measured using different critical variables. Among these parameters were reactions, expectation for compensation, taking training, family size, residence, income sources, shifting occupational fields, as well as current life standards, which were influenced by community awareness.

The proclamation of landholdings expropriation for the public purposes and payment of compensation, Article 8, Sub Article 3 and 4, says that anybody, whether urban or rural, subjected to expropriation of land, has a right to get money compensation and a plot of land for the construction of a house for residence (proclamation No. 455/2005). The study result revealed that except land for house construction the remaining with money compensation, compensation of land for farm activity, compensation of land for commerce, as well as compensation of land for land for stocking were generally were faire.

According to rehabilitation activities, all the provision activities, namely provision of training on all about compensation, provision of training about entrepreneurship, provision of training about saving and credit skills, creating networking with institutions for loans, and provision of input support for agriculture purposes, had a mean difference of -1.258, -1.269, -1.104, -1.159, and -1.324, respectively. It showed that their performance was significant according to the standard/expected mean of 3.

In the process of urban expansion, use of credit and intensification continued to be the dominant livelihood strategies for most farmers in the urban and rural areas, respectively. Finally, as stated in the focused group discussion and the survey result showed that asset loss and taking the coping strategy, which has not been confirmed, made the major communities of living standards deteriorate.

5.2. Recommendations

Based on the research findings, several recommendations are proposed for policymakers, municipal authorities, and district administrators:

Urban and regional planning: The towns municipality officer cooperate with health extension officer address the root causes of urban expansion, such as rapid population growth from natural increase and migration. Improve urban planning strategies, including family planning initiatives.

Support for affected farmers: Recognize that urban expansion significantly reduced farmers' assets. Urban municipalities and district administrations should enhance support for these farmers by deploying qualified experts in intensive farming and providing necessary inputs and technology.

Comprehensive compensation: Monetary compensation alone is insufficient. Woreda administrative should build displaced farmers' capacity and add value to their compensation, provide skill training, working opportunities, land for residence and access to credit. Special attention should be given to people with disabilities and the elderly.

Proper Compensation and Relocation: Ensure that displaced households receive appropriate compensation for their land and farmland conversion. Woreda administrations and town municipalities should work diligently to address the needs of rural displaced households, facilitating relocation in a way that enables displaced farmers to continue their agricultural activities.

5.3. Directions for Future Research

Future research should address various issues related to urban expansion in different areas. This study focused on reclassified rural areas; however, future research could explore urban-rural migration patterns and peri-urban expansions more specifically. Additional studies could target other dimensions of urban expansion, aiming to resolve ongoing issues and contribute to national development. Urban expansion is a complex and multifaceted topic, and further research could provide valuable insights into effective solutions for its associated challenges.

REFERENCES

- Abdei .C (2019). Development Induced Displacement; Are view of risks faced by communities in developing countries Social, Anthropol.7 (2) 100-110
- Abebaw, A. (2019). Why should Ethiopian care about urbanization? Jobs , infrastructure , and formal land and housing.
- Aboda. C, Mugagga, F .Byakagaba, P. Nabanoga, G. (2019). Development induced Development; a review of risks forced by communities in developing countries social .Anthropol. 7(2), 100-110
- Adam, A. (2014). Peri-urban land rights in the era of urbanization in Ethiopia: A property rights Approach. African Review of Economics and Finance Vol. 6, No. 1, June 2014 pp.120–138.
- Ahlam, Y. (2017). Urban expansion and its impact on the livelihood of peripheral farming Communities: the case of kutaber town, Amhara region, summited Addis Ababa
- Amare.A and Alemu.G (2015). Urban Expansion and Farmers' Perceptions in Axum Town. Mekelle University Mekelle, Ethiopia.
- Andrew H., (2007). FIG seminar on compulsory purchase and compensation. Case study Ethiopia Helsinki, Finland.
- Angel S, Sheppard S.C, and Civco D. (2005). The Dynamics of Global Urban Expansion; the World Bank Transportation and Urban Development Department: Washington, DC, USA.
- Anuar, A. and Mohammednasir, D. (1998). Payment of Adequate compensation for land Acuizition In malaysia, Pacific Rim Property Research Journal, Vol 12, No 3.
- Asfaw M, Hailu W and Tebarek L (2020). Urban and regional planning approaches for sustainable Governance: The case of Addis Ababa and the surrounding area changing landscape
- Barnes K, Morgan J, Roberge M, and Shannon L. (2002-2012). Sprawl Development: Its Patterns, Consequences, and Measurement: Department of Geography and Environmental Planning. Towson University, Baltimore, Maryland
- BBC (2014). Urbanization in Least Developed Countries rived on April 12/2014.

- Bhatta, B. (2010). Causes & Consequences of Urban Growth and Sprawl. In Analysis of Urban Growth and Sprawl from Remote Sensing Data. Springer Heidelberg, Dordrecht London, 17-18.
- Bodo, T. (2015). Rapid urbanization problems and coping strategies in Port Harcourt metropolis, of Port Harcourt, Choba, Rivers States Nigeria. Master's thesis, University of Port Harcourt, Choba, Rivers States.
- Bradbury, A. (2009). Understanding the evolution of community severance and its Consequences on mobility and social cohesion, European Transport Conference
- Brian H., Hohmann, Roberts and Rene Peter, (2014). The Neglected Drivers of Urbanizing Economies
- Briassoulis H (2002). Analysis of land use changes: Theoretical and modeling approaches.
- Cermea, (1997). Implementing the sustainable rural livelihood approach', In Carney (ed)
- Chambers, R. and Conway, (1992). Sustainable Rural Livelihoods: Practical Concepts for the 21st Century, Institute of Development Studies: Discussion Papers, 296. Cambridge.
- Ciparisse, G. (2003). Multilingual Thesaurus on Land Tenure, English Version. Food and Agricultural Organization of the United Nations.
- Creswell, (2005). Research Design: Qualitative, Quantitative, and mixed method approaches (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- CSAE, (Center of Study for Africa's Economy), (2015), Coping With Land Expropriation in Rural Ethiopia: Improving Institutions for Pro-Poor Growth. Briefing Paper.
- Dayong, N. (2004). Several acute issues in china's urban planning.
- Department Of Agriculture, Forestry and Fisheries Republic Of South Africa July (2012)
- Dessie City Municipality Office, (2015), Annual Report of the City.
- Dewey Harewa Agricultural and Rural Development Office (2023)
- Dewey Harewa Woreda Finance and Economic Development Office (2023)
- DFID (Department for International Development). (1999). Sustainable Livelihoods Guidance Sheets: Available from the livelihoods learning platform www.livelihoods.org.

- Dowling, R.2010. Power subjectivity and ethics in qualitative research method in human geography. Oxford University.
- Drescher, A. & Laquinta, D. (2002), Urbanization- Linkage Development across the Changing Landscape: Final Draft, Rome.
- Ellis F. (2000).Rural Livelihoods and Diversity in Developing Countries, Oxford University Press.
- Eshetu, M. (2017) Urban Expansion and Its Effects on the Livelihood of Peri-Urban Farmers: Evidences from Sebeta town.
- Fanny C, Joseph S and Megan H. (2017). Greening U.S. Legacy cities: Urban Agriculture as a Strategy for reclaiming vacant land. Journal of Agro-ecology and Sustainable Food Systems.
- FAO & ILO, (2009), The Livelihood Assessment Tool-kit: Analyzing and responding to the Impact of disasters on the livelihoods of people, published by Food and Agriculture Organization of the United Nations, Rome and International Labor Organization, Geneva, [First Edition].
- FAO. (2015).The economic lives of smallholder farmers and analysis based on household data from nine countries Evidences from Sebeta Town.
- FDRE (Federal Democratic Republic of Ethiopia), (2005). Proclamation 455/2005, Expropriation of Land holdings for Public Purposes and Payment of Compensation Proclamation.
- FDRE. (2005). Proclamation No. 456/2005, Rural Land Administration and Land Use Proclamation, Negarit Gazeta., No. 44.
- Fekade B. (2021). Studied the asses the impacts of urban expansion on the periphery residence In Debre Tabor town in case of kebele 01
- Fekadu, T. (2015). Urban Expansion and Its Effects on the peripheral farming community. Hossana Ethiopia
- Firman.T. (2009). The continuity and challenge in Mega urbanization in Indonesia; survey of Jakarta- Bandung region (JBR) development
- Fox, S. & Good fellow, T. (2016). Cities and development. 2nd Ed.

- Francis Z.N Dinye, R. D. and Kasanga, R. K. (2013). Urbanization and its Impact on agricultural Lands in Growing Cities in Developing Countries: A Case Study of Tamale in Ghana. *Modern Social Science Journal*, 2 (2): 256-287.71
- Friew B, (2010). The Impact of Horizontal Urban Expansion on Sub-Urban Agricultural Community Livelihood: The Case of Tabor Sub-City, Hawassa city, SNNPRS, Ethiopia.
- Gebeyehu, Z., Haji, J., Berihun, T., & Molla, A. (2022). Urban expansion impact on peri-Urban farm household's welfare in Metropolitan cities of Amhara national regional State, Ethiopia. *Ecology, Environment and Conservation*, 28(1), 33–44.
- Glaeser, E. L., & Steinberg, B. M. (2017). Transforming cities: Does urbanization promote Democratic change? *Regional Studies*, 51(1), 58–68. Doi: 10.1080/00343404.2016.1262020
- Harvay D, W (1973) *Social justice and the city* Edward Arnold. London.
- He, C., Okada, N., Zhang, Q., Shi, P. and Li, J. (2008). Modelling dynamic urban expansion processes incorporating a potential model with cellular automata. *Landscape and Urban Planning* 86: 79– 91.
- IDCSO. (2014). Annual Report of Debre Tabor Town. Department of Land Registration Affairs Industry Development and City Service Office (ID), Debre Tabor, Ethiopia.
- Jenberu A, Admasu G (2020): The structure of urbanization and land use patterns in ArbaMinch town, Ethiopia: driving forces and challenges. *Geo journal*; 85 (3) [Google Scholar]
- Jongkroy. (2009). Urbanization and Changing Settlement Patterns in Peri-urban Bangkok, *Kasetsart Journal of Social Science* 30(3): 303312
- Kassahun, G. and Tegegne, G. (2018). Spatiotemporal Trends of Urban Land use /land cover change and green infrastructure in two Ethiopian cities: Bahir Dar and Hawassa. *Journal of Environmental System Research* 7(1), 1-15)
- Kassahun, T. (2018). The Impact of Urban Expansion on the Livelihood of Farming Communities in Peri- Urban Area of Bahir Dar City Amhara, Ethiopia. *Economics and Sustainable Development* Vol.9, No.9.

- Kebede Y. (2020). Ethnic Conflict and mechanisms of their resolution between Afar and Oromo in the north East Ethiopia: from 1991-2015. PhD dissertation in political science and international relations, Addis Ababa University,
- Kedir, A. (2010). Urban expansion and the neighborhoods: The Case of Bishoftu Town, East Shewa Zone, Oromia Regional State. Addis Ababa University.
- Klugman, J., Hanmer, L., Twigg, S., Hasan, T., McCleary-Sills, J. & Santamaria, J. (2014). Voice and agency: Empowering women and girls for shared prosperity. Washington, DC: World Bank.
- Koroso N, Lengoiboni M., Zevenbergen JA (2021). Urbanization and urban land use efficiency: Evidence from regional and Addis Ababa satellite cities, Ethiopia. *Habitat Int.* 2021; 117 [Google Scholar]
- Lin Li., Y.S & H. Z. (2003). Simulating spatial urban expansion based on a physical process. 64,67-76.
- Lulseged, K., Gete, Z., Dawit, A., Fitsum, H., & Andreas, H. (2011). The Impact of Urbanization of Addis Ababa City on Peri Urban Environment and livelihood
- McGranahan, G. & Satterthwaite, D. (2014). Urbanization concepts and trends. London: IIED.
- Mefekir W. (2017) *Global Journal of human-social science: B Geography, Geo-Sciences, Environmental Science & Disaster Management Publisher: Global Journals Inc. (USA) Volume 17 Issue 2 Version,*
- Melesse, M. (2004). City Expansion, Squatter Settlements and Policy Implications in Addis Ababa. Addis Ababa University
- Muluwork Z. (2014). Land-Use and Land-Cover Change in Headstream of Abbay Watershed, Blue Nile Basin, Ethiopia. A Thesis Submitted To The School Of Graduate Studies Of Addis Ababa University, Ethiopia.
- Puertasa O, Henríquez C, and Meza F. (2014). Assessing spatial dynamics of urban growth using an integrated land use model. Application in Santiago Metropolitan Area, 2010–2045. *Land Use Policy*, 38(2014), 415-425.
- Robinson, W. C. (2003). Risks and rights: The causes, consequences, and challenges of Development-induced displacement. Occasional Paper.

- Satterthwaite, D., McGranahan, G., & Tacoli, C. (2010). Urbanization and its implications for Food and farming. *Philosophical Transactions of the Royal Society of London B: Biological Sciences*, 365(1554), 2809–2820. doi:10.1098/rstb.2010.0136
- Shiferaw, A. (2017). Productive Capacity and Economic Growth in Ethiopia.
- Solomon A. (2006). An assessment of livelihood and food security of farmers displaced due to urban expansion: the case of kombolcha town. Mekelle University.
- Tacoli, C. (2002). Changing Rural-Urban Interactions in Sub-Saharan Africa and Their Impact on Livelihoods: A summary Rural-urban working paper 7, IIED, London.
- Tegegn, G. (1998). Urban poverty and the environmental. *Ethiopian Development forum*, 1, 76-84.
- Tegegn, G. (2002). Urban Policy and Strategy in Ethiopia, Report on the 2nd National Conference on "Urban Development Planning and Implementation towards paving the way for partnership, Adama.
- Teketel F. (2015). Urban Expansion and Its Effects on Peripheral Farming Communities: The Case of Hosanna Town, Hadiya Zone, SNNPR, Ethiopia, MA. Thesis, Haramaya University, Haramaya.
- Tessema, M. (2017). Impact of urban expansion on surrounding peasant land the case of Boloso Sore Woreda, Areka Town, SNNPR, Ethiopia. *Global Journal of Human-Social Science Research*, 17, 2: 53–65.
- Thega T. (2021). State the Ethiopian economy 2020/2021; economic development, population dynamics and welfare, United Nation Conference on Trade and Development (UNCTAD 2021).
- Toddaro, (2000). Economic Development- Essex Person Education Limited Population E-Hand Book of Statistics United Nation Department of Economic and Social Affairs
- UNDESA. (2014). World Economic Situation and Prospect. New York. United Nations
- UNDESA. (2019). World Population Prospects 2019: Highlights. New York: United Nations.
- UN-Habitat (2016). Urbanization and Development: Emerging Futures. World City Report.
- Wubetu, S, (2019). Livelihood situations and food security status of farmers displaced by urban expansion in Dejen town MA thesis submitted to Addis Ababa University.

- Yamane, T. (1967). *Statistics: An Introductory Analysis*, 2nd Ed, New York: Harper and Row. pp.886
- Zemenfes, G. Sebeh Y.and Melesse A. (2014). *The Impact of Urban Sprawl on the Livelihood of Fringe Farmers in Mekelle, Ethiopia*.
- Zeneb D, (2019). *Urban development-induced displacement: the case of displaced rural Households surrounding Debre Berhan town, Amhara region MA thesis submitted Addis Ababa University*.
- Zheng S and Kahn M. (2013). *Understanding China's Urban Pollution Dynamics*. *Journal of Economic Literature*, 51(3): 731-772

Appendices

Addis Ababa University

College of Social Science

Department of Geography and Environmental Studies

Appendix I

Questionnaire to Be Filled By Sample House Hold

Dear Respondent, Thank you for agreeing to participate in this study. The goal of this questionnaire is to gather information about “**Urban Expansion and its Effects on Agricultural Communities in the case of Dewey Harewa Wereda Oromo Administration Zone in the Amhara Regional State, Ethiopia**”. Your responds will be kept anonymous and used solely for the purposes of the study. The researcher need real responses to the questionnaire. You are therefore cordially encouraged to complete the questionnaire.

There is no need to write your name or any other identifying information.

Part I: Demographic Characteristics

Please answer the questions by ticking [√] in the provided spaces.

1.1 Sex of household head:

1) Male _____ 2) Female _____

1.2 Age: 1) below 30year__ 2)31-40____3)41-50____4)51-60__5)61-70____above 70year____1.3 Family size:

1) 1-2 person_____ 2) 3-4 person ____ 3) 5-6 person ____4)7-8 person ____

6)9-10 person _____ 7) above 10 person _____

1.4 Marital Status:

1) Single ____ 2) Married____3) Divorced____4) Widowed____

1.5 Education level:

1) Illiterate____ 2) Primary ____ 3) Secondary____ 4)Diploma

1.6 Income Sources 1) Farming _____ 2) Non farming_____

Part 2: Eviction of households from their areas and the loss of assets due to urban expansion.

2.1. Is there any change in your livelihood assets as a result of urban expansion?

- 1) Yes _____ 2) No _____

2.2. If you answered yes to question 1, what was the total possession of the household you possessed before to eviction, and what remains after eviction? Please list on the table below.

No	Types of asset lost	Unit measurement	Before eviction	After eviction
1	Land size	Timad		
2	Cereal product	Kuntal		
3	Livestock	TLU		
4	House	Number		
5	Trees and fruits	Number		

Part 3: causes of awareness

Identify the key causes to measure the perception of respondents who lost their possessions prior to urban expansion;

3.1. High education level in house hold member

- 1) Illiterate____ 2) Primary ____ 3). Secondary____ 4) Diploma ____ 5) Degree and above_____

3.2. What was the level of your social relationships before the urban expansion?

- 1) Low ____ 2) medium ____ 3).high_____

3.3. When was amount of land seized for urban expansion? (More than one solution is possible.).

- 1)2014_____ 2)2015_____ 3) 2016_____

Part 4: Effects of awarenessIdentifying issues for prior understanding (awareness), the community’s understanding of events before and after the urban expansion;

4. 1What was your reaction to the urban expansion that occurred?

1) Oppose _____ 2) support _____

4.2 What was your reaction to the kind and quantity of compensation you received?

1) low (not satisfied) _____ 2) medium (not bad) _____ 3) high (satisfied) _____

4.3 Did you receive any training on how to use the compensation benefits granted to you as you transition to a new urban and rural lifestyle?

1) Yes _____ 2) no _____

Part 5: To measure feedback on respondents' satisfaction level with the study area's composition types.

Please indicate your level of satisfaction with responders' compensation by ticking the appropriate box [√]. 1 indicates very low (VL), 2 indicates low (L), 3 indicates medium (M), 4 indicates high (H), and 5 indicates very high (VH).

No	Types of compensation	1	2	3	4	5
1	Compensation with money					
2	Land for house construction					
3	Land for farm activity					
4	Land for commerce					
5	Land for Animal stocking					

Part 6: To measure the extent of intervention made by the concerned bodies' involvement in the process of the rehabilitation of the agricultural community.

Please rate or level the intervention as follows. By making tick mark [√] 1 indicates very low (VL), 2 indicates low (L), 3 indicates medium (M), 4 indicates high (H), and 5 indicates very high (VH).

No	Provision for community	1	2	3	4	5
1	Infrastructure/ Utility					
2	Training on all about compensation					
3	Training about entrepreneurship					
4	Training about saving and credit skill					
5	Networking with institutions for loan					
6	Input support for agriculture purpose					

Part 7: Investigated the livelihood effects due to urban expansion, coping strategies and the final outcomes after taking different strategies.

Livelihood effects (shocks)

7.1. What kinds of shocks/impacts on livelihoods have occurred as a result of urbanization?

1) Production shocks___2) Human shocks ___3) Natural shocks ___4) Financial shocks___

7.2 By making tick mark [√], 1 indicates very low (VL), 2 indicates low (L), 3 indicates medium (M), 4 indicates high (H), and 5 indicates very high (VH).

No	Shocks		1	2	3	4	5
1	Production	1.Crop loss					
		2.loss of livestock					
		3.Food storage facilities					
2	Human	1.Increase dependents					
		2.Death of house hold member					
		3.Serious illness(Injuries)					
3	Natural	1.climate change					
		2.Degradation					
		3.Deforestation					
4	Financial	1.Loss of remittance and wage					
		2.Failure of self-owned business					
		3.Expenditure on social events					

2. Choose the Livelihood strategies for defending livelihood shocks (effects) ((More than one answer is possible). By making tick mark [\surd], 1 indicates very low (VL), 2 indicates low (L), 3 indicates medium (M), 4 indicates high (H), and 5 indicates very high (VH).

No	Strategies	1	2	3	4	5
1	Diversification					
2	Intensification					
3	Reducing food consumption					
4	Use of credit					
5	Renting free houses					
6	Owning a business					
7	Being a member of safety net					
8	Being wage earner					

3. What is life like after using livelihood strategies?

- 1) Improved 2) Remain unchanged 3) Detorarieted

Appendix II

Key informants Interview Questions

1. What factors do you believe have influenced urban growth in this area?
2. What advantages and compensation have been provided or promised to the agricultural community whose livelihood assets are impacted by urban expansion?
3. Do you believe the present or promised benefits compensations are adequate for farmers, taking into account their economic background, living costs, and land productivity?
4. If you answered "no" to question number five above, what plans have been made so far to improve the lives of pre-farmers as the town expands?
5. What role can the government and other stakeholders play in assisting the vulnerable poor in re-establishing their livelihoods?
6. Discuss the impact of community livelihood plans and household outcomes, as well as victims of social groupings, with new sources of money, work possibilities, and social and cultural influences.

Appendix III

Questions for Discussions with Focus Groups

1. What causes do you believe have contributed to urban expansion in this area?
2. What are the factors that impede knowledge of urban expansion in the research area?
3. Discussed the topics of compensation and benefit packages that were supplied to the farmers?
4. What is the set or kind of compensation you agreed to provide, and why?
5. What advantages and problems do you see as a result of urbanization in your communities?
6. Discuss the community's livelihood consequences and coping methods, as well as the outcomes at the family level for victims of social groups who have new sources of income, job prospects, and social and cultural influence.
7. Who, in your opinion, is the most responsive body now to reducing the harmful effects of urbanization on your urban and rural lives?