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**COLLEGE OF DEVELOPMENT STUDIES
CENTER FOR ENVIRONMENT AND SUSTAINABLE
DEVELOPMENT STUDIES**

**PERCEPTIONS AND REALITIES OF SURROUNDING FARMING
COMMUNITIES TOWARDS URBAN EXPANSIONS: THE CASE OF
BISHOFTU CITY**

**BY
HABTIHUN GIDYELEW**

**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS
ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF ARTS IN ENVIRONMENT AND SUSTAINABLE
DEVELOPMENT**

**NOVEMBER, 2021
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DECLARATION

The researcher of this paper declared that the undersigned thesis entitled "Perceptions and realities surrounding farming communities towards urban expansion: The case study of Bishoftu City, East Shewa Zone, Oromia Regional State, Ethiopia" was submitted by the researcher of this paper for the partial fulfillment of the requirements for the Master of Art in Development studies (environment and sustainable development) is my original work and has not ever been presented by other researchers and scholars everywhere at any colleges, universities and other research institutions and that all the necessary sources of materials used for the thesis have been duly acknowledged.

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ABBREVIATIONS AND ACRONYMS

CSA	Central Statistics Agency
ETB	Ethiopian Birr
FGDs	Focus Group Discussion
GDP	Growth Domestic product
GIS	Geographical Information System
Ha	Hectares
HHH	Household Head
Km	Kilometers
KII	Key Informant Interview
LPM	Linear Probability Model
PPS	Probability Proportional to Size
SDs	Standard Deviations
SPSS	Statistical Package for Social Science
VIF	Variance of Inflation Factor
UN-H	United Nation Habitat
UNFPA	United Nation population Fund
TLU	Tropical Livestock Unit
WB	World Bank

ABSTRACT

Urbanization is a process that grows and expands from time to time alike with the human race settlement first choice. It harmfully affects the world's massive agrarian community in general and farming community in urban areas in particular. History demonstrates that the human race has altered its settlement patterns by turning vast swaths of rural land into urban areas. In developing countries, this transition is still speeding up, affecting people that rely on agriculture. The goal of this research is to find out how farmers feel about urbanization in the area around Bishoftu. A mixed research strategy was used to gather quantitative and qualitative data for the study. The data was gathered from households in Bishoftu area. Furthermore, data were collected from focused group discussants, key informants interviews, and secondary sources. The key informant interviews and focus group discussions were guided using checklists, while the Questionnaire was used to conduct the household survey. The study employed multi-stage sampling. The first sample, the kebeles were selected using a purposive sampling strategy due to the huge expansion of urbanization in the area. Accordingly, Qajima and Kality kebeles of the adjacent Bishoftu city were chosen. Second, a systematic random sampling technique was used to select targeted households in the selected kebeles. Of the 1254 households of two kebeles, using Taro Yemani's (1964) statistical formula, a sample size of 303 households was systematically selected. The data collected from various sources were managed using Statistical packages for Social Sciences (SPSS version 24). Both descriptive Statistics and Probit Regression Analysis were used for analysis. The finding revealed that the local community was aware of the urbanization and urban expansion projects. The respondents felt that urbanization has good benefits such as job opportunities as well as expansion of basic services such as electric power, health access, transportation, and educational services. Furthermore, they noticed that urbanization has also negative consequences such as the loss of social bonds, cultural identity crises, loss of previous livelihoods, agricultural land loss, pollution, and challenge of housing for the youth. A further probit regression analysis indicated that landholding, livestock holding, and distance from the urban center were significantly and negatively correlated with the perception of households towards urban expansion. However, family size, level of education, and non-farm income were significant and positively correlated with the perception of households towards urban expansion. Based on the finding, the study concluded that the majority of households considered urban expansion as an opportunity and supported it positively. The diversification of livelihood strategies suggest to give due attention in promoting farmers' education through strengthening and establishing both formal and informal types of education. The negative and significant impact of landholding, livestock holding, and distance from the urban center on livelihood diversification suggests concerned bodies to develop appropriate strategies, especially for land resource displaced farmers.

Keywords: urbanization, attitude, farming, livelihoods

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

Urban expansion is a common phenomenon. Historically, the human race has harmfully changed and affected settlement and subsequent agricultural activities. Currently, in this modern world, in both developed and developing countries, urban expansion is a common phenomenon. However, in developing countries, urban expansion is known for its negative effects. Presently, the built-up increase is more rapid growth in both industrialized and less industrialized countries (Fekadu, 2015). The United Nations-Habitat (UN-H) (2010) states that in most developing nations of the contemporary world, the process of urban expansion is universally a mixed blessing, having both positive and negative outcomes for the farming communities. According to the United Nations Population Fund (UNFPA) (2015), rapid urban expansion, particularly the progress of large cities, and the related problems of unemployment, poverty, and environmental degradation, pose difficult challenges in many developing countries. The dramatic increase in the attention of poverty, dislocation, food insecurity, and environmental degradation in newly established urban zones are the results of what urbanization can bring.

In the developed world, the process of urbanization has been controlled and its side effects can be mitigated. However, in developing countries, urban expansion is known for its negative effects. In African countries all over the continent, urbanization has brought many negative impacts, both on the urban and on the peri-urban farming communities (Haregeweyn, et al., 2012). Like other African countries, Ethiopia is not exceptional. The rate of urbanization is high. According to Fekadu (2015), the major effects contributing to quick town development in Ethiopia are migration, higher natural population growth, and spatial urban development. Such expansion harms farmers' livelihood and socio-economic situation. Urban expansion is a vigorous set of practices, replying to changing values and perceptions of the basic characteristics of urban versus rural areas.

As described by Muluwork (2014), in most Ethiopian towns the result of urban expansion comes from uncontrolled urbanization, which negatively affects the livelihoods and natural environment of peri-urban areas. Thus, it affects changes like the organization of places, social phenomena, and the economy. However, these effects exceed the territorial barriers and generate broad

impacts, particularly for the surrounding rural communities. Melese (2004) further studied the urban expansion process in the context of Ethiopia employing the case study of Addis Ababa in the Kolfe Keranio sub-city. He depicted that both inward reform and outward expansion of the physical arrangement of urban areas. However, such a process of urban expansion, which could see in the history of all urban centers is a universal phenomenon. Thus, the loss of primary agrarian farmlands and natural beauties are the consequence of the horizontal outward expansion of urban centers.

Urbanization leads to the reduction of farm size or complete dispossession of agricultural land of surrounding peri-urban households, which is the result of the engulfment of unrestrained urban expansion (Alemu & Amare, 2015; Bhatta,2010). According to Fekadu (2015), rapid urbanization is caused by higher natural population growth, rural-to-urban migration, and spatial urban development. Farmers surrounding urban areas are affected by these kinds of expansion and it has a negative influence on their livelihood which has different components. Yet, Leulseged et al. (2011) illustrated the displacement of farmers or loss of their farmland is not academically developed, most of them engaged in less paid and time-consuming activities which may merely cover their daily needs. Hence, the removal of urban periphery households deepens poverty, destroys communities, and adversely impacts the upcoming sustainable livelihood of people.

Oromia Regional State is one of the regional states in Ethiopia. Bishoftu town, with its rich historical, cultural, and natural heritage, socio-economic, and political center, is located at the heart of Oromia Regional State and close to the capital city, Addis Ababa. It is one of the most topographically attractive, preferred, and rapidly expanding towns in the Oromia Regional State, next to Adama, Jimma, and Shashemene. Bishoftu town is currently experiencing rapid urban expansion and rapid population growth. According to the Bishoftu Town Administration (2021), the town was established around 1902 as a center of posting for the Ethio-Djibouti railway line. It is located at a distance of 47 kilometers southeast of Addis Ababa. Bishoftu has got its first Master Plan as early as 1954 but modified it in 1978, 1992, and 2009.

Yet, urban expansion has had own positive or negative effect on the livelihood of the surrounding farming community. Various researches have been conducted on the impacts of urbanization both in Ethiopia and outside Ethiopia. Yet, they could not consider the attitudes of

farming communities in peri-urban areas. For example, Tadesse & Imana (2017) found out that urban expansion leads to farmers becoming landless and jobless. It poses them to insecure livelihood conditions of the surrounding urban farming communities. They may not participate and reflect on their perceptions of urban expansion and decision-making about the types and amounts of rewards and related benefits they expect for the farmland alienation, the property they lost, and thus for the disruption of their livelihood and the effect on their family. Likewise, Keno, et al. (2019) studied urban expansion in Ethiopia historically and focused on its characteristics, spatial patterns, and driving forces. Another study by Mekuria & Messay (2018) emphasized the status of urban agriculture in and around Addis Ababa, Ethiopia. Furthermore, Tadesse & Emana (2017) studied the prospects and challenges of urbanization on the livelihood of the farming community surrounding Finfinne (Addis Ababa). In the same token, Wegedie (2018) has assessed the impact of urban expansion on the livelihoods of farming communities in a peri-urban area of Bahir Dar City, Amhara, Ethiopia.

These studies identified the perception and a reality of surrounding farming community on the processes of urban expansion needs to be clearly known in order to reduce the negative effect and significantly nourishing positive effects. The main problems are not only the loss of agricultural farmlands but also changes and challenges to their livelihood sources. It may affect food security due to urban expansion within urban and peri-urban territories and reduce cultivable areas. Despite this fact, urbanization has its impact on farmers' sustainable employment, asset as well as its impact on social networks and social bond change. However, the attitudes and perceptions of surrounding farming communities towards urban expansion and changes in livelihoods are not taken into account. Thus, this study aimed at investigating the perception and reality surrounding farming communities towards urban expansion of Bishoftu Town. Specifically, the study examines the status of urban expansion and assesses the changes in the livelihoods of households in the study area.

1.2. Statement of the Problem

In many parts of the world, urban development and extension are now regarded as a “modern” way of life that signifies economic prosperity and development. This demonstrates how continual urbanization and residents' socioeconomic position are linked in many countries. Rapid urban expansion has increased the number of infrastructures spreading into the peri-urban areas, causing sharp decrease in agriculture land. According to the United Nations Population Fund (UNFPA) (2015), rapid urban expansion has had multidimensional challenges in many developing countries.

According to Fekadu (2015), the process is one of the basic problems that affects the living standards and food security of many agrarian societies. This incursion process leads to the loss of lands used for various purposes, which consequently leads to the dimension of crops as well as livestock productivity.

Haregeweyn, et al, (2012), discuss that in Africa countries all over the continent, urbanization has brought many negative impacts both on the urban as well as on the peri-urban farming communities. Thus, the rudimentary key problem is that urban growth causes not only the displacement of farm households but also the loss of agricultural farmlands and challenges for their livelihood sources that lead farming communities in rural-urban peripheral areas to many problems, particularly in developing countries with agrarian economies.

According to Mengistu, (2016), trying to put in some of the larger cities of the country in Ethiopia urban expansion faces a number of problems due to sometimes unplanned settlements and slums.

Tadesse, & Imana, (2017), stated that one of the demographic trends in the present era of urbanization is towns and cities rapidly expanding through a viable process of urban growth towards the peripheral farmlands and within urban areas. These types of expansion lead farmers to landless, jobless and expose them to insecure livelihood conditions. The surrounding urban farming community who engaged in agricultural activities was not a participant in the decisions about the kinds and amount of rewards and related benefits to them for the farming land they displaced, for the property they lost, and hence for their livelihood disruption and the resulting effect on their family.

According to Mefekir, (2017), urban expansion is the main problems in most developing countries. Our country Ethiopia also one of the country's facing the problem of urban expansion. It has been expansion or experiencing rapidly agricultural land use transformation in to urban land use due to urban expansion. The urban expansion affects peasant land due to this expansion of town many farmers displaced from their land and loss of their farming land.

Similar studies so far conducted in Ethiopia regarding urbanization, for example, Haregeweyn, et al. (2012), Mengistu (2016), Tadesse & Imana (2017), Keno, et al. (2019), Mekuria & Messay, (2018), Wegedie (2018), among others, clearly described the consequences of urbanization on the surrounding farming communities. These studies stressed the importance of urban expansion and its response, impacts on livelihoods, implications, and status of urban agriculture in different study areas. The main problem is that urban expansion causes not only loss of agricultural farmlands but also changes and challenges their livelihood sources as well as food security as a result of urban expansion within urban and peri-urban territories. Urbanization has its own impact on farmers' sustainable employment, asset as well as its impact on social networks and social bond change. However, based on this different studies were not given attention and had not investigated the attitudes and perceptions of surrounding farming communities towards urban expansion. Nevertheless, these different studies were not given attention and had not investigated the perceptions of the farming communities regarding urbanization and the changes in their livelihoods. So, the researcher believes that the detailed nature of these perceptions deserves a rigorous study. Moreover, there is a research gap in investigating and indicating the existence of perceptions and realities of farming communities' towards urbanization.

Furthermore, this study examines the positive and negative perceptions of farming communities as a result of urbanization on agricultural lands. According to the 2011 E.C newly updated Master plan of the Bishoftu city, urbanization is spreading throughout the surrounding landscape of the city. There are widespread claims over the displacement of farmers from their livelihoods and the loss of land. This study fills the discrepancies in understanding the opinions of nearby farming areas regarding urban expansion, as well as whether they saw it as a threat or an opportunity. Thus, the purpose of this study was to assess the attitudes and views of adjacent farming communities on urban expansion in the study area.

1.3. Objective of the Study

1.3.1. General Objective

The overall objective of this study is to examine the perceptions and realities of the surrounding farming community towards urban expansion in Bishoftu city of Ethiopia.

1.3.2. Specific Objective

- 1) To examine the status of urban expansion in the surrounding of Bishoftu city;
- 2) To assess the changes of livelihoods of households in the study area; and
- 3) To examine the positive and negative factors of urban expansion that affect farming community.

1.4. Research Questions

Based on the above statement of the problem and specific objectives, the study is expected to address the following research questions:

- 1) What is the status of urban expansion in the surrounding of the Bishoftu city?
- 2) What are the changes of livelihood as a result of urbanization?
- 3) How do the farming communities perceive urban expansion in their surrounding landscape?
- 4) What are the factors that contributed to the urban expansion in peri-urban areas of Bishoftu city?

1.5. Significance of the Study

In the case of urbanization, urban areas are rapidly expanding, and cities and towns require the conversion of large tracts of agricultural farmland into urban areas for the construction of houses for residences, industries, and investments. Urban expansion has directly or indirectly, positively or negatively affected the livelihood assets of the peri-urban area's farmers and urban areas' residents when they were displaced from their farmlands.

As a result, the research adds to the existing knowledge domain in the area of perception and realities surrounding farming towards urbanization. Furthermore, the findings of this study could be used as a resource for future urban development, as well as researchers, policymakers,

academicians, government, and non-government groups interested in the benefit of rural-urban interaction.

1.6. Scope of the study

The study was carried out in two kebeles surrounding Bishoftu city in the Oromia Regional State, Ethiopia. It explores the perceptions and realities of the farming communities. The town is currently expanding horizontally in all directions. This expansion of the town to the surrounding farming community has intensified the change of rural settlement to urban land use surrounding the town in all directions; the perception could be positive or negative. The town's development into the surrounding farming community has accelerated the transition from rural to urban land use in all directions, including Kajima and Kality Kebele, which were also the topic of this study.

1.7. Limitation of the Study

In the process of conducting this research, the researcher faced challenges such as the study limited to two kebeles due to financial constraints, time limitations, and the researcher had faced challenge in finding related studies done on the study topic. The kebeles may be adequate given the homogeneity and similarities of the socio-demographic, landscape, and trends of urbanization processes. The study did not bring the causes of urbanization, extent, and magnitude using geospatial and morphological analyses. This could be a limitation to be considered for further studies in the future.

1.8. Organization of the Thesis

The thesis is divided into five chapters. The background, statement of the problem, aims, research question, scope, and limits are all included in the first chapter of the thesis. The second chapter looks at relevant literature or previous studies on urban expansion by a variety of authors and academics. The study's methodology is explained in the third chapter, which includes a description of the study area, sampling techniques, and data gathering and analysis methodologies. The important findings and comments are discussed in the fourth chapter. The conclusion and recommendations are presented in the final chapter.

CHAPTER TWO: REVIEW RELATED LITERATURE

This chapter encompasses studies related to fiction taking place within the concept of urban expansion, the theoretical literature on urban expansion, and the attitude of the surrounding farming community towards urban expansion. Urban expansion and land-living use transfigurations configurations concentrating on tendencies, notions, progression, and belongings of urban expansion, bases that affect land-dwelling use transformations and reactions of arrangement to urbanization. The section also consists of theoretical frameworks.

2.1. Definition of Concepts

This section presents the definition of concepts used in the thesis, such as urbanization, suburbanization, and the explanation of urban life is the most universally used definition of urbanization that conceptualizes the process of urban growth by which an area becomes urbanized and the process by which the urban share of a population increases. Urbanization has been well-known in many developed and developing countries all over the world. In the context of a large population, it is an important indicator of urban growth. Urbanization has been the inflow of population and growth of geography in the city. The rapid urbanization movement has brought diverse issues regarding the changes in physical and social aspects. Urbanization was phenomenal for the population. Urbanization takes place in any of the following ways: natural population growth in urban areas, as well as migration of individuals from rural to urban areas.

Urbanization, on the other hand, is the result of social, economic, and political dynamics that lead to urbanization and the emergence of big cities, changes in land use, and the transition from rural to metropolitan organizational and governance structures. It has both positive and bad implications.

Suburbanization: refers to the dispersion of the urban population and employment from the central cities to settlement communities called suburbs. As Kopecky & Suen (2010) showed, this movement results in an increased spread of the urban population and employment over a land area. Suburbs refer to residential clusters on the periphery of a city or town. Andrea (2015) defined suburbanization as the creation of residential areas, and to some extent, industrial areas, at the brink of the city. It arises as a result of the city center's urbanization, which creates a need for larger plots of land and a better dwelling environment. The suburbs are defined by four

factors, according to Jackson (1985): first functions (non-formal residential), second class (middle and upper status), third separation (daily commute to work), and fourth-density (low density in relatively old settlements). Suburbs lag behind cities in terms of social and economic development. The development of the metropolis has a considerable impact on the progress of outlying communities. The city and suburbs are independent in the sense that long-run changes in population, employment, and measures of urban life in cities and suburbs tend to be correlated.

Urban expansion is related to urban sprawl, which is the extension of the concentration of people of urban settlement to the surrounding area whose function is non-agricultural (Fekadu, 2015). Urban expansion is usually a phenomenon in both developed and developing countries. In poor countries, however, urbanization is considered as having negative consequences. Case et al. (2017) noted how fast urbanization and population growth, primarily in a few developing nations, are expected to raise concerns about agricultural productivity by extending urban settlement at the expense of cropland, competing for resources, and resulting in biodiversity loss. Higher natural population increase, spatial urban development, and rural to urban migration are all key factors leading to Ethiopia's rapid urbanization. In this study, urban expansion is defined as the geographical or horizontal flattening of urban settlements towards rural settlements or locally populated rural areas. Furthermore, it is used interchangeably with urbanization in the context of problem investigation, i.e. case study.

Another term that appears frequently in this thesis is *attitude*. An attitude is a predisposition or tendency to react positively or negatively to a given idea, object, person, or situation. An individual's attitude has an impact on their actions and responses to challenges, incentives, and rewards (together called stimuli). Attitude is made up of four major components. (1) Affective: characterized by emotions or feelings (2) Cognitive: consciously held beliefs or opinions. (3) Conative: a proclivity to act, (4) Evaluative: a favorable or unfavorable reaction to stimuli. A good or negative attitude can be expressed in regards to people, objects, events, activities, and ideas. Based on this component of attitudes cognitive attitudes clearly explains the perception or ideas of the farming community towards urban expansion surrounding their farmland. Attitude could be concrete, abstract, or just about anything in your surroundings, although precise definitions are up for disagreement. "State attitude," according to Bagherian et al. (2009), is a

negative conceptualization that indicates an individual's level of like or dislike for a natural thing. People, places, objects, and events with good or negative attitudes are referred to as attitudes in general.

Peripheral farming communities: According to Bekele (2010), a peripheral farming community is one whose livelihood is based on agricultural activities in a rural settlement pattern that is closer to urban and engaged through land holding based and related farming types for their livelihoods strategies.

The population or society outside the urban settlement border is defined as the peripheral community in this study. Landholding-based and connected farming types are used for livelihood strategies in locations closer to metropolitan centers. Farming communities are people who live in rural areas and work primarily in agriculture, including agricultural and animal production, forestry, fisheries, and land and water resource development.

Agricultural communities: In basic terms, a community is a collection of people who are all located in the same place and who interact with and depend on each other on a regular basis. According to Ciparise, (2003), Agricultural communities are inhabitants of rural settlements that are mainly engaged in agriculture both crop and livestock production as well as forestry, fisheries and the development of land and water resource.

Community: The wide range of activities performed by staff in the organization as a whole is an effort to maintain that social and economic requirements are fulfilled in a regular and predictable way.

Urban area: As Woldemariam, (2018), discussed the definition of an urban area does not have a universally agreed-upon conceptual meaning. Slightly different countries define it based on the economic, social, and political organization of their country or region. But as to the overall picture, an urban area is categorized by higher population density and huge human features in comparison to areas surrounding it. Urban areas are shaped and further developed by the process of urbanization.

Displacement of Framers: In this study, it can be referring to those farmers who have expropriated their farmlands in the rural-urban fringe. Thus, results in the change/functional movement or dislocation of farmers' from that specific area.

Community Perception: Perception, according to Russell (2008), is the way people group specific objects into items or perspectives that are generated from feelings or visuals. It's how humans categorize objects based on their capacity to process sensory information and their personal judgment. During some conditions, people can use their bodily senses to recognize something by seeing, hearing, tasting, and experiencing it. They learn to comprehend, interpret, and become aware of something from their perspective, and they express ideas based on their limited knowledge.

2.2. Urbanization in Africa

Urbanization is increasing in both developed and developing countries. Many scholars classify the history of African urbanization into pre-colonial, colonial and post-colonial period. According to Carlton, (2009), this classification which creates heterogeneity in African urbanization. Urbanization in Africa both in the pre and post-colonial period has occurred with no concurrent proportional changes in social transformation though there is limited research that correlates urbanization with modernization, industrialization and socio-economic development. Africa is the least urbanized continent in the world; it is experiencing the highest urban growth and the most rapid rate of urbanization. According to Yousif, (2005), between 1950 and 2005 the urban inhabitants in Africa grew by an average annual rate of 4.3% from about 33 million to 353 million persons.

According to UN ECA, (2014), the annual growth rate has declined to 3.36 percent per year from 2005 to 2010. African urban areas grew 1.7 times faster than the urban growth rate of the world in the same years. As in most developing countries, urbanizing Africa will face serious challenges, especially as policy structures adjust slowly. At the national level, integration of capital markets often occurs more slowly than labor market integration, which is facilitated by migration.

According to Tame (2020), urbanization is the driving force for economic advancement, modernization, and development; yet, there is increasing concern about the consequences of urbanization, notably for livelihoods, human health, and the environment. Urbanization in emerging countries is fueled by natural population growth (more births than deaths) and migration. According to Bekele (2010), most people in Africa move to cities because they are either pushed there by factors such as poverty, food insecurity, environmental degradation,

political persecution, religious strife, and a lack of basic infrastructure and services in rural areas, or they are drawn there by the advantages and opportunities of the city, such as water, electricity, and education. Mengistu (2016), discussed how in many African countries, urban areas offer few jobs for the young. They are often attracted there by the amenities of urban life.

2.3. Urbanization in Ethiopia

According to World Bank (WB) (2013), Update #2: Laying the Groundwork for Middle-Income Status, Ethiopia's urban population is quickly growing. Ethiopia's urban population percentage, estimated at only 21 percent in 2012, is one of the lowest in the world, much below the Sub-Saharan Africa average of 37 percent. However, this is about to alter drastically. As the Ethiopian Central Statistics Agency (CSA), the rate of urban population will nearly triple or quadruple from 15.2 million in 2012 to 42.3 million in 2037, growing rapidly by 3.8 percent per year. The urbanization rate, according to this report's calculations, will be substantially faster, at roughly 5.4 percent per year. By 2028, the urban population would have tripled, with cities accounting for 30% of the nation's population. Throughout many countries, urban expansion has typically forced all forms of farmland out of town and into rural areas, perceiving it to be too nasty for the beauty of the city. Farmers are being moved as the Ethiopian urban area grows at an unforeseen rate, leading to the loss of agricultural land and a shift in their livelihood. According to Wegedie (2018), most urban expansion is an unintentional phenomenon that results in spontaneous growth by displacing rural farming groups. When the government uproots people for the purpose of growth, they are also reducing the quantity of land available for agriculture, which has been pointed out as having a severe impact on the affected community's livelihood and post-displacement lives.

2.4. Causes of Urban Expansion

Global urbanization has resulted in cities that are fast developing and spreading in order to accommodate their growing population, according to Kedir (2010), and this growth is known as urban sprawl. Two key factors contribute to the extension of urban areas into surrounding rural areas: an increase in the urban population due to a high birth rate and in-migration (both rural to urban and urban to urban) migration, as well as spatial urban growth. Economic development,

urban clearance, and/or industrialization are the first causes of urban expansion—urban development.

According to Cernea (2000), places or sites adjacent to urban areas may be required for economic, social, industrial, and communication purposes, as well as road construction and other infrastructure and investment, which may necessitate the relocation and dislocation of the neighboring rural farming community.

Economic growth, population growth, industrialization, and the demand for additional living space are some of the factors of urban expansion or density, according to Bhatta (2010). Urban population growth is the earliest and most powerful of the causes and catalysts of urban expansion. Rapid urbanization is a result of the following two drivers of population growth: migration to the city and urbanization.

2.5. Driving Forces of Urban Expansion

Urbanization has been one of the most irreversible anthropic activities driving global environmental changes over the past few decades. The Earth's eco and socioeconomic systems have been profoundly changed by urbanization. Urbanization brings both socioeconomic development opportunities and environmental challenges. While urbanization boosts urban economic growth, industrial upgrading, population aggregation, and social development.

Urbanization, according to Seto et al. (2010), is linked to a range of negative environmental effects, including air pollution, water pollution, and anthropogenic greenhouse gas emissions, the urban heat island effect, and biodiversity loss. The forces that drive urban growth have gotten a lot of attention lately. Urban expansion is the direct manifestation of urbanization. It can not only change the landscape pattern of the entire urban area but can also bring changes to a number of natural phenomena and ecological processes. As urban expansion may cause complex ecological problems and further affect regional and global sustainable development, the study of the effective factors and driving forces of urban expansion is necessary to provide decision support for urban planning, urban ecological construction, and sustainable urban development. The driving forces can be roughly divided into five categories: (1) the physical and geological environment factors: These factors limit urban expansion to some extent, determining the overall trend of urban expansion on a macro scale. (2) The economy: The rapid development of the

economy is the most important factor driving urbanization. (3) Transportation is a major driver of urban growth. Usually, urban expansion is along the main roads or highways. (4) Population: Another important factor in urban growth is rapid population growth. (5) Policy: Policy is a guideline for urban growth. It is also difficult to prevent rural-urban migration from exacerbating the urban sprawl. When people move to the city in search of better jobs and living conditions, the problems of urban expansion are more serious than those in the districts, as it is difficult to control the rate and orientation of urbanization.

Two socioeconomic characteristics that are frequently studied (GDP). According to Liu et al. (2005), because population density is linked to rigid demand, the urban market, and agglomeration capabilities, it is a vital component that promotes urban expansion. Economic development frequently promotes urban land and construction demands, which in turn drives urban expansion. Physical characteristics such as elevation, slope, distances to a lake, and distances to a river were taken into account, according to Braimoh & Onishi (2007). In most cases, elevation and slope are limiting factors in urban expansion, particularly in locations with poor natural conditions and low development levels. A lake or river nearby has two implications on urban growth. For starters, the presence of a lake or river limits urban expansion. Second, a lake or river in the nearby area provides advantages in terms of water resources and watery prospects for urban expansion. As Wu and Yeh (1997) noted, distances to a city or county center were considered proximity variables. These have an impact on urban expansion on a local scale through locational effects. The closer a region is to the administrative center of the region, the better.

According to Cheng & Masser (2003), the discussed neighborhood has been identified as an important driver of urban change in urbanization studies. Locations closer to developed urban areas have easier accessibility to urban infrastructures and require lower costs for new urban development. Hence, the neighborhood factor is usually positively linked to urban expansion.

2.6. The Effects of Urbanization

Horizontal and vertical expansions are two ways that cities can grow. The extension of the physical structure of urban areas is referred to as horizontal expansion of urban. Such a technique is well-known around the world in the development of metropolitan centers, with the loss of agricultural land, range postures, and natural attractiveness as a result.

The consequences of urbanization on the peri-urban environment and livelihoods can be viewed in two ways, according to United Nation Habitat (UN-HABITAT) (2010): positive and negative. Unguided urban expansion has harmed the lives and natural habitats of farming people in peri-urban areas, just as it does in developing countries.

The benefit could be measured in terms of increased demand for agricultural products, improved extension services, and non-farm employment prospects. However, as in most developing nations, uncontrolled urbanization has a negative impact on the natural environment and the lives of farming communities in the vicinity of urban centers.

As discussed by Ampong et al., (2005). Urbanization excessively affects the livelihood of poor people by weakening the natural resources accessible to them. The rapid conversion of land for non-agricultural the purpose is threatening the prevailing agricultural activities that are the main source of livelihood for people who reside in the peri-urban areas. As discussed by Ampong et al. (2005), urbanization excessively affects the livelihoods of poor people by weakening the natural resources accessible to them. The rapid conversion, however, sustainable and planned peri-urban development comes up with various opportunities which enrich to reduce poverty. According to the discussion by Nicodemus & Ness (2010), due to the expansion of business and market centers, infrastructures such as roads, electricity, new schools, health centers, and telephone services are easily accessible by local people. The use of land for non-agricultural uses is jeopardizing the main source of subsistence for those living in peri-urban areas, which is agriculture. All of this resulted in more immigration to the city as a result of new job opportunities. The socio-economic opportunities accessible in peri-urban farming areas are determined and dependent on the level of involvement and initiatives of the different types of developers. As a result, peri-urban development processes that result in household poverty reduction are dependent on infrastructure and the availability of high-paying work opportunities.

2.6.1. Social Consequence of Urbanization

According to Rashid (2012), the world's urban population will grow more rapidly in the economically underdeveloped and least developed or urbanized continents. Shantytowns presently house one billion people, or one-third of the metropolitan population, and are considered as breeding grounds for societal ills such as crime, drugs, intoxication, poverty, and unemployment. There is a growing competition for resources in metropolitan areas, resulting in a

slew of bad consequences for many people, particularly farmers who have relocated to cities in quest of a better living and job possibilities, as well as dump casual laborers. In urban expansion slums, this can lead to dangerous consequences.

Since social infrastructure is focused in the center, people in the prolonged area rely on proximity to facilities. This involves waiting for work, the market, and other basic social needs. Low-income households will continue to live under such severe social constraints on the fringe. There is also a probability of segregation from city development and being sandwiched between the rich, creating a class difference. This began to hasten the migration of the underprivileged groups, particularly the fan community who already inhabited the area.

Mejia (1999) stated that even urban rich or middle-class incomers whose income permits them to commute may be attracted to the liveliness and benefits of the facilities in the center. Thus, the community in the periphery could face problems of a solidarity network, survival strategies, and systems of power in which the social and economic activities are linked to their original location.

2.6.2. Economic Effect of Urban Expansion

According to Grant (2008), as activities advance, the outcomes can include a shift in costs and a sharp increase in prices, effectively pricing the local working class out of the market, including functions such as hiring local governments.

People in emerging countries are relocating to cities. The poor go from the city core to the periphery to dwell or renovate the city. These areas will require infrastructure such as power lines, water pipes, and drainage lines, as well as road construction. This entails significant development costs, which place a strain on the municipal government's budget. The municipality is frequently unable to offer, leaving residents without basic essentials. As a result, the majority of citizens are subjected to exorbitant living costs. Furthermore, the neighborhood has a limited number of job openings. The challenge may arise because they have lost their source of income.

2.7. Theoretical Framework of Urban Expansion

At different times different theoretical explanations attempted to see the effect or impact, causes, and consequences, and driving forces of urban expansion, particularly on surrounding peri-urban agricultural communities. This analysis, however, was based on three hypotheses of urban

expansion proposed by Barnes et al. (2001). The first is population growth theory, which claims that increases in the urban expansion are due to increases in urban population, whether through rural-to-urban migration, urban-to-urban migration, or natural growth in the surrounding metropolis. The second one is the economic growth theory. It focuses on the basis of three different factors. The first factor is the urban expansion of the economy, such as per capita income and employment rate increases, the increment in the demand for new housing places, and related infrastructure. Second, the establishment of new industries at the urban periphery removes farmers from their farming land possession. The third is the development policies of the government, which emphasize the government's action to use bridge land for urban development. According to this viewpoint, there may be variations in land-use strategies and development regulations, which impede the social and economic phenomenon of urban edge agricultural communities. According to Barnes et al. (2001), the lack of proper planning policies and the failure to enforce them are sources of unrestricted urban expansion that disrupt zoning structures (residential, commercial, industrial, institutional, and other land uses) and ultimately intimidate the urban surrounding agricultural peoples of developing countries.

The sociological urban expansion theory, according to Briassoulis (2000), emphasizes the role of social ties, human agency, sociocultural changes, and social networks in bringing about special, political, economic, and other changes. This theory was inextricably tied to the human ecological theories published by Robert Park and Ernest Burgess in 1925, which linked human behavior to the physical and social environment in urban and rural settings.

2.8. Conceptual Framework

To be more specific, the following conceptual framework may be seen based on these theoretical frameworks, which seek to highlight the driving forces, processes, and effects of urban expansion on peri-urban people.

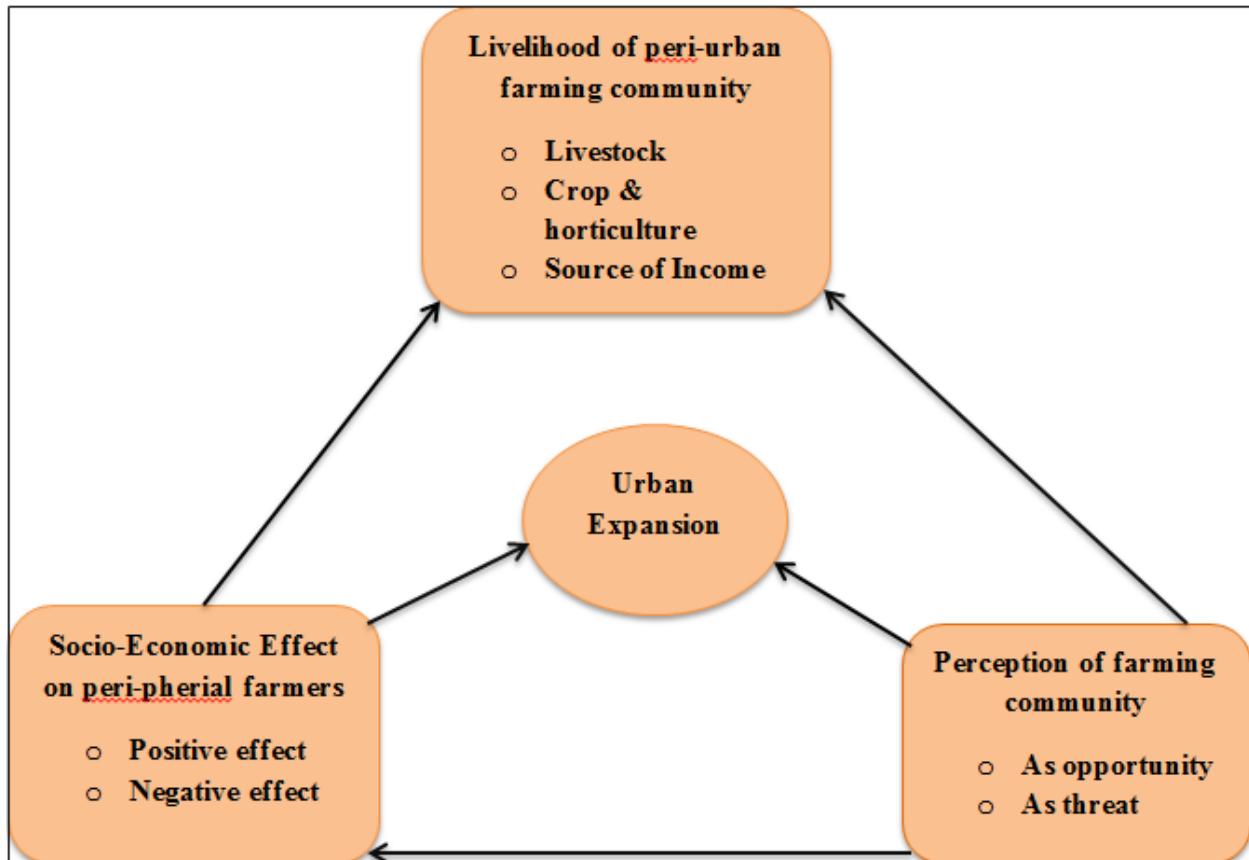


Figure 2.1: Conceptual Framework of the Study

Source: Formulated by the Researcher (2021)

Urban expansion is synonymous with urban sprawl, is the extension of the attentiveness of people of urban settlement to the surrounding area whose function are non-agricultural. As Fekadu, (2015), discussed urban expansion is a common phenomenon in both developed and developing countries. However, in developing countries urban expansions are known with negative effect. The major effects contributing for rapid urban expansion in Ethiopia are higher natural population growth, rural to urban migration and spatial urban development.

Livelihood Changes: As mentioned by Belay, (2014) & Nigusie, (2011), urbanization is an unavoidable phenomenon that ultimately converts agricultural land into urban land which may impact the farmer’s livelihood, agricultural production, and consumers of the surrounding area negatively. The land is a very critical resource for the livelihood of peri-urban households. The peri-urban areas farming community engaged in agricultural activities, like crop and horticulture, and livestock as a source of income. Livelihood change is mainly determined by the size of land,

education, and skill of individuals. Most of the time, peri-urban areas are affected by urbanization. In peri-urban areas, farmers use their land as a means of livelihood. The expansion of urban areas into surrounding farming communities has far-reaching consequences for the social, economic, and cultural life of affected communities. For instance, family disturbance, neighbor conflict, and unemployment induce seasonal migration. Farmers who lost their farmland partially or completely because of urbanization may engage in daily labor, petty trade, and informal employment like guarding. However, these livelihood alternatives are used only for the survival of the household.

Socio-Economic Effects: Horizontal urban expansion surrounding farming communities has many effects on the farmers who have lost their farmland. These effects negatively affect their crop production, assets, and livestock. As discussed by Muluwork (2014), urban expansion has directly or indirectly affected the production of livestock in rural farming communities, which plays multiple roles in creating wealth for farmers. Thus, urban expansion to peri-urban areas may expose farming communities to loss of assets, reduction in production and productivity, and livestock. As a result, farmers with large family sizes will be exposed to unemployment and poverty (food insecurity) for the reason that they are not well-educated and skilled, rather they depend on their agricultural production.

Perception: When urbanization is unavoidable, the farming community's perceptions and attitudes toward incorporating their surroundings may have positive or negative consequences. More specifically, the positive effects of urbanization on rural livelihoods, well-planned and managed urban growth and development can serve as a positive factor for rural livelihoods, such as increased demand for agricultural products, access to developed extension services, educational and medical facilities, and non-farm employment opportunities. Unplanned urbanization, on the other hand, has a negative impact on rural livelihoods due to changes in land use and cropping patterns, decreased arable land, increased farming sector unemployment, high food commodity prices, poor water quality and scarcity, rural-urban migration, and increased competition between agricultural and residential uses of natural resources.

CHAPTER THREE: METHODOLOGY AND THE STUDY AREA

3. Brief Description of the Study Area

This research study was conducted in Bishoftu city, the Oromia Regional State, East Shewa Zone. According to Bishoftu City Administration (2021), Physical and Socio-Economic Profile, Bishoftu city is found in the east Shewazonal administration and it was founded in 1917 with the coming of the Ethio-Djibouti railway. Before the arrival of the railway line, the area of present day Bishoftu and its surroundings was known collectively as 'Ada'aa'. Ada'aa was inhabited by different branches of Tulama Oromo such as the Handa, Ilu, and Liban, were the three clans that had been predominantly inhabited in the area.

According to Oromia Urban Planning Institute, (OUPI, 2009), the establishment of the railway increased the growth of the Town and the expansion of trade along the railway line. As trade expanded, there occurred an increase in population due to the influx of merchants who opened shops and small inns in Bishoftu. In addition, the other phenomenon that enhanced the growth of Bishoftu city was the establishment of Imperial Air Force in 1947. Since its establishment, the Imperial Air Force started to function both as Training School and Head Office. The establishment of the Air force with its full personnel had encouraged some businessmen to be engaged in recreational and other services. Accordingly, some private hotels and shops were established following this event.

Gradually, the city had developed from a station center to a large and big city. The Municipality of the city was founded around 1943 Ec. It has expanded its horizon to reach out to the people and provide diversified socio-Economic services including the provision of infrastructure development, affordable housing and sanitation, public parks development, fire and emergency services. According to Bishoftu City Administration (2021), previously Bishoftu City had 14 Kebeles. However, for administrative simplicity in real circumstances currently the city has reduced these kebeles into nine and four Sub-Cities for administrative convenience. Bishoftu is a rapidly growing city both in terms of population and economy. One can also see the dynamisms of the city in various aspects. The city has been experiencing a high population growth compared to other cities of the region. Various studies have indicated that rural-urban and urban-urban migration accounts to the high increase in population of the city than the fertility

3.1. Geographical and Demographic Information

3.1.1. Physical Environment/Scene

Bishoftu is the country's largest and most populous city, with a variety of distinct characteristics. It lies 47 kilometers southeast of Ethiopia's capital, Addis Ababa, and 52 kilometers southeast of Adama. The city is located between the towns of Dukem and Mojo. It is situated between latitudes 80451 and 80471 north and longitudes 380561-390 east. The city is bounded by Yerer Selassie in the north, Wedo and KetaJara in the south, Kality in the east, and Dire Town and the peasant association in the west, encompassing a total area of 20574 hectares.

The name Bishoftu is derived from the Afan Oromo word "Bishaan," which means "water." Hora Arsade and Babogaya are volcanic craters Bishoftu originally comes from the Afan Oromo word "Bishaan," which means "water." Hora Arsade and Babogaya, Bishoftu, Cheleleka (seasonal), Kilole, Kuriftu, and Green Lake are some of the volcanic crater lakes that exist. Despite the fact that the historical name of the town of Bishoftu is tied to the abovementioned reality, the monarchy changed the city DebreZeit after the Italian invasion in 1947, ignoring the society's cultural history up until the Derge rule. However, the name Bishoftu had been thriving among Oromos in the place of Debrezeit, so that it was renamed as the former beginning with the eruption of the new revolution, i.e., 1984/1985 E.C.

In terms of development, it was the political heart of the Ada'a District from 1983 to 1994 E.C. It was renamed as a first-level city with a Mayor, Municipality Administrator, municipal councils, and city cabinet members starting from 1995. The city has grown from a little station to a massive and populous metropolis. The city's municipal government was established about 1943 E.C. It has broadened its horizons in order to reach out to the public and provide a variety of socioeconomic services, such as infrastructure development, affordable housing, sanitation, public park development, and fire and emergency services. The city is currently divided into 14 Kebeles for administrative convenience in real-world situations. Large institutions such as the Great Ethiopian Air Force, several higher education institutions, agricultural research facilities, galleries, and the like are also located in the city. The city of Bishoftu was purposefully chosen because of its proximity to Addis Ababa.

size of 100,114 (CSA 2007), but according to the city administration (2021), physical and socio-economic profile based on a household survey conducted in 2020 by the city administration, the population size of the city is projected to be about 234, 971, of which 118,346 (male) and 116,626 (female) and with an average growth rate of 4% per annum. In an urban environment, migration (rural to urban) or urban to urban, has a predominant role in changing the population characteristics and reflects the urbanization rate. Much of the population growth has been the result of internal migration and expansion of different pulling factors. The city has an economically independent population that accounts for about 68% and only 4% of the total population is above 65 years of age. Kedir (2010) states that the population size of Bishoftuis the fourth-largest urban center in the Oromia Region, sitting next to Adama, Jimma, and Shashemene.

It is one of the cities that have been experiencing a sharp rise in population over recent years through migration. Thus, the motive behind this study was to investigate the perceptions and realities of the farming communities towards urban expansion. Currently, Bishoftu city is one of the rapidly expanding towns in the Oromia Regional State.

3.1.3. Topographic Features /Landscape

Bishoftu and its environs are one of the most appealing regions in the country in a variety of ways. The village is situated in one of the country's rich highlands. Bishoftu and its environs are noted not just for their fertility but also for their gorgeous terrain and topography, as well as more appealing natural lakes. Because of its comfortable topography and weather conditions, as well as the attractive natural beauty of its surroundings for investment, work, and settlements, it is a rapidly growing town in the country, both in terms of population and economy.

A typical description of the topographic landform of Bishoftu city and its environment comprises vast plain areas, swampy and water bodies, soft, rounded hips and hilly mountains, steep and rounded hills, and associated undulating dissected areas. The altitude of Bishoftu city is as low as 1746m and as high as 1955m above sea level. Therefore, the town is situated at an average elevation of 1858.5m above sea level. Temperature, humidity, rainfall, and frequency of climatic change all affect the processes of weathering and erosion in each climatic zone. These factors have an effect on the pattern signatures of the different landforms. There are significant land

features that obscure the development of the city on one hand and interrupt the continuity of development on the other hand. Thus, due to the undulating land features of the city, by and large, the construction and provision of physical infrastructure were costly and difficult.

3.1.4. Socio-Economic Conditions

The economic basis of the community in the kebeles is rain-fed farming practices and livestock rearing. Mixed agriculture is still the most important source of income. Agriculture is an important household resource that plays a significant role in household food security and income generation. Bishoftu city is located within the highly agriculturally productive part of Oromia Regional State's Esat Shewa zone of Adea woreda. Out of the 14 kebeles embodied in the city, five of them are among the highly productive kebeles of Adea woreda, especially Teff, chickpea, and other legume crops like pea and fob bean. The city area and its surroundings have favorable climatic conditions for agriculture, animal rearing, and agro-industry planting because of their accessibility and proximity to the national capital market. In order to ensure sustainable socio-economic development, the role of investment in the city impacts the livelihoods of its residents. Bishoftu has many advantages that make it suitable for industrial development. The geographical location of the city is one of the major factors that are attributed to the industrial development of the city. The city was experiencing rapid urban expansion due to its suitability and good climatic conditions. Investment and industrial factories were pulling factories for the expansion of the town to surrounding farming communities in the study areas.

3.2. Sources of Data

The researchers, in so doing, in this study to investigate the attitudes of the surrounding farming community towards urbanization, gathered the necessary data and information required from both primary and secondary sources.

The primary data were gathered through household surveys and a participatory approach that included focus group discussions, key informant interviews, and the use of both open-ended and closed-ended questionnaires. Secondary data was collected and used from the relevant document review and different publications (like books, journals, research reports, and work papers, among other internet-accessible documents).

3.3. Design of the Study

The study focuses on exploring the attitudes and perceptions of the farming communities toward urbanization. Based on Johnson and Onwuegbuzie (2004), owing to the flexible nature of the problem under study, both qualitative and quantitative approaches are chosen. The mixed-method is a technique of combining quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study. Creswell (2009) pointed out that conducting mixed-method research is not easy. Mixed methods studies are difficult to conduct since they are seen to necessitate more effort and financial resources, as well as more time. Mixed-method research is distinguished by its methodological heterogeneity, which typically results in research with broader viewpoints than mono-method designs.

Furthermore, this approach aids in understanding informants' awareness, opinions, and perspectives on current social, cultural, and economic transformations in the studied area. The overall purpose and premise of mixed methods research are that integrating quantitative and qualitative approaches can aid researchers in better understanding study problems and complex phenomena than either strategy alone.

The researcher utilized a mixed-method research approach in this study. The quantitative technique was utilized to generate data in quantitative form, which could then be formally and inflexibly submitted to accurate, objective, and generalizable quantitative analysis via the interview schedule. Furthermore, qualitative data was concerned with the subjective assessment of attitudes, views, and perceptions in instances where the researcher's insights and impressions were uncertain in generating results. This form of research, according to Polit & Hungler (1999), describes what already exists and may aid in the discovery of new facts and meaning.

3.4. Sampling Techniques

3.4.1. Sampling Frame

The list of 1254 farmers engaged in farming activities served as the sampling frame for identifying respondents. The rosters of the kebele administration would compile a list of farming households in each peripheral kebele.

Finally, the households for the study kebeles were chosen using a systematic sampling procedure.

Table 3.1: Sampling Frame Used to Identify Sample Households

<i>Kebele</i>	<i>Total Number of population</i>			<i>Number of total Households</i>			<i>Number of Farmers Household</i>
	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Total</i>
<i>Kajima</i>	4730	4829	9559	1246	219	1465	700
<i>Kality</i>	7024	5547	12572	6646	1933	8610	554
<i>Total</i>	11754	10376	22131	7892	2152	10075	1254

Source: Bishoftu Town Administration, Physical and Socio-Economic profile 2021.

3.4.2. Sample Size Determination

Bishoftu has broadened its horizons in order to reach out to the public and provide a wide range of socio-economic services, including infrastructure development, affordable housing, sanitation, public park development, and fire and emergency services. The city is currently divided into 14 Kebeles for administrative convenience in real-world situations. Dire Jitu, Kudada, Hora Bishoftu, Debaso, Chaleleka, Filtu, Biftu, Keta, Birbirsa Foka, Genda Gorba, Gerbicha, Kajima, and Dhibayu, Kurkura, and Dembi, and Kality have all been added to its size. To the special case, the five surrounding rural vicinities were recently included under the city administration. However, from these, the town’s rapid urban expansion has extremely expanded to the west of the town in the southeast direction to "Qajima" kebeles and to Kality kebele, where currently most of the urban expansion has occurred.

The researcher was trying to make an attempt to take a representative sample of households from this highly surrounding urban expansion occurred. Based on this, the researcher purposively selected two kebeles of surrounding urban areas, such as Qajima’ kebeles and Kality kebele.

The sample size was determined using Taro Yemanis's (1964) statistical formula due to its simplicity of application and having a 95% confidence level.

As a result, the researcher utilized the following statistical formula to establish the sample size from all of the household heads.

$$n = \frac{N}{1 + N(e)^2} \dots \dots \dots 1$$

$$\frac{N}{1+N(0.05)^2} = \frac{1254}{1+1254(0.05)^2} = 303$$
 where N is the total population (population size), n is the sample size, e is the level of precision, and 1 is the constant value.

The data for the study was obtained from rural farming communities in the Bishoftu city area in order to meet the objectives and make the study more transparent. Sampling strategies were used to collect enough samples.

Table 3.2: Sample Size Determination Proportionality

<i>Kebele</i>	<i>Number of Farmers Household Total</i>	<i>Sample size based on proportionality sampling</i>		
		<i>Male</i>	<i>Female</i>	<i>Total</i>
<i>Kajima</i>	<i>700</i>	<i>166</i>	<i>3</i>	<i>169</i>
<i>Kality</i>	<i>554</i>	<i>124</i>	<i>10</i>	<i>134</i>
<i>Total</i>	<i>1254</i>	<i>290</i>	<i>13</i>	<i>303</i>

Source: Own competition, June, 2021

The targeted total populations were 1254 from selected study areas of two kebeles. The respondents were select from Kajima kebele were 169 and Kality kebele 134 totally 303 respondents were selected from each kebeles.

3.5. The Target Population of the Study

The researcher's target populations were only farming communities that survived in the surrounding Bishoftu city of Kajima and Kality kebele, farmers, kebele chairman, and officials from the Bishoftu town municipality office. The sample was drawn from selected kebeles of Kajima 169 and Kality 134 of farming households. The total number of farming households in that two kebele is 1254. Respondents were farmers who live in peripheral areas of the town and engage in farmland and agricultural activities, which are the targeted sample.

3.6. Methods of Data Collection

The study collected the perceptions and attitudes of the farming community towards urbanization and its effect on livelihoods as it naturally occurs. Data collection used the following instruments and tools: the household survey, Key Informant Interviews (KIIs), Focus Group Discussions (FGD), and Field Observation.

The Survey Method

In the survey method, the researcher used an interview schedule to obtain responses from the selected 303 samples. The content of the survey focused on surrounding farming communities' attitudes and opinions on the negative and positive effects or pros and cons of urban expansions as well as change in livelihoods.

In-depth interview

The in-depth interviews were conducted with two female farmers and three male farmers of the study areas. It was managed by checklists to obtain qualitative information on the surrounding farming communities' attitudes and opinions on ongoing urban expansion in the area and how their livelihoods are affected. Furthermore, broader issues concerning the social, economic, and environmental consequences of urban expansion on the perceptions of the surrounding urban farming community were raised and discussed with farmers from the communities.

Focus Group Discussions (FGDs)

According to Marshall & Rossman (2006), a focus group is conducted to facilitate the discussion among a small group of stakeholders, and designed to obtain perceptions in a defined area of interest in a permissive, non-threatening environment. In this study, it was used to produce data on topics that require group perspectives and, sometimes, consensus or disagreements. This method of data collection may have a comparative advantage over other methods in that it helps to secure a maximum level of interaction among people within a relatively short time. It helps to capture and understand direct evidence about the similarities and differences in the opinions of the participants with the assumption that individuals' attitudes and beliefs do not form in a vacuum; that is, people often need to listen to others' opinions and understandings to form their own. Moreover, this method is believed to be socially oriented where the participants are in a natural atmosphere.

Based on this, from two the study kebeles two FGDs were conducted for this study. The first FGD discussion was held with the selected farmers from Kajima kebeles. The second FGD group discussion was held with the social class of the farming community surrounding urban areas, who had already been touched by the wave of the urbanization processes and whose

livelihoods were being affected. In each group, the discussants were between 5 and 7 members and totally 12 farming communities were participated on the discussion. They were selected purposively for a particular purpose.



Figure 3.2. FGD participants

Field Observation

Field observation was carried out twice. The purpose of the first visit was to get an overview of the study area. Field observation was one of the tools of data collection. It covered two kebeles of Bishoftu city. The main aim of field observation was to engage the researcher with what was addressed in theory parts with a practical approach that can help to set the research topics for further studies along with the problems beyond the sectors. This enabled a collection of the necessary visual information with the help of a hand digital camera from the existence of urban expansion. The second was during data collection.





Figure 3.3: Urban Expansion Surrounding Farmers' Farmland in Study Area

Source Photo by Habtihun Gidyew May, 2021

3.8. Methods of Data Analysis

The collected data from different sources were organized into meaningful facts and given detailed explanations. The data were analysed both from quantitative and qualitative sources. The qualitative data, which included data from interviews and other secondary sources, was

analysed. The quantitative data was first described and presented using a pie chart, figures, and tables. These were managed and analysed by using the Statistical Package for Social Sciences (SPSS) software and Micro-soft excel program. The data obtained via the interview schedule/survey, KIIs, FGD, and observations were analysed using thematic summary sheets. First, field notes were written, and then the content of the responses was summarized and analysed. The documents such as reports and articles were also used to supplement quantitative and qualitative data.

3.9. Econometrics Analysis and Model Specification

A popular probit model was used to analyse the opinions of neighbouring farming villages regarding urban expansion, to see if they saw it as a threat or an opportunity, based on the theoretical review and empirical considerations. The investigation of views concerning what farming communities see as risks or possibilities to urban expansion in the study area is best fit by a normal probit model. The data model analysis was carried out using SPSS software.

Based on a review of previous studies, key variables identified were quantitative variables (household size, farm size, distance, and income), as well as qualitative variables (age, sex, marital status, education level, income variability, and attitudes), were included in the model as variables. The model assumed a standard normal distribution by including these variables. U_i is a disturbance term and is assumed to have zero mean and constant variance.

The type of econometric model to use for analysis is largely determined by the nature of the dependent variable. When the dependent variable, Y , is quantitative, the goal is to estimate its expected or mean value based on the regressors' values. The goal of models with qualitative Y is to find the probability of something occurring. Qualitative response regression models are sometimes called probability models, according to Gujarati (2004). A farming community in this study saw urbanization as either a threat or an opportunity, which is a qualitative response.

Following Balangun and Yusuf (2011), the binary probit model through the maximum likelihood estimation method is employed in this study. The probit model is preferred to the linear probability model (LPM) because the LPM does not constrain the probabilities to lie within the range of 0 and 1 since the ordinary least square estimation can give results where $y_i > 1$ or $y_i < 0$.

When the dependent variable is dichotomous, the binary probit regression is used to analyze the relationship between the independent variables and the dependent variable. A binary response serves as the dependent variable. It can take two different values: 0 and 1. When a study involves a qualitative response variable or regressand, that takes two values, Gujarati (2004) recommends using binary probit. When the dependent variable, Y, is quantitative, our goal is to estimate its expected or mean value based on the regressor values. The goal of qualitative models is to find the probability of something happening. Qualitative response regression models, on the other hand, are frequently misunderstood. In models where Y is qualitative, the objective is to find the probability of something happening. However, qualitative response regression models are often known as probability models. Hence, binary probit regression is used to measure the association between the outcome/dependent variable and the independent variables.

3.9.1. The Probit Model

In this research, the choice of an econometric model for analysis is mostly determined by the nature of the dependent variable in order to analyze the attitudes of surrounding rural farming communities on urban expansion. Our goal is to determine the expected or mean value of the dependent variable, Y, based on the regressor values when Y is a quantitative variable. The purpose of qualitative Y models is to figure out how likely something is to happen. Qualitative response regression models are sometimes called probability models, according to Gujarati (2004). An agricultural community in this study saw urbanization as either an opportunity or a threat, which is a qualitative response. The functional expression of the probit regression model can be written as

$$f(\mu_Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$$

3.9.2. Determinants of Attitude towards Urbanization

Following Greene (2012), the probit model for perception on the urban expansion specified as:

$$P_i = \frac{1}{1 + e^{-Z_i}} \quad (1)$$

Where P_i is a probability of the attitude of i^{th} farming household perceived as an opportunity by urbanization and ranges from 0 to 1; Z_i is a functional form of explanatory variables (X_i). The odd to be used can be defined as the ratio of the probability that farm HHs perceived

urbanization as an opportunity by P_i to the probability that he or she perceived, as a threat is $1 - P_i$.

$$1 - P_i = \frac{1}{1 + e^{Z_i}} \quad (2)$$

Dividing equation (2) by equation (4) and simplifying gives

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i} \quad (3)$$

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i} = e^{\beta_0 + \sum_{i=1}^m \beta_i X_i}, \quad i=1,2,3,\dots,i \quad (4)$$

Where; $Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + U_i$

Taking the natural logarithm of the odds ratio of equation will result in what is known as the probit model as indicated below.

$$Y_i = \ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \beta_i X_i + \dots + U_i, \quad i = 1, 2, \dots (5)$$

Hence, the binary probit model for attitudes of farming communities towards urban expansion was determined by a function of farm household heads age, sex of the household head, marital status of household heads, educational level of the household head, HH family size, farm size of the household, and income of household head, livestock holding size of the household, intention to leave farm areas, and distance of the household from urban centers. Therefore, the model has employed the following form.

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + U_i$$

Where,

P_i = is dependent variable stands for the attitude of farming communities; the probability that $Y=1$ (that a given household is perceived urban expansion as an opportunity);

$1 - P_i$ = the probability that $Y=0$ (that a given household does perceive as an opportunity or threat),

β_0 is the intercept; X_1, X_2, \dots, X_k are independent variables that affect HHs attitude and $\beta_1, \beta_2, \dots, \beta_k$ are coefficients associated independent variables of X_1, X_2, \dots and X_k and U_i disturbance term.

If $\beta < 0$, the likelihood of the outcome decreases; if $\beta > 0$, the likelihood of the outcome increases, and $\beta = 0$, the independent variable does not have any effect on the likelihood of the outcome.

$$Pr. (y=1)_{x_1, x_2, \dots, x_k} = \phi(B_0 + B_1x_1 + B_2x_2 + \dots + B_kx_k) + U$$

Y= Attitude towards urbanization

$$X_i = (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10}, \epsilon)$$

Where: U= standard normal distribution

Where: X = Effect of urban expansion on the livelihood of the peri-urban Farming community

X1= Age of household head (HHage)

X2= Sex of household head (HHsex)

X3= Marital status (MastaofHH)

X4= Education level of household (HHedu)

X5= Family size (Fasize)

X6= Farm size (Landholding size (LHSize))

X7= Annual non-farm income of the household (Income)

X8= Livestock asset holding of household (TLU)

X9= Intension to leave the farming area (Dointeleafararea)

X10=Distance from Urban centers (Distfrurbcent)

$$Pr = \beta_0 + \beta_1HHage + \beta_2HHsex + \beta_3MastaofHH + \beta_4HHedu + \beta_5Fasize + \beta_6LHSize + \beta_7Income + \beta_8TLU + \beta_9Dointeleafararea + \beta_{10}Distfrurbcent + \epsilon$$

β is vector of parameters to be estimated, β_0 is the intercept term; and ϵ_i are the disturbance term.

3.9.3. Multi-collinearity Test of Explanatory Variables

The presence of multi-collinearity among explanatory variables was confirmed prior to the estimation of the probit regression model. When the predictor variables have a perfect linear connection, the regression model estimate cannot be obtained uniquely. Collinearity refers to the fact that two variables are almost perfect linear combinations of one another (Habshah et al., 2013).

The main worry is that when the degree of multicollinearity rises, the coefficient estimates in the regression model become unstable, and the standard errors for the coefficients might become

drastically exaggerated (Gujjarati, 2004). After the regression, we can check for multicollinearity by using the VIF (Variance Inflation Factor) tool. The variation inflation factor, or VIF, is a measure of how much something has changed over time. A variable with a VIF greater than 10 should be investigated further, as a rule of thumb. Many studies check the degree of collinearity using tolerance, which is defined as $1/VIF$. A VIF of 10 is comparable to a tolerance value of less than 0.1. (Guajarati, 2004). It implies that the variable can be thought of as a linear combination of other independent variables. The highest VIF is less than 10 according to this rule of thumb, confirming the lack of a relationship between the variables in the model.

3.9.4. Definition of Variables and Working Hypothesis

3.9.4.1. Variable Specification

As mentioned above, a normal probit regression model was used to investigate the perceptions of the surrounding farming community towards urban expansion in the study area. The variables considered include farming communities' demographics as well as socio-economic factors. In addition, the dependent variable is also described in this section.

3.9.4.2. Dependent Variable

The dependent variable employed in this investigation is described briefly in this section. The perspectives of farmers who perceive urban expansion as an opportunity versus farmers who see urban expansion as a threat are the dependent variables. The next sections go over these variables in detail.

Perceptions of a farming community that sees the urban expansion as an opportunity or as a threat: The dependent variable is of dichotomous nature, representing the perceptions of the farming community. It is a dummy that takes the value of 1 for those who see urban expansion as an opportunity and 0 otherwise.

3.9.4.3. Independent Variables

The independent variables are demographic, socio-economic, and institutional factors that determine the general outlook of perceptions of surrounding the farming community towards urban expansion in the study area.

Table 3.3: Definitions of Variables, Measurements, and Hypotheses

Variables	Definition	Measurement	Hypothesis
HHage	Age of household head	Years	+/-
HHsex	Sex of household head	1= male, 0= female	+
Masta of HH	Marital status of Household	Married = 1, unmarried = 0	+/-
HHedul	Education level of household	1 if literate, 0 Illiterate	+
FaSize	Family size	Adult equivalent	+
LHSize	Landholding size	Hectares	-
NonfaIncome	Non-farm annual income of household	Ethiopian Birr	+
TLU	Tropical livestock unit	Number	+/-
Dointeleafararea	Intention to leave farming area	1= Yes, 0= No	-
Distfrurbcent	Distance from Urban centers	Km	-
perofHH	perception of household head	1=Good, 0= bad	+/-

Age of Household (HHage): Contrary to popular opinion, the age of the household head has a negative relationship with the effects of urban expansion on the peri-urban community. It is a continuous variable that represents the farmers' age in years. Household heads in their eighties and nineties are regarded to be resourceful. On the other hand, young household heads have a long investment horizon, which could have a positive or negative impact on urban expansion.

Sex of the Household (HHSex): A dummy variable that takes "0" if the head is a woman and "1" if the head is a man. The variable did not show any signs of influence.

Marital Status (MastaofHH): This is the variable measured in married or unmarried household farmers in the study area.

Education of the Household head (HHedu): This is a categorical variable measured using the formal schooling of the household head. Educated households have better skills, better access to information, and the ability to process information. Therefore, the education level of households is hypothesized to influence the decision on urban expansion positively. (Fakoya et al., 2007).

Family Size (Fasize): Family size is a continuous variable that is measured in man equivalents or the active labor force availability of a household. This is a term that describes a group of people that live together in the same house. The larger a family becomes, the more likely it is that extra career opportunities will be required.

Landholding Size (LHSize): The total area of land possessed by a farm household, measured in hectares, is known as the landholding size (LHSize). The opinions of the farming community regarding urbanization were predicted to be negatively impacted by landholding households. This is because urbanization is more likely to create non-farm activity in households with smaller amounts of land.

Non-farm Income (income): is the continuous variable representing smallholder income measured in Birr. This was a variable expected to influence positively improving the livelihood of farming communities' households. The non-farm income of limited landholding of farming community households is an opportunity to participate in other income-generating activities.

Livestock Holding: This refers to the household's total number of animals as measured in TLU. The household will be less inclined to engage in other non-farm activities as the overall number of animals in the family grows. This can be related to rising household wealth and income, which results in more money being accessible in households and reduces demand for urban expansion.

Intention to Leave the Farming Area: - This is a dummy variable that is measured as 1 for farmers who see urban expansion as a positive opportunity and 0 for farmers who do not. It is projected to stifle urban growth.

Distance to Urban Center: It is a continuous variable that is measured in kilometers and represents the distance that families must walk or drive to get to the nearest urban center. The lower transportation expenses, loss due to spoilage, better access to urban information, and less time spent traveling, the closer the home is to the urban center. As a result, farmers who are close to the urban core are more likely to see urban expansion as a positive opportunity than those who are further away.

3.10. Ethical Consideration

In this study, the interests of the informants for the study and those of the community at large are protected at all levels of the research process. Due procedures were followed to access information from any source. Concerned bodies, including farming community members, were informed of the objectives of the study. During gathering information from different concerned bodies, the researcher showed a positive approach at any time to the respondents. The respondents asked questions given by (answer) different things according to the needs of the researcher. The respondents were giving clear information to the researcher when asked

aquestion, and the researcher expected good ethical behavior from the respondents during the research studies.

CHAPTER FOUR: RESULT AND DISSCUSION

4.1.Introduction

The findings of the study were examined and explained in this section to respond to the research study question and the research purpose. This chapter covers demographic characteristics, respondents' awareness of urbanization and urban expansion, farming communities' perceptions of urban expansion in the study area, respondents' livelihoods and sources of assets, factors that contribute to city development in the study area, the socio-economic effect of urban expansion, and farming communities' attitudes. Finally, this chapter deals with the interpretation of data gathered through a key informant and focus group discussion interview, survey questionnaires, personal observation, and presentation to investigate attitudes surrounding farming communities towards the urban expansion of Bishoftu city.

4.2.Descriptive Analysis

4.2.1. Demographic Characteristics of Respondents

The demographic data consist of age, sex, household head, marital status, religion, educational level, and family size of the respondents. The descriptive statistics mainly the frequency analysis was used to examine the demographic characteristics of respondents.

The Respondent Household Age

The table (4.1) result showed that 19 (6.3%) of the respondents were between the age of 18 - 29, 108 (35.6%) of the respondents were between the ages of 30- 41, 71(23.4%) of the respondents were between the age of 42 - 53, and 105(34.7%) of the respondents were above the age 53 years old. In this regard, the result indicated that the majority of the respondent was between the age group of 30-41 and above 53 years respectively.

Table 4.1: Age of Respondent

Variable	Category	Frequency	Percent
Age	18-29	19	6.3
	30-41	108	35.6
	42-53	71	23.4
	above 53	105	34.7
	Total	303	100

Source: Own Survey, 2021

Sex of Household Respondent

Figure 4.1 shows that 290 (95.7%) of the responders were men, whereas 13 (4.3%) were women. This suggested that men made up the majority of the respondents.

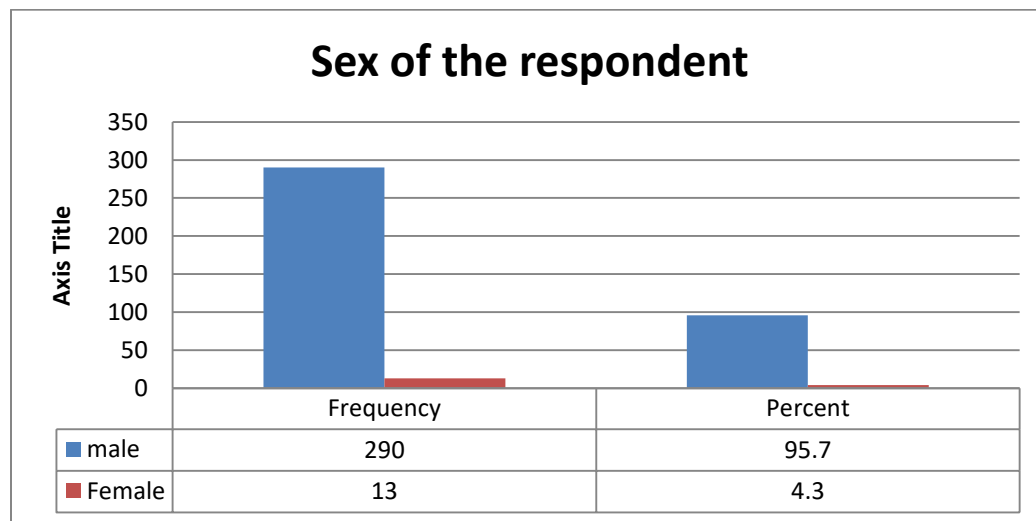


Figure 4.1: Sex of the Respondent

Source: Own Survey, 2021

Sex of Household Head Respondent

According to Table 4.2, 13 (4.3 percent) of respondents were female household heads, while 290 (95.7 percent) were male household heads. The majority of the respondents were male household heads, indicating that they were the majority of the respondents. This finding indicates that the majority of respondents are male household heads who are engaged in farming activities and that males have more access to information and are more aware of urban expansion than females.

This finding is in line with a study done in Hawassa, Tabor Sub-City by Firew Bekele (2010), in which the majority of the respondents (85%) are male and the rest (15%) are female.

Table 4.2: Household Head of the Respondent Sex of the Respondent

Variable	Category	Kebeles		Frequency	Percent
		Kality	Qajima		
Sex	Female	10	3	13	4.3
	Male	124	166	290	95.7
	Total	134	169	303	100

Source: Own Survey, 2021

Marital Statuses of Respondents

Table 4.3 shown that 36 (11.9%) of respondents were single, 267 (88.1%) of respondents were married, and 13 (4.3 %) of respondents were widowed. This indicated that majority of the respondent was married and engaged on farming activities in the study areas. This result of findings is almost similar to studies conducted by Shiferaw Tadele, (2019), where 85% of the household respondents were married and engaged in farming activities.

Table 4.3: Marital Statuses of Respondents

Variable	Category	Kebeles		Frequency	Percent
		Kality	Qajima		
Marital Status	Unmarried	36	0	36	11.9
	Married	125	142	267	88.1
	Total	161	142	303	100

Source: Own Survey, 2021

Residents of Respondents

Table 4.4 revealed that 215 (71.0%) of respondents' current residents were sub-urban and 88 (29.0%) of respondents' current residents were rural area. This revealed that the majority of the respondents live in suburban areas.

Table 4.4: Current Residents of Respondents

	Frequency	Percent
sub-urban	215	71
Rural	88	29
Total	303	100

Source: Own Survey, 2021

Religions of Respondents

Figure 4.2 shows that orthodox religion was practiced by 159 (52.5%) of respondents, Protestant religion was practiced by 113 (37.3%), Muslims were practiced by 18 (5.9%), and other religions were practiced by 13 (4.3%) of respondents. This revealed that many respondents were orthodox or protestant in their religious beliefs. Beka Girma's findings are consistent with those of other studies she has undertaken (2016).

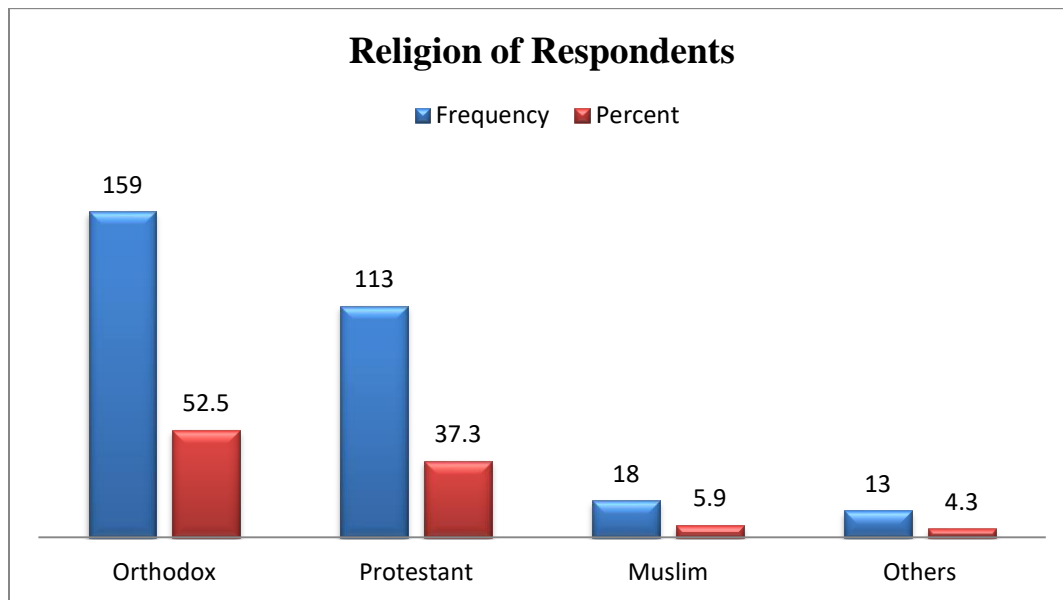


Figure 4.2: Religions of Respondents

Source: Own Survey, 2021

Ethnicity of the Respondents

Table 4.5 shows that Oromo ethnicity accounted for 215 (71.0%) of the respondents, whereas Amhara ethnicity accounted for 88 (29.0%). The bulk of the responders were of Oromo ethnicity, as evidenced by this.

Table 4.5: Ethnicity of the Respondents

	Kebeles		Frequency	Percent
	Kajima	Kality		
Oromo	103	112	215	71
Amhara	40	48	88	29
Total	143	160	303	100

Source: Own Survey, 2021

Educational Level of Respondents

Table 4.6 shows that 44 (14.5 percent) of the respondents were illiterate, 259 (85.5%) were literate. This revealed that the majority of the respondents were literate. The rural community's opinion of urban expansion has a positive link with the level of education of the households in the research area. This means that when a farmer's level of education rises, so does his or her perspective of urban expansion as a result of new information. As a result, many authors agreed that education was a better starting point for receiving new information (Melkie Erkie, 2016).

Table 4.6: Educational Level of the Respondents

Variable	Category	Kebeles		Frequency	Percent
		Kajima	Kality		
Educational level	Illiterate	17	27	44	14.5
	Literate	127	132	259	85.5
	Total	144	159	303	100

Source: Own Survey, 2021

Family Size of Respondent

Table 4.7 revealed that 32 (10.6%) of respondents' family sizes were 1–3, 157 (51.8%) of respondents' family sizes were 4–6, 83 (27.4%) of respondents' family sizes were 7–9, and 31 (10.2%) of respondents' family sizes were above 9. This indicated that the above half of the respondents' family size was 4-6.

Table 4.7: Family Size of the Respondents

Variable	Category	Frequency	Percent
Family Size	1-3	32	10.6
	4-6	157	51.8
	7-9	83	27.4
	Above 9	31	10.2
	Total	303	100

Source: Own Survey, 2021

4.2.2. Descriptive Analysis about Urbanization and Urban Expansion

In order to see the general awareness of the respondents, this section presents the descriptive statistics (frequency). Thus, the frequency indicates the sum of the response of the respondents.

4.2.2.1. Descriptive Analysis about the Awareness of Respondent's on Urbanization and Urban Expansion

Table 4.8 shows the frequency of awareness of respondents to urbanization and urban expansion. 289 (95.4%) of respondents were aware of the urban expansion program in their surrounding area, whereas 14 (4.6%) of respondents weren't aware of the urban expansion program. 121 (39.9%) of respondents got the information from mass orientation, 47 (15.5%) of respondents got the information from mass media, and 135 (44.6%) of the respondents got it from both sources.

172 (56.8%) of the respondents strongly agreed that the study area is expanding rapidly, and 131 (43.2%) of the respondents agreed that the study area is expanding rapidly.

The general awareness of urban expansion results showed that the majority of respondents were aware of the urban expansion program in their surrounding area, and they got the information from mass orientation (meetings) and mass media. In addition, they are considered an opportunity and support urban expansion. However, the majority of the respondents have the intention of leaving their farming area.

Table 4.8: Descriptive Analysis about the Awareness of Respondent's on Urban Expansion.

		Frequency	Percent
Are you aware of about the urban expansion program in your surrounding area?	Yes	289	95.4
	No	14	4.6
	Total	303	100

If you are aware about urban expansion program, how did you get the information?	through mass orientation (Meeting)	121	39.9
	Through mass media	47	15.5
	All	135	44.6
	Total	303	100
Do you believe that the surrounding area of Bishoftu city area is expanding rapidly?	Strongly agree	172	56.8
	Agree	131	43.2
	Total	303	100

Source: Own Survey, 2021

4.2.2.2.Descriptive Analysis about Farming Community Perception on the Urban Expansion

The perspective of the farmer community toward urban expansion was revealed in Table 4.9. According to the findings, 240 (79.2%) of the respondents planned to leave their farming region. 63 (20.8 percent) of those asked claimed they had no plans to leave their farming area. According to the respondents, 133 (43.9%) saw urban expansion as a threat, while 170 (56.1%) saw it as an opportunity. The statement of living far from urban centers respondents' answers showed 84 (27.7%) 2Km far, 119 (39.3%) 4Km far, 82 (27.1%) 6Km far, and 18 (5.9%) 8Km far from urban centers. The below table 4.9 results on the statement of the perception of the effect of urban expansion on respondents' answers show that 56 (18.5%) very much beneficial, 139 (45.9%) somewhat beneficial, 17 (5.6%) not sure, 75 (24.8%) somewhat harmful, and 16 (5.3%) very much harmful.

Urbanization is an inevitable phenomenon that has brought many opportunities, according to information gathered from key informants and focus group talks. According to key informant interviews and focus group discussions, the farming community in the periphery has limited access to the market because they are located distant from the city core. For example, kebeles like Kajima and Kality do have more access to the market locally since they are close to the main road and urban center. Based on their perception, urbanization generates new business opportunities or attracts business, generates a range of new services, and provides employment for members of the farming community surrounding the town. This was also another benefit that was accruing as a result of urbanization in Bishoftu town. Some of the key informants and focus group discussions had seen urbanization as a threat because it had displaced them from their

farms and exposed them to insecure food, insecure livelihood conditions, and joblessness. This finding is supported by Tadesse & Imana (2017), Wegedie (2018), Muluwork (2014), and UN-Habitat (2010).

According to information gathered from focus group discussions, some of the built-up industries around farming communities in the study areas polluted the environment without a use treatment plan. The communities used their land for livestock, water streams, and grassland purposes. The liquid waste from the factories pollutes the river found near the factory. Many livestock uses the water near factories for drinking purposes and the grass around them for food. However, when the river is polluted by the liquid wastes of the industries or factories, it kills uncountable livestock like goats, sheep, cows, horses, donkeys, and dogs. In addition to that, the smell or chemical wastes of the factory exposed them to disease and unexpected expenses.

Table 4.9: Descriptive Analysis about Farming Community Perception on the Urban Expansion

		Frequency	Percent
Do you have any intension to leave your farming area?	Yes	240	79.2
	No	63	20.8
	Total	303	100
What is your perception about urban expansion surrounding your area?	as threat	133	43.9
	as opportunity	170	56.1
	Total	303	100
How far is your home from the town?	2Km	84	27.7
	4Km	119	39.3
	6Km	82	27.1
	8Km	18	5.9
	Total	303	100
What is your perception towards effect of urban expansion on you livelihoods?	Very much beneficial	56	18.5
	somewhat beneficial	139	45.9
	Not sure	17	5.6
	somewhat harmful	75	24.8

Very much harmful	16	5.3
Total	303	100

Source: Own Survey, 2021

According to the interviewee (Female farmers of Kality kebele)

I am 43 years old. I am Oromo ethnic group and wakefannaa followers around Ada'aa or Bishoftu. I am a farmer and my income is depending on agricultural activities. I had enough farmland and livestock. Land is our back bone. I lose 1.2 ha of farmland. My farmland was most close to the city. Like me those farmland removed and haven't farmland currently engaged to non-agricultural sector of income source such as employment as keeper in private organization, daily labor force and else. There are those highly affected by urban expansion and exposed to high competition for job, loss of mutual trust and understanding among the members of the community, increasing loss of identity and culture, and significant livelihood crises. However, as my opinion urban expansion, has negative effects, it also has many positive effects. As I think there is a problem with the city municipality administration to discuss clearly on the benefits of urban expansion and futures farming communities' livelihood dependence. I didn't talked much, but as my opinion urban expansion of the city was not inclusive of farming community. (My key informants from "Kalitykebele", May 2021).



Figure 4.3: Factories and investment of the area

Source: Direct observation and Photo by Habtihun Gidyew May, 2021

4.2.2.3.Descriptive Analysis of Livestock Resources

The Descriptive statistics analysis showed that the number of respondents, The result indicated 77 (25.4%) of respondents had one ox, 98 (32.2%) of respondents had two oxen, 37 (12.2%) of respondents had three oxen, 27 (8.9%) of respondents had four oxen, 11 (3.6%) of respondents had five oxen, 8 (2.6%) of respondents had above six oxen, and 45 (14.9%) of respondents couldn't have oxen.

In other words, the result of the number of cows showed 56 (18.5%) of respondents had one cow, 108 (35.6%) of respondents had two cows, 92 (30.4%) of respondents had three cows, 20 (6.6%) of respondents had four cows, and 27 (8.9%) of respondents couldn't have cows. The result of the number of heifers revealed that 112 (37.0%) of respondents had one heifer, 57 (18.8%) of respondents had two heifers, and 134 (44.2%) of respondents couldn't have heifers.

The result of the young bull's number indicated that 126 (41.6%) of respondents had one heifer, 81 (26.7%) of respondents had two bulls, and 96 (31.7%) of respondents couldn't have bulls. In addition, the result of the calves' number indicated that 50 (16.5%) of respondents had one calf, 54 (17.8%) of respondents had two calves, 19 (6.3%) of respondents had three calves, and 180 (59.4%) of respondents couldn't have calves.

The result of the sheep number indicated that 23 (7.6%) of respondents had one sheep, 58 (19.1%) of respondents had two sheep, 56 (18.5%) of respondents had three sheep, 27 (8.9%) of respondents had four sheep, 22 (7.3%) of respondents had five sheep, 39 (12.9%) of respondents had above six sheep, and 78 (25.7%) of respondents couldn't have sheep.

Table 4.10A, Descriptive statistics analysis result showed that 57 (18.8%) of respondents had one goat, 38 (12.5%) of respondents were have two goats, 47 (15.5%) of respondents were have three goats, 9 (3.0%) of respondents were have four goats, 5 (1.7%) of respondents were have five goats, 27 (8.9%) of respondents were have above six goats and 120 (39.6%) of respondents were couldn't have goats.

Finally, the analysis frequency result of respondents' poultry number revealed that 37 (12.2%) of respondents had one poultry, 46 (15.2%) of respondents had two poultry, 60 (19.8%) of respondents had three poultry, 26 (8.6%) of respondents had four poultry, 91 (30.0%) of respondents had above six poultry, and 43 (14.2%) of respondents couldn't have poultry.

According to the livestock resource analysis results, about 57.6% of the respondents have two or below two oxen, and 84.5% of the respondents have three or below three cows. In general, the results show that the different types of livestock resources are low in number.

Table 4.10: Descriptive Analysis of Livestock Resources

		Frequency	Percent
Number of oxen	1	77	25.4
	2	98	32.3
	3	37	12.2
	4	27	8.9
	5	11	3.6
	Above 6	8	2.6
	No I haven't	45	14.9
	Total	303	100
Number of Cows	1	56	18.5
	2	108	35.6
	3	92	30.4
	4	20	6.6
	No I haven't	27	8.9
	Total	303	100
Number of Heifers	1	112	37
	2	57	18.8
	No I haven't	134	44.2
	Total	303	100
Number of young bulls	1	126	41.6
	2	81	26.7
	No I haven't	96	31.7
	Total	303	100
Number of calves	1	50	16.5
	2	54	17.8
	3	19	6.3
	No I haven't	180	59.4
	Total	303	100
Number of sheep	1	23	7.6
	2	58	19.1
	3	56	18.5
	4	27	8.9
	5	22	7.3

	Above 6	39	12.9
	No I haven't	78	25.7
	Total	303	100
Number of goats	1	57	18.8
	2	38	12.5
	3	47	15.5
	4	9	3
	5	5	1.7
	Above 6	27	8.9
	No I haven't	120	39.6
	Total	303	100
Number of Poultry	1	37	12.2
	2	46	15.2
	3	60	19.8
	4	26	8.6
	Above 6	91	30
	No I haven't	43	14.2
	Total	303	100

Source: Own Survey, 2021

4.2.2.4.Descriptive Statistics of Respondents House Possession and Land Utilization

The house possessions type result indicated that 205 (67.7%) of the respondent's house type is a corrugated iron sheet, whereas 98 (32.3%) of the respondent's house type is a thatched roof. This shows that the majority of the respondents' houses have corrugated iron sheets.

Table 4.11: Descriptive Statistics of Respondents House Possession and Land Utilization

		Frequency	Percent
Houses possessions type	Corrugated iron sheet	205	67.7
	Thatched roof	98	32.3
	Total	303	100

Source: Own Survey, 2021

4.2.2.5.Descriptive Statistics of Landholding Respondents

The descriptive statistics result of respondents' landholding in hectares revealed a minimum of 0.38 hectares, a maximum of 7 (seven) hectares, and an average of 3.4328 hectares. Hence, the land of the farmers is serving for means of livelihood for the farmers. This implies losing the

land they hold directly affect their means of living unless replaced by another means of earning.

Table 4.12: Descriptive Statistics of Land holding in Hectare

	N	Minimum	Maximum	Mean
land holding in hectare	303	0.38	7	3.4328

Source: Own Survey, 2021

4.2.2.6.Respondents Livelihood

Table 4.13 shows that subsistence farming, peasant farming, and small-scale commercial farming were practiced by 110 (36.3%), 174 (57.4%), and 19 (6.3%) of respondents, respectively. 189 (62.4%) of respondents said they had lost farmland owing to urban expansion, whereas 114 (37.6%) said they had not lost farmland due to urban expansion. 189 (62.4 percent) of respondents completely lost their farmland, whereas 114 (37.6%) never lost their farmland. This is similar to AlhamYimam's (2017) study in Kutaber, Amhara Region, which found that 70.3 percent of respondents have lost their farmed land owing to urban expansion. The findings of this study agree with Ampong et al. (2005) that the rapid conversion of farmland for non-agricultural purposes is threatening the prevailing agricultural activities that are the main source of livelihood for people who reside in the peri-urban areas. This result indicates that urban expansion has an impact on the farming community's livelihood. Accordingly, 19 (6.3%) and 170 (56.1) of the respondents lost less than one and one up to 2 hectares of their farmland respectively. whereas 114 (37.6%) of respondents never lost their farmland.

Furthermore, among the respondents, 61 (20.1%), 26 (8.6%), 14 (4.6%), 68 (22.4%), and 19 (6.3%) got access to roads, electricity, water supply, school, transport service, and recreations respectively. Despite the fact that 63 (20.8%) of respondents receive evaluations of all services, In general, 62.4% of respondents lost their farmlands due to urban expansion; 56.1% of those lost between 1-2 hectares of their farmland. But, the majority of the respondents got access to roads, electricity, water, schools, transport services, and recreation.

Table 4.13: Respondents Livelihood

		Frequency	Percent
Forms of Farming Practices	Subsistence Farming	284	93.7
	Small Scale Commercial Farming	19	6.3
	Total	303	100
Farmlands lost due to urban expansion	Yes	189	62.4
	No	114	37.6
	Total	303	100
The extent of farmlands lost due to urban expansion	Totally	189	62.4
	Never	114	37.6
	Total	303	100
Size of lost land (in ha)	less than 1 ha	19	6.3
	1-2 ha	170	56.1
	Never	114	37.6
	Total	303	100
To which of the urban services did you get access as a result of the urban expansion that you do not have before.	Road	61	20.1
	Electricity	26	8.6
	Water supply	52	17.2
	School	14	4.6
	transport services	68	22.4
	Natural resource conservation/recreation	19	6.3
	All	63	20.8
Total	303	100	

Source: Own Survey, 2021

According to the interviewee (Obbo K.G farmers of Kajima kebele)

Now, I am 62 years old man and I have 5 children. I am a resident of Kajima kebele, I am a farmer. My family life livelihood is based on agriculture. Agriculture is the main our income.

Waaqagurrachaafgalannihaata 'umaleeanihammaammatilaftikoohinfudhatatamne, glory to black God, until now my farmland has not taken from me. There are a lot of things that I feel. When this City began expanding to the peripheral farmland areas, the Municipality removed farming community suddenly. The municipalities didn't gives enough awareness for those loss their farmland, on what livelihood they are going to rely on, how to cope

up with urban life, but these lead them to bad life, I mean they loss capacity to educate and feed their children. Some of farmer's children stop education and work as daily labor and employed in factories. My child I talked you much, now I have a monthly gebriel mahiber jedhi (bye).

4.3.Factors that Contributed for the Urban Expansion

Table 4.14 revealed that 81 (26.7%) of respondents perceived there is a high level and 222 (73.3%) of respondents perceived there is a high level of expansion. According to respondents' answers, 31 (10.2%), 16 (5.3%), 18 (5.9%), and 238 (78.5%) are demographic dynamics, peri-urban community increment, government policy, and the total of all these factors, respectively, that contributed to such rapid urban expansion of the town. Respondents' responses to the factors that contributed to the rapid expansion of the studied area revealed that suitable topography for settlement, natural population growth, investment activities, and the sum of all listed factors were 14 (4.6 percent), 16 (5.3 percent), 37 (12.2 percent), and 236 (77.9%), respectively. Demelash's previous studies on urbanization and its effects on social wellbeing in Adama city corroborated this finding (2013).

The summary of the result showed that 73.3% of respondents believed there was a high level of expansion. The reasons for the rapid urban expansion were demographic dynamics, peri-urban community increment, and government policy. In addition, the factors for rapid expansion in the studied areas are suitable topography for settlement, natural increment in the population, and the increase in investment activities in the area. This finding is maintained by Bhatta (2010) and Seto et al. (2010) and agreed upon by Asmere Bekele (2018) in the study conducted on the impact of urban expansion on the livelihoods of the peripheral community of Holeta town.

According to information from key informants, the majority of key informants in the municipality believe that urban expansion surrounding the town's farmlands is occurring at an alarming rate, and some of them are reacting aggressively. The tendency was boosted by people's requests for dwelling houses and investment surrounding Bishoftu Town, according to an interview with key informants. Because of its proximity to Addis Ababa, the country's capital city, the existence of numerous beautiful lakes and green regions, and its suitable topography and weather conditions, Oromia Regional State chose Bishoftu Town as the region's tourism center.

Table 4.14: Factors that Contributed for the Urban Expansion

		Frequency	Percent
How do you perceive the level of expansion to the surrounding farmlands in recent days?	High	81	26.7
	very high	222	73.3
	Total	303	100
What do you think are the factors that contributed to such rapid urban expansion of the town?	Demographic dynamics	31	10.2
	Peri-urban Farming community increment	16	5.3
	government policy	18	5.9
	All	238	78.5
	Total	303	100
Which factor do you think as the cause for rapid expansion of this town?	Suitable topography for settlement	14	4.6
	High natural population increase of town	16	5.3
	Investment program implementation	37	12.2
	All	236	77.9
	Total	303	100

Source: Own Survey, 2021

4.4. Socio-Economic Effect of Urban Expansion

The above Table 4.15 result indicated that 32 (10.6%) of the respondents have less than 1 hectare of land, 142 (46.9%) of the respondents have 1-3 hectares of land, 116 (38.3%) of the respondents have the owner of less than 4-6 hectares of land, and 13 (4.3%) of the respondents have the owner of greater than 6 hectares of land.

The respondent's observation about the negative impact of urban expansion revealed that 19 (6.1%) loss of social bond, 13 (4.3%) loss of identity and culture, 104 (4.3%) dependence due to lack of a job, 66 (21.8%) significant livelihood crises that affect dignity, 43 (14.2%) high

competition for jobs, and 58 (19.1%) the sum of the listed factors. Furthermore, the social relationship of the farming community in the studied area showed that 119 (39.3%) of respondents answered they have a very high relationship, 133 (43.9%) of respondents answered they have a high relationship, and 51 (16.8%) of respondents answered they have a moderate relationship with the community.

Furthermore, the negative impacts of urban expansion in the studied area are; 51 (16.8%) of respondents answered as loss of agricultural land, 17 (5.6%) of respondents answered as environmental pollution, 17 (5.6%) of respondents answered as housing problems, and 218 (71.9%) of respondents answered as the sum total of all. These findings agree with those of Mefekir Woldegebrel (2017). While the positive impacts of urban expansion in the studied area showed the: creation of job opportunities, advancements in communication, electric power, and health access, transportation, and education services. This finding is supported by (Tadesse & Imana, 2017).

According to the findings, the negative effects of urban expansion include loss of social bonds, loss of identity and culture, dependence due to a lack of jobs, significant livelihood crises that affect dignity, and high competition for jobs. Furthermore, the negative impacts of urban expansion in the studied area are the loss of agricultural land, environmental pollution, and housing problems. This finding was supported by Nigusie (2011) & Belay (2014), and Adem K (2010).

Table 4.15: Socio-Economic Effect of Urban Expansion

		Frequency	Percent
Do you have land If you have a land, how many Hectares do you have?	Yes	303	100
	less than 1 ha	32	10.6
	1-3 ha	142	46.9
	4-6 ha	116	38.3
	greater than 6 ha	13	4.3
	Total	303	100
What are overall the negative impact of urban expansion did you observe on the socio-economic	Loss of social bond	19	6.3
	Loss of identity and culture	13	4.3
	Dependence due to lack of job	104	34.3

aspects of farming communities like you?	Significant livelihood crises that affect the dignity	66	21.8
	High competition for job	43	14.2
	All	58	19.1
	Total	303	100
How was your social relationship and value within your farming community in your area?	very high	119	39.3
	High	133	43.9
	Moderate	51	16.8
	Total	303	100
What are the effects urban area expansions to surrounding farming communities?	Unjust expropriation	17	5.6
	Decline farmer incomes	37	12.2
	All	249	82.2
	Total	303	100
What is the negative Impacts of Urban Expansion in the surrounding area of Bishoftu town?	Loss of agriculture land	51	16.8
	Environmental pollution	17	5.6
	Housing problem	17	5.6
	All	218	71.9
	Total	303	100

Source: Own Survey, 2021

4.5. Attitudes of Farming Community

Farmers in the study areas have varying perspectives on urban expansion. As a result, home respondents were asked to respond to a survey question on their views on urban expansion in the research areas. According to Table 4.16, 215 (70.96. percent) of respondents saw positive potential in urban expansion. While 88 (29.04%) of those polled were unable to see it as an opportunity. According to these findings, the majority of respondents see urban expansion as a positive opportunity. However, we deduced from this that urban experience.

According to key informants and focus group discussions, urban expansion was beneficial because it resulted in the availability of factory jobs, infrastructure such as roads, electricity, new schools, health centers, and telephone services, as well as access to businesses and markets in the surrounding areas. Some key informants and focus group discussion participants saw urban expansion as a concern because it threatens farmers' livelihoods by rapidly transferring farmland to non-agricultural uses and destroying natural resources. They agreed that if urbanization was accompanied by planned and sustainable peri-urban development, many chances for poverty

reduction would emerge. Among et al., (2005), Nicodemus and Ness are among the authors who support these findings (2010). The finding is contrary to the survey result of Alemu and Amare (2015), where 10.1% of the respondents consider urban expansion as an opportunity and 71.9% of the respondents say it couldn't be considered an opportunity.

However, 9.0% of the respondents considered urbanization as a threat, whereas 71.9% of the respondents didn't consider it a threat. This shows that 71.9% of the farmers couldn't consider urban expansion as a threat to farmland and an opportunity to improve the lives of the farming communities in peri-urban areas.

Table 4.16: Attitudes of Farming Community

	Frequency	Percent
considering urban expansion as opportunity	215	70.96
considering urban expansion as threat	89	29.04
Total	303	100

Source: Own Survey 2021

According to the interviewee (name reserved for security man farmers of Kajima kebele May 2021.)

I am 53 years old man. I have six children. My family and I became agriculture dependent

As I think in my opinion and that I saw from farmers those loss their farmland totally or partially, urban expansion has a negative impact on household livelihood and livestock holdings. The government didn't stop seeking for our landholding. Everybody kept quiet and was forced to accept whatever the program was supposed to provide for them. Most member of the community has objected the implementation of the expansion program at the beginning. Soon after, most of the community members tried to accept the program. The problem is not only government but also there is in our farming community; most of farmers see it as opportunity and approve the expansion program because they believe that urban expansion is an inevitable process. They complained and commented only on the implementation program that the government did not keep its promises and especial attention should not be given to female headed households, elderly and large family size in compensation and resettlement programs. On the other hand, some of the male strongly opposed and disproved the expansion program towards the periphery for it displaced them from their farm and exposed them to food insecurity and jobless. Our

children become emotional, unstable and uncultured. I observe some of them are smoking, gambling and drinking. We lost our social institution and respect that protect the young. What is coming now is very awful for me?

FGD and key informant overall view points towards urbanization

Most of the FGD and key informants they know what urbanization mean, while some of were in some extent know the concept of urbanization. Irrespective of their attitudes and reaction the participants stated that urban expansion is an inevitable process. Most of them express urbanization in one dimension that is in its positive perspective which they are neglecting its negative consequences. However, some of them express urban expansion in multi-dimensions that are in its positive and negative perspectives. The FGD and key informants agreed urbanization is good in some extent. Data obtained from FGD and key informants indicated that urbanization has brought its own opportunity for farming communities. It enables people to get access to education, health care services and public utilities such as electricity, safe water, telecommunication, modern transport and enables individuals to get housing. It promotes creativity, and reduce unemployment rate. However, proper managing urbanization has strong relation with development. Urbanization and development go hand-in-hand with development. The goodness of urbanization depends on the way how governing bodies and people handle it. The key informants from the Municipality stated that urban expansion implemented so far had much positive effects. They indicated that it is as a result of urban physical expansion that the Municipality able to design urban zoning such as industry, market centre, investment, urban agriculture and settlement zones. In addition, the Municipality insured internal urban development. This indicates that developed urban agriculture, feeder road construction, water pipe installation, electricity, building and other infrastructure have been achieved as a result of urban expansion program implementation.

Data obtained from FGD, key informants indicated that, the land of the farmers is serving for means of livelihood for the farmers. This implies losing the land they hold directly affect their means of living unless replaced by another means of earning and expanding opportunities for farmers in general and affected bodies in particular. The compensation provided was not enough to sustain their livelihood and replace their income that was previously earned from agricultural land. However, urban expansion towards farm land will decrease the sizes of farm land owned

by the farmers. Accordingly, urban expansion will negatively affect the sizes of farm land and livelihoods of the farming community. During this, they faced with economic problem unless they saved asset earlier. Because of lack of budgeting many farmers might not send their children to school. Many of the farmers who are living nearby towns, elder peoples, are highly affected by the urban expansion. Because household heads shouldering all household burdens and the elder people did not fully engaged in different economic activities to help themselves and their family members. Some of the farmers children were start their livelihood by participating into different activities like working on daily labor, guarding, hiring in certain company etc. Although high numbers of industries located and operated in the area. They did not absorbed local communities by creating employment opportunities. This is because local people lack skill and education that are required by these industries. Hence, most of the industries operated in the area employed human resource from other areas such as the central part of Addis Ababa. Therefore, there was a gap among the concerned local government institutions in terms of rehabilitating the livelihood of evicted households. If you ask as the action is lack legitimate and the compensation is not fair, no authority can be hear your ideas and no one can understand rather you considered as anti-development as wells politicized. Thus, urbanization has social, economic and political impact on the farming community. Some of the built-up industries around farming communities in the study areas polluted the environment without a use treatment plan. The communities used their land for livestock, water streams, and grassland purposes. The liquid waste from the factories pollutes the river found near the factory. Many livestock uses the water near factories for drinking purposes and the grass around them for food. However, when the river is polluted by the liquid wastes of the industries or factories, it kills uncountable livestock like goats, sheep, cows, horses, donkeys, and dogs. In addition to that, the smell or chemical wastes of the factory exposed them to disease and unexpected expenses.

4.6.Econometric Analysis

4.6.1. Determinants of Farming Community's Attitude Towards Urban Expansion

A binary probit econometric model was used to investigate the characteristics that influence rural communities' views toward urbanization in the research areas. A total of ten (10) explanatory variables were compared to outcome variables. The Log-likelihood statistics test revealed that the covariates significantly predicted the outcome variables [Log likelihood =-171.11909; Prob>

chi2 = 0.0000]. Similarly, the null hypothesis' likelihood ratio test was significant [LR chi2 (10) = 77.07; Prob> chi2 = 0.0000], indicating that the absence of correlation between each equation is strongly rejected [LR chi2 (10) = 77.07; Prob> chi2 = 0.0000]. The Pseudo- R2 value = 0.1838 shows that response of household those who perceived urban expansion as an opportunity or threat don't have distinct characteristics, so the finding of the study shows a good match between them. This showed the goodness of fit of the model. By this stand, the researcher decided that the binary model is proper for this study to model the effects of explanatory variables on each choice of outcome variables while permitting unobservable factors to correlate spontaneously. The results of the probit regression revealed that respondents' attitudes on urban expansion are significantly and positively correlated with their level of education, family size, and non-farm income. These findings are statistically significant at the 1%, 5%, and 1% probability levels, respectively. Land ownership, livestock ownership, and distance from the urban center are all significantly and negatively connected with farmers' attitudes about urban expansion. These findings are significant at the 5%, 1%, and 5% probability levels, respectively.

Table 4.17: Result of Probit Regression Analysis

Probit regression				
DobBishexparap	Coef.	Std. Err.	Z	P>z
Age	0.1318	0.10491	1.26	0.209
Sex	0.15208	0.17627	0.86	0.388
Mastatus	0.16347	0.17506	0.93	0.350
Fasize	.1394531**	0.06058	2.3	0.021
LoEducation	.3422626***	0.08053	4.25	0.000
Distourbancenter	-.0602072**	0.02646	-2.28	0.023
Landholding	-.107465**	0.0522	-2.06	0.040
Dointeleafararea	-0.2888	0.19878	-1.45	0.146
Nonfarincome	.0000236***	7.07E-06	3.34	0.001
TLU	-.0877736***	0.02012	-4.36	0.000
_cons	-1.4345	0.87277	-1.64	0.100
Log likelihood = -171.11909				
Number of obs = 303				

LR chi2(10)	=	77.07
Prob> chi2	=	0.0000
Pseudo R2	=	0.1838

Note: *** p<0.01, ** p<0.05, * p<0.1, ***, ** and * stand for significance at the 1%, 5% and 10% levels, respectively

Source: Own Survey, 2021

The probit regression model was used to identify the attitude of the surrounding farming population of Bishoftu town toward urban expansion, as shown in table 4.17. The independent variables listed below were chosen. The household head's age, sex, marital status, and degree of education, family size, and intention to leave the farming region, animal holdings, land holdings, non-farmers income, and distance from the urban center are all factors to consider. The probit regression result showed that of the 10 covariates, family size, level of education, and distance from the urban center, landholding, non-farm income, and livestock holding (TLU) were shown to be highly statistically significant among the ten factors in the probit regression results (Table 4.17). The results that were suggested at 1%, and 5%, levels of significance were discussed further down.

Family Size: The first significant variable is the family size (Fasize): household family size influences the attitude of the surrounding farming community to urban expansion positively and significantly, but at less than a 10% significance level. The model result predicted that as the number of household members increased by 1 adult equivalent, the surrounding farmers considered urban expansion as an opportunity, increasing by a factor of 0.139 while keeping other things constant. The findings are consistent with those of Weldearegay et al. (2021) and Birhanu et al. (2017), who reported that farmland was divided beyond its minimum level due to urban expansion. Food production was insufficient and they participated in different income-generating activities. Besides, large family size increases the probability of households being entrenched in poverty. As Ahlam (2017), Firew (2010), and Woldemariam Segno (2018) stated in the literature, household farmers in peri-urban areas whose land has been expropriated have a large family size burden under the narrower income source condition. As discussed by Muluwork (2014), urban expansion to peri-urban areas may expose farming communities to loss of assets of the land, reduction of production and productivity, and reduction of livestock. As a

result, farmers with large family sizes will be exposed to unemployment and poverty (food insecurity) for the reason that they are not well educated and skilled, rather they depend on their agricultural production.

Level of Education: The second significant variable is the level of education. As hypothesized, education influences farmers' perceptions of urban expansion positively and significantly at a 1% significance level. Surrounding farmers consider urban expansion as an opportunity. The increase in opportunity increased by a factor of 0.342 as the educational level of households increased by one year of schooling. This may probably mean that literate households have more exposure to acquiring knowledge and getting information about the importance of urban expansion than households with no or low education. This implies that as the level of education increases, so does the perception of the farming community towards urban expansion. These findings are consistent with the findings of Munira. (2013) and Wegedie (2018), that shows that as the level of education increases, the farming communities perceive and understand more and more urban expansion around their farming land compared to illiterate ones. Hence, different authors agreed that the level of education was a better baseline for accepting new information (Mbaga-Semgalawe, Folmer, 2000; Melkie Erkie, 2016).

Distance to Urban Center: The third statistically significant variable is the distance to the urban center (Distourbancenter): Farmers considered urban expansion as an opportunity at less than a 5% significance level. Farmers consider urban expansion as an opportunity. The household home's distance to the urban center increases by one kilometre (Km), keeping other things constant. Those households that are located far away from the urban center have less information about the urban expansion and its benefits. This finding is in line with Salem.et. al. (2019), who maintained that urban expansion will decrease by 0.5 if the distance to the nearest existing urban area has increased by 1 km.

Landholding: The fourth statistically significant variable is landholding. This variable is instantly negatively correlated with the dependent variable and it is significant at a 5% significant level. Farmers consider urban expansion as an opportunity that decreases by a factor of 0.107 as a farmer's landholding increases by one hectare, keeping other things constant. This negative correlation may show that the size of the land held by the household affects their livelihoods. This result implies that farmers with large farm size are less likely to diversify the

livelihood strategies into non-farm self-employment, informal wage work, and formal wage work strategy. We can easily imagine how much urban expansion affects the livelihoods of peri-urban farmers. These findings agree with the survey results of Tadele Tesfaye (2020) and Ahlam, Y. (2017). The majority of farmers have loosed their farmland because of urban expansion, and in the case of these urban expansions, they have affected their livelihood. In addition, Wegedie, K.T. (2018), stated that farmers with large farm sizes are less likely to engage in different livelihood strategies in non-farm activities.

Non-Farmer Income is another statistically significant variable that is positively correlated with farmers' perception of urban expansion, and it is significant at a 1% level. Farmers see urban expansion as an opportunity as their non-farm income rises by one birr; a factor that rises by 0.0000236. This is because if the income of farmers increases, the farmers search for new job opportunities that may come with urban expansion. Most farmers in the peri-urban areas of Bishoftu city have diversified their livelihoods to some extent by engaging in various additional off-farm activities that are available in the area. This study's findings contradict those of Weldearegay et al. (2021), who found a negative correlation that was statistically insignificant. It affects the farming community, specifically those who have lost all or part of their farmland due to urban expansion.

Livestock Holding (TLU): the other statistically significant variable is livestock holding (TLU). This variable is negatively correlated with the dependent variable and it is significant at a 1% significant level. The result indicates that other things held constant, the farmers consider urban expansion as an opportunity, which is reduced by a factor of 0.088 as the household livestock increases by one in tropical livestock unit (TLU). That is, the probability of farmers who do not have livestock was more affected by urban expansion than those who do have livestock. This finding is confirmed by Muluwork (2014). The researcher's findings state that urban expansion has directly or indirectly affected the production of livestock in peri-urban communities.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

This section focuses on the conclusions of the results and relevant recommendations. The chapter ends by emphasizing the limitations of the research study, followed by future implications for researchers.

5.1. Conclusions

This study examined the attitudes of farming communities surrounding Bishoftu town. From the data gathered through observation, questionnaire/survey, and interviews on the issue of the attitudes of the surrounding farming community towards urban expansion, the following conclusions can be made.

Urbanization is an unavoidable phenomenon of the current and future generations. In surrounding Bishoftu town, urbanization is expanding and overflowing into the newly established urban areas located between urban and urban peripheral areas. The process has continued in the area for decades. Urban expansion can have both negative and positive impacts on the lives of people where it takes place, for the farming rural community around Bishoftu town. Respondents perceived the following negative effects of urban expansion: loss of social bond; loss of identity and culture; dependency due to a lack of jobs; significant livelihood crises that affect dignity; loss of agricultural land; environmental pollution; and housing problems. Whereas, the respondents perceived the positive impacts of urban expansion in the studied areas are: the creation of job opportunities, access to communication, electricity power and health access, transportation, and education services.

The result reveals that the majority of the households were aware of the urbanization and urban expansion programs in their surrounding area, and they got the information from mass orientations and meetings as well as the mass media. The majority of households considered urban expansion as an opportunity and supported it positively. Even if the households see it as an opportunity and support the program, the majority of the households intend to leave their farming area for different reasons.

The majority of households stated that population dynamics, peri-urban community growth, government policy, the topography for settlement in the investigated areas, and an increase in investment activities in the area were the reasons for rapid urban expansion.

The results of the probit regression revealed that family size, level of education, and non-farm income are all significantly and positively connected with respondents' attitudes toward urban expansion in the farming community. Land ownership, livestock ownership, and distance from the urban core are all strongly and negatively connected with farmers' attitudes about urban expansion.

5.2. Recommendations

The researcher suggests the following suggestions based on the findings.

The majority of the community was aware of the urbanization and urban expansion program in their surrounding area. This indicated that they may know the positive and negative effects of urban expansion. The positive effects of urban expansion are; -a creation of job opportunities, access to communication, electricity power and health access, transportation, and education services. Whereas the negative effects of urban expansion are: loss of social bonds, loss of identity and culture, dependence due to lack of jobs, significant livelihood crises that affect dignity, loss of agricultural land, environmental pollution, and housing problems. Therefore, the researcher recommends that a well-planned and managed urban growth and development plan will be very crucial.

1. In order to minimize the negative attitudes or threats of peri-urban farming communities towards urbanization, the concerned governmental bodies should promote urban expansion in the way that do not affect the livelihoods of farming communities, such as by designing programs that encourages urban agriculture and inviting and participating peri-urban farmers to be benefits from the program.
2. The government urban expansion program should take in to account the peripheral farming communities' family size, livelihood and development before they displaced from their farmland and should creating best alternative means livelihood strategies and creating better economic opportunity in areas need be reconsidered because land size is the main source of livelihood outcome.
3. The livelihood condition of the community was changed in the studied area. An economy of most peripheral community before expansion was agricultural activities. Though the negative and significant impact of farm size on livelihood diversification suggests concerned bodies to develop appropriate strategies, especially for land resource displaced farmers. It also concerns promoting and creating a positive environment for the emerging livelihood alternatives like non-farm activities. Even very small size of land calls for giving emphasis in agricultural intensification to enhance the productivity of the land.

a. Limitation of the Study

In this study, there are various limitations, which are opportunities for future research. First, the study was focused only on the selected two kebeles around the studied areas. Hence, the result of the study was limited within the boundary of the studied areas.

Secondly, in this study, several questions related to urbanization remain unanswered as the study focused only on the attitude of the surrounding community on urban expansion. Therefore, this provides possibilities for future research to expand this study. Thirdly, the study did not bring the causes of urbanization, extent, and magnitude using geospatial and morphological analyses. Thus, for future research, it needs further research study.

b. Implications for Future Study

This study focused on the attitudes of nearby farming villages toward urbanization, with a special focus on the area surrounding Bishoftu City. As a result, broad conclusions concerning the findings were limited. As a result, the researcher recommended that more research be carried out in various parts of Ethiopia, as well as in other kebeles in the Bishoftu City area.

Furthermore, this study blended quantitative and qualitative research by employing closed and open-ended questionnaires. Future researchers may, however, employ a variety of data collection methods. In addition, more research will be required to gain a better knowledge of the same and related issues.

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Appendex-1:

ADDIS ABABA UNIVERSITY, COLLEGE OF DEVELOPMENT STUDIES DEPARTMENT OF ENVIRONMENT AND DEVELOPMENT STUDIES

Survey Questionnaire

Dear Respondents,

I am Habtihun Gidyalew, a student at Addis Ababa University studying a degree of Master in the environment and sustainable development. The main purpose of this questionnaire is to gather data to investigate the attitudes of surrounding farming communities towards urban expansion with specific reference to Bishoftu Town. The questionnaire has three parts. Part I deal with Demographic characteristics, Part II deals with the awareness of respondent about urbanization and urban expansion, Part III deal with farming communities perception on the urban expansion, Part IV deal with the livelihood of respondents, Part V deal with driving factor for urban expansion, and Part VI deal with socio-economic impact of urban expansion. This study is only for academic purposes. Hence, I have assured you that your responses will be treated with the utmost confidence. The soundness and the validity of the findings highly depend on your genuine responses. Therefore, I kindly request you to respond to each item as frankly as you can.

Thank you in advance!

Instruction: Use circles the answers that meet your choice and fill on the blank space for related extra answers.

Part I: Demographics Questionnaire

- 1). Kebele 1= Kajima 2= Kality
- 2). Age 1= 18-29 2 = 30- 41 3 = 42- 53 4 = Above 53
- 3). Sex: 1= Male 0= Female
- 4). Household head: 1= male 0 = female
- 5). Marital Status of Household 1 = Married 0= Unmarried
- 6). Place of Birth 1= urban 0= Rural

7). Current Place of Resident 1= urban 2 = Sub-urban 3=Rural 4 = both urban and rural

8). Religion:

1= Orthodox 2= Protestant 3= Muslim 4= Catholic 5= other specify

9). Ethnicity:

1= Oromo 2= Amhara 3= Tigre 4= Gurage 5= others

11). Level of education: _____

1= Lliterate

0= Illiterate

12). Family size: 1= 1-3 2= 4-6 3= 7-9 4 = Above 9

13. Family Size in Age group

1= Age <18: _____

2=Age 18-35: _____

3=Age 36-52: _____

4=Age >53 _____

II. Awareness about urbanization and urban expansion

1. Are you aware of the urban expansion program in your surrounding area?

1= Yes

0= No

2. If you are aware of urban expansion program, how did you get the information?

1= through mass orientation (meeting)

2= through formal training or seminar

3= through mass media

4= through social media

5= All

6= Others

3. Do you believe that Bishoftu town is expanding rapidly?

1= strongly agree

2= Agree

3= disagree

4= strongly disagree

4. What is your expectation from urban expansion?

1= Electricity

2= Water

3= Safe road

4= other social services (school, a health center, administrative

5= All

III. Farming communities perception of the urban expansion

1. Do you have any intention to leave your farming area? 1= Yes 2= No

2. What is your perception of urban expansion surrounding your area?

1= as opportunity 0= as threat

2. How far is your home from urban centers?

1= 2Km 2= 5Km 3= 7Km 4= 10Km

3. Do you support urban expansion of the surrounding town to your farming areas?

1= Yes 2=No

4. If you support to answer the urban expansion what is your main possible reasons:

1= Urbanization creates convenience

2= to get better Education

3= to get better Healthcare Services

4= to get job opportunities

5= Social services

6= All

5. If you did not support the urban expansion what is your main possible reasons:

1= The decline of rural farming areas

2= Livelihood changes

3= Loss of farming land

4= Family life disturbance

5= Reduction of Social Bond and Social Relations

6= Loss of clean environment

7= All

6. What is your perception of the effect of urban expansion on your livelihoods'?

1= Very much beneficial

2= somewhat beneficial

3= Indifferent

4= some that harmful

5= Very much harmful

IV. Livelihoods and source of Asset

1. What was your main resource and source of assets?

A. Livestock resources and utilization

Livestock resources and utilization	Number owned	Value (average local market price per unit in Birr)
1. Oxen		
2. Cows		
3. Heifers		
4. Young bulls		
5. Calves		
6. Sheep		
7. Goat		
8. Poultry		
9. Mules		
10. Horses		
11. Donkeys		
12. Beekeeping		

B. House possession. Settlement

Houses possessions	Number of houses in rooms
1. Thatched roof	
2. Corrugated iron sheet	
3. Both thatched roof and corrugated iron sheet	

C. Landholding and utilization

Land use and land cover type	Area (in <i>Timads/ha</i>)
1. Cultivated land	
2. Grassland	
3. Plantation land	

4. Only settlement area	
5. Both Cultivated and grassland	
Total	

D. Households dependency on agricultural income

	Sources of income	Average annual income in Birr)
1	Crop and tree plantation	
2	Livestock	
3	Non-farm income (income from petty trade. wage, salary, etc.)	

2. What forms of Farming Practices did you engage in?

1= Subsistence Farming

2= Large Scale Commercial Farming

3= Small Scale Commercial Farming

3. Have you lost farmlands due to urban expansion?

1= Yes

2= No

4. If you lost farmland due to urban expansion, how much was the extent you lost?

1= partially

2= totally

5. Size of lost land (in ha)

1= less than 1 ha

2= 1-2 ha

3= 3-4ha

4= above 4 ha

6. Are you agree to your farmland loss?

1= Yes

2= No

7. If you are disappointed and did not agree with the action, how did you get the response?

1= extremely satisfactory

4= disappointing

2= Very much satisfactory

5= very much disappointing

3= Satisfactory

6= extremely disappointing

8. To which of the urban services did you get access as a result of the expansion of Bishoftu that you do not have before?

1= Road

2= Electricity

- 3= Water Supply
- 4= School
- 5= Telephone
- 6= Clinics & other health institutions
- 7= Market
- 8= Public transport services
- 9= Municipal refuse collection
- 10= Natural resource conservation/recreation
- 11= All
- 12. None

V. Factors that contributed for the expansion of Bishoftu Town

1. How do you perceive the level of Bishoftu town is expanding to the surrounding farmlands in recent days?

- 1= very slow 2= slow 3= not that much 4=high 5= very high

2. If your answer is high or very high, what do you think are the factors that contributed to such rapid urban expansion of the town?

- 1= Demographic dynamics/ Natural population growth
- 2= Peri-urban Farming community notice increment
- 3= Rural-urban migration
- 4= Economic growth
- 5= government policy
- 6= All
- 7= If any other please mention_____

3. Which factor do you think as the cause for rapid expansion of this town? (Multiple responses possible)

- 1= Suitable topography for settlement
- 2= Climatic suitability for settlement
- 3= Geographical proximity to Finfinne
- 4= High natural population increase of the town
- 5= Investment program implementation
- 6= All
- 7= If any other, please mention_____

VI. Socio-Economic effect of urban expansion

1. Do you have land? 1= Yes 2= No
2. If you have land, how many Hectares do you have?
1= less than 1 ha 2= 1- 3 ha 3= 4-6 ha 4= greater than 6 ha
3. What are overall the negative impact of urban expansion did you observe on the socio-economic aspects of farming communities like you? (Multiple answers is possible)
 - 1= Loss of social bond or loss of mutual trust and understanding among the Members of the community
 - 2= Loss of identity and culture
 - 3= Dependence due to lack of job
 - 4= Significant livelihood crises that affect the dignity
 - 5= High competition for the job
 - 6= All
 - 7= other challenges: _____
4. How was your social relationship and value within your farming community in your area?
1= Very high 2= High 3= Moderate 4= Low 5= Very low
5. What are the effects urban area expansions to surrounding farming communities?
 - 1= Unjust expropriation
 - 2= Displacement of farmers,
 - 3= Decline farmer incomes or loss of sources of their livelihood (such as assets and landholding size)
 - 4= All
6. What are the Negative Impacts of Urban Expansion in the Bishoftu area?
 - 1= Loss of agricultural land
 - 2= Expansion of crime
 - 3= Displacement of peoples
 - 4= Environmental pollution
 - 5= Housing problem
 - 6= All
7. What are the positive impacts of urban expansion in the Bishoftu areas?
 - 1= Creation of job opportunity
 - 2= Advance in communication
 - 3= Electric power and health access
 - 4= Transportation and education services
 - 5= All
 - 6= Other _____

VII. Attitudes of farming community

1. Are you considering urban expansion as an opportunity?

1. Yes 0. No

2. Are you considering urban expansion as a threat?

1. Yes 0. NO

Appendix2:

ADDIS ABABA UNIVERSITY

COLLEGE OF DEVELOPMENT STUDIES DEPARTMENT OF ENVIRONMENT AND DEVELOPMENT STUDIES

Interview Questions for key informants

First of all, I would like to thank you for giving me your response to the questions by devoting your time. The objective of the formulation of this questionnaire is to gather information or data on the attitudes of surrounding farming communities' towards urban expansion with specific reference to Bishoftu Town for the partial fulfillment of the degree of master's in the environment and sustainable development. This questionnaire gives you a chance to express your views on the research topic and the views. Dear respondents, you are expected to deliver genuine, precise, and well-adjusted information with admiration to perceptions of surrounding farming communities towards urban expansion. Your genuine information is tremendously valuable as it determines the accomplishment of this study.

The findings of this study will be published and reserved at a secondary source. Thus, the researcher is very greatly thankful for the sacrifice you pay to this end and the information gathered will be highly confidential and will be only for the purpose of this research.

Thank you in advance!

Part I: - Background of Respondent

1. Name of Respondent _____
2. Affiliation/Position _____

I. Expert's opinion on Bishoftus' urban expansions

1. How do you perceive the rate at which Bishoftu town is expanding to the surrounding farmlands in recent days?
1= very slow 2= low 3= not that much 4=high 5= very high
2. If your answer to question No 1 is 4 or 5, what do you think are the factors that contributed to such rapid urban expansion of the town?
3. Which factor do you think is the cause for the rapid expansion of this town? (Multiple responses possible)

4. How do you perceive urban development in Bishoftu?
5. What is the major positive or the negative impact of urban development on farming communities' livelihood?

III. Role of the town administrators/municipality

1. What role could the governmental institutions play in improving the lives of the farming community affected by urban expansion? (Capacity building, social organization, and strengthening the available institutions. a. Things needed to be introduced, revised, or avoided:
 - b. Immediate need:
 - c. Future intervention:

V. Overall consequences of Bishoftu's urban expansion on surrounding farming communities

1. Would you explain the weakness and strengths of the expansion program?
How farming communities were see urban expansion? Are they seeing it as a threat or opportunity?
3. For Q2 if they see it as a threat why?
4. Would you explain the impact of urban expansion on?
 - a) Social,
 - b) Economic
 - c) Environment:
6. Would you explain the general perceptions of the farming community around Bishoftu

towards urban expansion?

7. Would you explain when the issues of urban expansion are raised, what attitude comes to the farmer's mind?
8. As a government body, what is your organization's role to minimize negative impacts of urbanization on the farming community livelihood?
9. What does the urban expansion of Bishoftu town look like?

VI. More information

1. If you may have more information with regard to Bishoftu's urban expansion, and its consequences on farming community and perceptions of the farming community please don't hesitate to state:

Appendix3:

ADDIS ABABA UNIVERSITY

COLLEGE OF DEVELOPMENT STUDIES DEPARTMENT OF ENVIRONMENT AND DEVELOPMENT STUDIES

Focus group Discussion

Dear respondents,

First of all, I would like to thank you for giving me your response to the questions by devoting your time. The objective of the formulation of this questionnaire is to gather information or data on the attitudes of surrounding farming communities' towards urban expansion with specific reference to Bishoftu Town for the partial fulfillment of the degree of master's in the environment and sustainable development. This questionnaire gives you a chance to express your views on the research topic and the views. Dear respondents, you are expected to deliver genuine, precise, and well-adjusted information with admiration to perceptions of surrounding farming communities towards urban expansion. Your genuine information is tremendously valuable as it determines the accomplishment of this study.

The findings of this study will be published and reserved at a secondary source. Thus, the researcher is very greatly thankful for the sacrifice you pay to this end and the information gathered will be highly confidential and will be only for the purpose of this research.

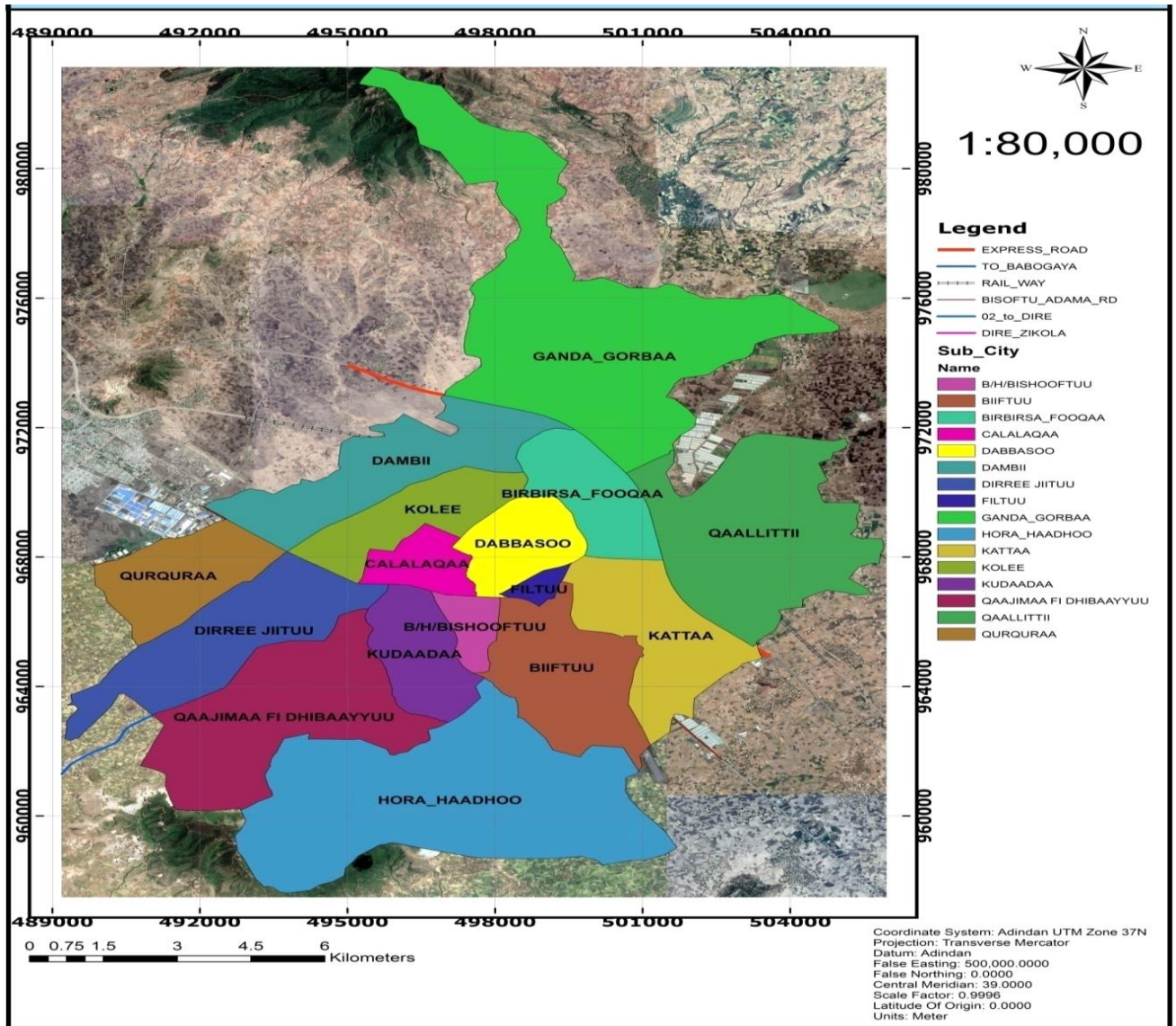
Thank you in advance!

Warm-up: List the main urban development programs being undertaken in Bishoftu Town

1. How did you see Bishoftu's urban expansion, as a threat or opportunity? Why?
2. What social, economic, and environmental situations changes did you face as a result of urban expansion?
3. Discuss the advantages and disadvantages that the farming community gained from the urban expansion in terms of social, economic, and environmental aspects.
4. What perception comes to your mind, when the issues of urban did expansion rose?
5. What were the immediate consequences of urban expansion i.e. means or sources of income, job opportunity, social and cultural influence (your attitude towards urban expansion and its consequences)?

6. Do you have any more points to probe with respect to Bishoftu's expansion and the well-being of the surrounding farming community?
7. What would you expect that positive and negative changes occurred in the life of the farming community as the result of urban expansion?
8. What is your opinion about the positive impacts of urban expansion on the social and economic conditions of the surrounding farming communities?
9. What is your opinion about the negative impacts of urban expansion on social and economic conditions of the surrounding farming communities?
10. Do you think that urbanization is a bad thing or a good thing? Justify your answer by giving examples
11. How do you perceive urban expansion surrounding Bishoftu town?
12. What are the solutions you recommend for the challenge that will face as a result of the expansion of the town?

Appendix 4 Study Areas on Map



Source: Bishoftu Town Administration, Physical and Socio Economic profile 2021