ADDIS ABABA UNIVERSITY

COLLEGE OF DEVELOPMENT STUDIES

CENTER FOR POPULATION STUDIES

DEMOGRAPHIC AND ENVIRONMENTAL DETERMINANTS OF RURAL-URBAN MIGRATION IN YEKA SUB-CITY OF ADDIS ABABA: A PERCEPTION-BASED STUDY

By:

AFEWERK JEMBERE

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A Thesis Submitted to College of Development Studies, Center for Population Studies of the Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Population Studies (Reproductive Health)

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DECLARATION

I the undersigned, declare that this academic thesis entitled **"Demographic and Environmental Determinants of Rural-Urban Migration in Yeka Sub-City of Addis Ababa: A Perception-Based Study"**, carried out for my MSc. thesis is entirely original work to me and has not previously been presented as fulfillment of having met the requirements for any Degree at this university or another academic institution of comparable standing. In an equitable manner, all of the materials and literary sources utilized for this academic thesis have been properly acknowledged.

Declared by:

Afewerk Jembere	**_____**	**_____**
(Student Name)	**(Signature)**	**(Date)**

CONFIRMATION

In my capacity as an academic thesis advisor, I hereby confirm that this thesis research by **Afewerk Jembere** has been submitted for examination under my close follow-up, guidance and supervision.

Confirmed by:

Dula Etana (Ph.D.)	**_____**	**_____**
(Thesis Advisor)	**(Signature)**	**(Date)**

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Examiners' Thesis Approval Sheet

This is a declaration that the academic thesis prepared by **Afewerk Jembere**, entitled **"Demographic and Environmental Determinants of Rural-Urban Migration in Yeka Sub-City of Addis Ababa: A Perception-based Study,"** has been submitted to College of Development Studies of the Addis Ababa University in partial fulfillment of the requirements for the Degree of Master of Science in Population Studies (Reproductive Health). Moreover, this thesis research complies with academic regulatory policies of the Addis Ababa University and adheres to the recognized standards with respect to originality and internal quality.

Signed by the Examining Board

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LIST OF ACRONYMS

CSA: Central Statistics Agency

DFID: Department for International Development

IDMC: Internal Displacement Monitoring Center

IDPs: Internally Displaced Peoples

IDRC: International Development Research Center

IFPRI: International Food Policy Research Institute

IOM: International Organization for Migration

IPCC: Intergovernmental Panel on Climate Change

NELM: New Economics of Labor Migration

UN: United Nations

UN DESA: United Nations Department of Economic and Social Affairs

UNEP: United Nations Environment Programme

UN FAO: United Nations Food and Agricultural Organization

UNFPA: United Nations Fund for Population Activities

UNHCR: United Nations High Commissioner for Refugees

UNICEF: United Nations International Children's Emergency Fund. Now officially United Nations Children's Fund

WB: World Bank

ABSTRACT

In Ethiopia, various forms of population movements, mainly rural out-migration, have been recorded over many decades as a direct response to the potential influences of environmental factors like drought, famine, and land degradation in combination with economic crisis. At the national broad level, environmental factors such as vulnerability to serious environmental degradation onsets and rainfall variability are major push factors that drive people to engage in rural out-migration in Ethiopia. In line with such problem, this study is conducted with an objective to explore and portray how key demographic variables, coupled with environmental determinant perception factors, can influence rural-urban migration trends in the study area by employing a perception-based data collection approach. The study employed a quantitative research method with a cross-sectional survey design by using systematic random sampling method and single population proportion sampling formula. After a primary data about sampled rural migrant's demographic and environmental determinants were extracted from respondent households, descriptive statistics and logistic regression analysis were done. Multivariable logistic regression model was fitted to identify demographic and environmental determinants of rural-urban migration. In the study area, there are about a total of 355 rural migrant households were included in the selected sample, and 351 of them were fully covered. Results of the analyzed data showed that about 57.8% of respondents were male migrants, and nearly 36.2 %of the migrants surveyed were belonged to the age group between 30 to 34 years old, which is a young adult group of a population. About 53% were discovered to be Never married (Single), and the remaining 47 percent of respondents were found among an Ever married migrant category. Concerning environmental perception determinants of rural out-migration, land/ environmental degradation, drought, rainfall variability and access to water resource constitutes about 64.4%, 40.2%, 51.9% and 54.7% of all respondents, respectively. In a concluding pursuit, the analyzed data of the study has unveiled the prominent role of environmental factors in shaping migration decisions. Notably, environmental degradation emerged as a compelling driver those respondents expressing concerns about its impact. This result highlights the urgent need for sustainable resource management and ecological restoration strategies to curb the detrimental effects of land degradation. Environmental drought and irregular rainfall patterns also stood out, and influencing perceptions of migrants. In addition, the analyzed study data has aligned with respondents' experience of illuminating the influence of water scarcity on their migration decision and intentions. Based on analyzed findings, the study recommends that relevant stakeholders and actors should collaborate and act together to mitigate the problem of rural-to-urban migration both at the rural origin and destination place by encompassing policy implications, research avenues, and community-based engagement strategies.

***Key Words**: Rural out-migration, Demographic factors, Environmental Perception determinants.*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Empirical evidences from the new economics of migration perspective revealed out that, in the most developed states of the world, risks to household income and uncertainties associated with natural hazards are typically minimized and resolved through private insurance markets or government programs, whereas in the developing nations in contrary, institutional mechanisms for household risk management are imperfect, absent, or inaccessible to rural poor families, providing incentives for them. As a result, households decide to diversify their existing family risks and environment related uncertainties through actively engaging in migration (Abreu, 2012). In line with such view, human migration process, one of the three fundamental aspects of population dynamics, is certainly not a recent phenomenon. It has happened throughout human history, beginning with the initial expeditions of the first human populations from their origins in East Africa towards their current location in the world. The history of humanity and progress of human society is underpinned by migration of people from one place of origin to another area of destination which include the movement of people across administrative or political territories within a country, or across countries that has been a crucial factor in changes the structure and distribution of a population within a given societies and across nations (Philips, 2011).

So to globally speaking about the situation, migration today has gone up to an unprecedented level. According to the International Migration data of the United Nations, it has indicated that the number of international migrants has extended to 258 million in 2017 from 220 million in 2010 and 173 million in 2000 (UN DESA, 2017). This data of UN clearly indicates that compared to the previous times, the extent of international migration rapidly increases in the present-day world. Furthermore, over a period of time, an escalating number of people have chosen the option of migration as a means of coping with the effect of environmental changes

both of a sudden as well as disastrous nature and those of slow onset environmental degradation and deterioration events. In a similar manner, in the developing part of the world, environmental changes such as frequent drought and soil degradation constitute a greater risk for people's livelihoods, especially in countries of the Global South those depending their livelihood much on natural resources. These changes may influence migration patterns both directly, by evoking and forcing people to leave their rural origin in the occurrence of natural hazards, and indirectly by influencing socio-economic factors that could both, trigger and hamper migration (Foresight, 2011).

While exploring human migration at the continental level in Africa, particularly the Sub-Saharan Africa is subjected for environment-related migration trend, as the region is pregnable to climate shifts and environmental changes that encompasses some of the considerable size of intra-continental migration flows globally (IPCC, 2014; Olsson et al., 2019). Correspondingly, most of Ethiopia's rural highland districts have a potential association with environmental change and migration given the regions' susceptibility to high rainfall variabilities and soil degradation (Mekonen and Berlie, 2020). Furthermore, the region has experienced high out-migration rates in the previous years (CSA, 2007) and has a possible high ground for future rural out-migration due to frequent occurrence of environmental changes (Neumann and Hermans. 2017; Rigaud et al., 2018). However, there is no scientific consensus on the course, path and proportion of environmental change and migration interaction with non-environmental factors in Africa, including those happened in Ethiopia (Neumann and Hermans, 2017; Borderon et al., 2019). This aforesaid fact indicates that more innovative approaches are required for advancing the body of knowledge base in such field of study.

As for articulating the issue from a national prospect, the phenomenon of human migration in Ethiopia has been considered as one of the main national demographic events, following population factors such as fertility and mortality. According to the 1999 and 2007 national household surveys of Ethiopia (CSA, 2007), the rate of rural to rural migration constitute the lion share among the different types of internal migration streams. The next highest stream is rural to

urban migration in which accounts for 24.8% and 32.5% of the overall migration rate in the year 1999 and 2007, respectively. A decade later of the foregoing study, another study conducted by the Ethiopian Civil Service University confirmed that, the internal rural-urban migration in Ethiopia made up 24.3% of all migration rates, compared to 46% for rural-rural migration in 2005. Furthermore, rural-urban migration rate had increased into 32.5% whereas rural to rural had dropped down to 34.5% by 2013. If these trends have continued in the years to come, then rural-urban migration might have already overtaken and dominate rural-rural migration flow rates and will initiate a nationwide pressure on the socio-economic situations and living conditions in the cities (Desta, Bitga and Boyson, 2018).

In a similar vein, various forms of population movements have been recorded over many decades in Ethiopia as a direct response to the potential influences of environmental factors like drought, famine, and land degradation along with political turmoil, economic crisis and security problems. At the national broader level, in Ethiopia environmental factors such as lack of access to adequate agricultural farmland and vulnerability to serious environmental degradation onsets are major push factors that drive people to abandon their rural origins and engage in rural out-migration (Mberu, 2006). Meanwhile of this, it appears pertinent to study and further identify the extra major environmental driving forces that push rural migrants to leave their rural settlement into urban area in the path of Ethiopia's internal migration process.

Given the pronounced global as well as national series of migration scenarios and perspectives mentioned above, especially with respect to the timely facts and figures on rural-urban migration and the current circumstance in Ethiopia, this perception-based study sought to examine and explore how certain demographic variables, coupled with environmental perception push factors, can determine the courses of rural-to-urban migration process by using data collected from sample rural migrants in Yeka Sub-city of Addis Ababa City Administration, Ethiopia.

1.2 Statement of the Problem

In a contemplative manner, with a total population size of over 120 million in 2020 (WB, 2010), Ethiopia is the second largest country within the Sub Saharan region of Africa. Of this, more than 80 percent of the population lives in rural areas of the country and their livelihood depends mainly on subsistence mixed farming. Meanwhile of this, a low socio-economic status, erratic weather conditions, massive land degradation, as well as lack of basic infrastructure for intensive agricultural practices have undermined agricultural growth and reduced the expected productivity of the agricultural sector, which nearly contributes 35% share for total GDP of the country which consequently facilitate rural out-migration. Correspondingly, the country is also characterized by extreme rural poverty, high population growth rate, intense environmental degradation as well as frequent drought situations (Degefa, 2005; Ezra, 1997; Getachew, 1995; Workneh, 2008), which in turn accelerate the rate of rural out-migration. Accordingly, Addis Ababa has been noted as one of the main place of destination for these rural migrants, with close to 40 percent share of all rural migrants across the nation (Bundervoet, 2018). Henceforth, for the government to take appropriate measures, to alleviate the challenges and minimize the rate of rural out-migration inflow, it is essential to carry out researches like this to vitally identify major driving push factors that aspire rural out-migration towards Addis Ababa with an intention to provide necessary information/data that support the proper decision-making process as well as managing the problem at the rural sources.

With regard to the available limited research enquires on the topic of migration in Ethiopia, a few have attempted to study the aspects of urban ward migration. These studies were tried to examine the rural-urban migration theme from its impact on immigrants specifically by Belay Zeleke (2011), and the role of climate change on rural urban migration by Hunnes (2012). On top of this, some other studies tried to assess rural-urban migration trends on the effects and consequences with emphasis on regional cites of Wolayta Sodo by Wesen Altaye (2015), on Woldiya town by Birhan Asmame (2011), on Hawassa city by Abeje Berhanu (2012), on Farta Woreda by Habtamu Bimerew (2015), and a study on Poverty, youth and rural-urban migration in Ethiopia by Adamnesh Atnafu (2014). But most of these above described research inquiries

had emphasized more on the socio-economic determinants, impact and consequences of rural-urban migration patterns. Beside this, many of these studies that have been conducted so far have not been able to address the issue of rural-urban migration by allowing an adequate emphasis for the environmental push forces of rural out-migration. As per with this research gaps, the ongoing study has made an effort to narrow such vacuum by examining some demographic and environmental determinant factors of rural-to-urban migration that stimulate rural migrants to move towards the study area of Addis Ababa.

As it clearly noticed from several demographic literatures, migration toward cities and towns accelerates existing problems adding to urban unemployment, increasing pressure on urban facilities, traffic congestions, social and psychological stresses amongst the urban population and urban poverty is expanded in cities and towns of Ethiopia (Birru, 2007). Apart from these facts, the researcher also observes that the city of Addis Ababa is facing serious of challenges within and around, due to high population pressure that emerges as result of intense and excessive rural-urban migration rate. Among these, it include challenges like environmental pollution, overcrowdings in (housing supply, employment, medical service, school facilities, and public infrastructures such as electric power allocation, supply of water, telecom service, and public transportation system), even increased rate of social unrests (including theft, extreme urban crimes, and prostitution), as well as high living costs along with poor urban amenities are some of the main problems that the city under study has encountered with. Such observations and other prevailing circumstances have provocative values in insisting the researcher to explore the existing situation and major factors that determine why do rural people migrate, and what are the vital demographic and environmental drivers that allow them to migrate towards Addis Ababa?

In so far as carry through a thoughtful discussion on the scalar extent of the challenges that the city under study has experienced through an exorbitant rate of rural out-migration, it evidently appears being imperative and timely to scrutinize its root determinant causes as a medium to resolve such persistent inflow of rural out-migration through exploring an alternative, structured and well-integrated instrumental strategy to properly mitigate the problem with a pretext to deal with the situation at its source place. In this regard, this perception-based study was conducted to

examine and probe the demographic and environmental determinants of rural-urban migration in the specific area under study with a primary motive to answer the basic question of what are the major demographic and environmental perception determinant factors of rural-urban migration that drive rural migrants from their rural origin towards Addis Ababa? Consequently, the findings obtained from the study would help to provide pertinent data and forward possible recommendation to design appropriate policy programs and strategies aimed at mitigating the problems of rural-urban migration in the study area in particular and the city under study in general.

1.3 Objectives of the Study

1.3.1 General Objective

The overall objective of the study is to explore and portray how major demographic variables, coupled with determinants of environmental perception factors, can determine rural-to-urban migration patterns in the study area by employing a perception-based data collection approach.

1.3.2 Specific Objectives

The specific objectives of the study include:

1. To examine how key demographic factors of sex, age, marital status combined with family size can determine rural out-migration in the study area.
2. To investigate how major determinants of environmental perception factors such as land degradation, drought, variability of rainfall coupled with access to water resources can influence rural-to-urban migration patterns in the study area, by engaging a perception-based data collection approach.

1.4 Significance of the Study

With respect to significance, the study is designed as a perception-based study to investigate the extent of demographic and environmental perception determinants of internal migration, particularly with respect to rural-urban migration stream, based on data collected from sample respondents. Most of research inquiries conducted previously in relation to rural-urban migration have focused predominantly on the impact and effect of migration at the place of origin, without addressing to investigate those environmental push driving forces of rural-urban migration. However, this study will contribute it part to fill such gap by taking into account the influence of environmental factors that determine rural out-migration patterns. This research is therefore, significant in providing all the essential information related to the demographic impact and environmental perceiving determinants of rural-urban migration, which has a direct link to the socio-economic development planning and implementation endeavors within the city under study in particular and at the national level in general.

To describe the study in terms to its prime significance, the findings gleaned from this study are expected to make small but important contributions to policy and planning issues regarding the concern on rural to urban migration issues. The result of the research inquiry also is helpful to overcome the challenges that drive people to abandon their rural origins and narrowing the perceived development gap between urban and rural areas through the implementation of sound rural development strategies and effective urban management plans. Similarly, the results obtained from this study can provide supporting information for planners and decision makers in their overall efforts to formulate and implement appropriate policies regarding population redistribution as well as migration policies. Additionally of this, an outcome achieved from this research will serve as a supplementary worthwhile value into the existing body of knowledge in the area of rural-to-urban migration. Furthermore, it is also used as a secondary source of information for those who intending to carry out further surveys and studies on the fields of rural-urban migration as well.

1.5 Scope of the Study

This research inquiry is delimited to rural migrant households within sample respondents which could be accessible in the specified study area and those being identified as migrants from the rural areas of Ethiopia and currently residing in sample study areas of wereda 08, 09 and 11, in Yeka Sub-city of Addis Ababa. In line with this, since it was not possible to cover the whole Weredas inside the sub city under study in accordance with the available time period and exploitable limited resources for the study, it is better to restrain the research study size and the scope of the inquiry to a possible manageable size. In this respect, the study had employed a single proportion sampling formula to determine the required representative sample respondents from the available proportion domain of rural migrants available within the selected three sample weredas.

Henceforward, this study was delineated to rural migrants within the territorial boundaries of the Yeka Sub-city of Addis Ababa, with such accessible sample respondents from the above-mentioned three representative Wereda domains in the Sub-city under investigation. These Weredas were chosen for the primary reason that the majority of migrants those leaving their rural origins and arriving at the stopovers of the study area in Addis Ababa mainly prefer these selected sample Weredas as their potential place of destination. Correspondingly of this, such specified areas and sample Weredas were preferable place of destinations where many rural migrants predominantly arriving at for an alternative employment opportunity and better settlement of their future lives.

As a generalized scope oriented summary, the study had takes into consideration the domain of rural out-migrants those heading into the study area from rural parts of the country. The required substantial quantitative information would be gathered on the different environmental perception push factors of migration in association with demographic variables of migrants that determine and influence their decision making intention towards rural to urban migration, through the use of a perception-based data collection approach.

1.6 Limitations of the Study

Notwithstanding the fact that every efforts have been made to maintain the quality of the data, this study still confronted with some of limitations related to field work activities. In such regard, due to lack of voluntariness, some of sample respondents, which are about 4 in number, were registered as non-respondent cases for which they did not want to participate in the study and unwilling to respond for the study questionnaire. Furthermore, as a result of lack of knowhow, few of sample respondents were unable to realize either their actual age or exact year of birth, in which make an opportunity to obtain accurate age data to become more challenging and time-consuming.

In the same connection, the task of examining the factors that determine and influence the trend of rural-urban migration is one of the more challenging activities as it involves the cumulative interaction of different factors. It has also become clear that rural migrants are varying in terms of their demographic status and environmental factors that drive them to migrate. As a result of this fact, it requires the consideration of a larger size of sample. In spite of this, the study was restricted only to 351 sample respondents as a result of limited resource availability and confined shorter study period. In order that, the study findings might not be applicable and generalizable to the entire rural migrant population, though it can still be used to indicate the determinant factors of rural-to-urban migration in the study area and will serve as a springboard for future research.

1.7 Organization of the Thesis

In respect of paper organization feature, this academic thesis is subdivided into six separate but interrelated main chapters. The first introductory chapter consists of sub-contents such as background of the study, statement of the problem, study objectives, scope and significance of the study, as well as limitations of the study. The next part, that is chapter two of the paper,

presents about review of the relevant literatures, including the concept of rural out-migration, theories and perspectives on rural-to-urban migration, empirical literature on the demographic and environmental determinants of rural out-migration, as well as conceptual framework of the study. The third chapter of the thesis covers about a general description of the study area, data sources, study design, sample size determination and related sampling procedures, data analysis methods, description of the study variables, and research ethical considerations combined with data quality assurance of the study. The continued fourth and fifth respective chapters of the paper provide information about the key results and study findings on the demographic characteristics of the respondents along with the environmental determinant perception factors of rural out-migration; and then followed by a discussion of the major study findings. The final chapter of the paper, chapter six, presents about a summary and conclusion pursuit of the study, and provides a series of recommendations emerging from the major findings of the study, that would be forwarded to relevant stakeholders so as to alleviate the problem of rural-to-urban migration.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

In winding up on the relevance of literatures as a summaries and synthesis of the research (Randolph, 2009), this chapter is concerned with the discussion and overview of relevant research inquiry perspectives on rural-urban migration and theories that have been used to clarify and shape internal migration studies. Therefore, the chapter is organized with different sub-topics, starting from the basic concepts of migration and key aspects used in the course of rural-to-urban migration in the first part, theories and approaches on rural-urban migration in the second part, which is followed by review of empirical literature portion and conceptual framework of the study in the final part.

2.1 Conceptualizing Rural Out-migration

Migration is the temporary or permanent movement of individuals or groups of people from one geographic location to another for a variety of reasons, ranging from the pursuit for better employment opportunities to being persecuted (Hagen-Zanker, 2008). Correspondingly, Migration process from rural to urban areas can also be seen as a response to the multiple economic opportunities across space and exist in the region. Historically, migration from rural localities to urban areas has played an important role in the urbanization process of numerous countries and will continue to happen on a large scale, despite the fact migration rates have decreased in some countries (Lall, Selod and Shalizi, 2006).

The way how a migrant is defined, however, is a complicate issue under discussion. In the context of International Organization for Migration (IOM), a migrant is any person who is moving across national borders or within a state, regardless of their legal status, the reason for their move or purpose of the movement, or length of stay in the host nation (IOM, 2020). The UNHCR (2016), on the other hand, defines a migrant as someone who decides to migrate

predominantly to enhance their quality of life. One of the reasons why defining a 'migrant' is so difficult is that it encompasses a wide range of people who cross national borders in a variety of situations and for a variety of reasons and purpose, but all have sharing a common factor in their movement (Koser, 2007). According to 2005 data from the National Geographic Society, Migration is distinguished as the movement of people from one geographic area to another, which may be on a basis of temporary or permanent motive. In addition, it can be categorized as international and internal migration. While internal migration is categorized according to the rural-urban characteristics of a particular area, it can be subdivided into rural-to-rural migration, rural-to-urban, urban-to-rural and urban-to-urban migration (Sinha, 2005). The Rural to urban migration flow is one of the most substantial schemes of migration, that is, the movement of people from the rural country side into cities and towns in search of possible opportunities (Rwelamira, 2008).

Along the pathway to comprehend about the process of rural out-migration, it is a migratory movement with a heterogeneously diverse, irregular movement of individuals, groups and family collectives from rural areas to urban towns and cities within a given country (Lipton, 1980) as a result of constant labor demands in cities, annual declines in household productivity and for education purpose. The movement in internal dynamics of rural-urban migration, which incorporates complex case for migrants, various travel costs for the movement and impacts to different actors and locations. In this spectrum, the rural area is an area usually associated with sparsely populated settlement, agriculture, pastoralism and is generally an area that has relatively less attention by institutions and organizations that might serve society and government that provide better social services to urban and cities in terms of electrifications, medical facilities, roads and school facilities (Cromartie and Bucholtz, 2008). In general, a rural area is a relatively isolated part, where majority of people are living in and lead about their everyday lives in developing countries.

An urban areas, on the other hand, are areas to which each countries give their own definition based on the size and density of the population they have over places (For instance, Ethiopia

over 2000 inhabitants, Senegal over 10,000 inhabitants, Malawi all district centers, Canada with a population of 1000 and density of 400 per kilometer square, Turkey a population over 20,001 over a place, and Norway localities of over 200 inhabitants (Lithuania, 2006). Despite differences in national standards between different countries, urban areas are densely populated areas with good or relatively better access to things what may not be available in rural areas (Ibid). Given such circumstances, it makes sense that, the process of Rural-to-urban migration represents the movement of people in between these two dichotomous geographic areas with enormous factors responsible for the migration. In this research, thus, rural-to-urban migration refers to the movement of population from a rural area towards another urban area which having a population size of more than 5000 inhabitants.

As far as viewing into decisive factors of rural-to-urban migration in Ethiopia, demographic pressure and continuously constant deterioration of the natural environment are also considered as additional further reasons for the migration (Assefa and Yismaw, 2018). According to Erulkar's et al. (2006) general culmination, the summarized common causes and the significantly paramount drivers and stressors of rural out-migration in Ethiopia include: a search for a better new job that is emerged from lack of job and business opportunities in rural areas; an intermingled level of rural poverty; Shortage of agricultural farm land, small agricultural plots of land and low agricultural productivity due to land degradation assails. Correspondingly, environmental change and climate-related reasons such as recurrent drought, accidental flood, frequent famine, a change and variability in rainfall patterns, limited access to available natural resources like land, water and energy; land degradation onsets and low soil fertility, crop failure and food scarcity, deforestation, soil erosion and other associated natural disasters and hazards are among key causes of rural-urban migration process. Another reason for rural out-migratory courses includes not only lack of better schooling conditions but also educational reasons such as inaccessibility for secondary level education and a desire for advance quality education as well as standard school facilities.

2.2 Theoretical Underpinnings on Rural-Urban Migration

For some several decades, various interdisciplinary and multidisciplinary approaches have attempted to analyze and arrive at fundamental basic consensus and justifications for the occurrence of migration. There are a number of several theories and approaches to address rural-urban migration problems that occurs in developing countries. Some of the theories, perspectives and relevant factors associated with the study and such theories that best guide the topic under study are discussed in the next section.

2.2.1 New Economics of Labor Migration (NELM)

The New Economics of Labor Migration (NELM) theory indicates that decision-making process on migration has basically made on household level. The theory further envisions migration as a family livelihood diversification strategy aimed at mitigating the risks associated with credit and capital scarcities during perilous times of environmental instability and natural disasters (Stark and Bloom 1985). The theory also stated that family members decide to migrate to support extended families or economic units, either at the command of the head of household or members of the community or voluntarily that is directly complies with this study. Furthermore, it describes how individuals act collectively to maximize their expected income as well as to maximize their position within consolidated hierarchies, to overcome capital and credit barriers, and to minimize risk and diversify their returns (Massey, 2001). NELM takes into account both wage inequalities and market failures in insurance, credit and savings which means households need to self-insure themselves by moving out of their rural province.

New Economics of Labor Migration theory corresponds to various types of environmental migration and the one in this study. For instance, seasonal migration in the Sahel region and the horn of Africa, which is mainly shaped by environmental features and constraints, can be said to comply with the NELM. As this is often a household decision, it serves to diversify income

streams, and relieves pressure on household food supplies and reserves (Van der Land et al., 2018). The New Economics of Labor Migration theory also aligns well with the risk framework of the Intergovernmental Panel on Climate Change, insofar as it considers migration as a risk reduction strategy and an adaptation tool (McLeman et al., 2021).

The new economic theory of labor migration recognizes migration as a way for households to reduce the risks they encounter and find resources that can available for future investment in the household's economic activity (Stark and Bloom, 1985). This could be highly relevant when facing uncertainties associated with environmental change and the anticipated future risks associated with environmental changes. Hence, the perceived risks in human natural living environment are a prerequisite for understanding people's behavior and migration decisions. For example, Hunter et al. (2015) argue that migration is a household risk diversification strategy that frequently interacts with household composition, personal characteristics, social networks, and historical, political, and economic contexts. From this perspective, migration is viewed as one of many long-term coping strategies for families to deal with environmental change. Consequently, many scientists working on risk aversion and climate change adaptation strategies have applied this approach and studied migration as one of the means of adaptation to climate change - for example, (temporary) migration as an adaptation strategy for farming families and young adults in Ghana (Antwi-Agyei et al. 2014) and similarly in Senegal (Mertz et al., 2009).

The NELM as associated with environmental factors such as precipitation and temperature stress and variability can affect the sustainability of livelihood, particularly in rural environments distinguished by agricultural or natural-resource based livelihoods (Eakin, 2005). Particularly in rural areas of having limited access to insurance mechanisms, rural households may send part of their labor supply to urban or foreign labor markets (Massey et al., 1993). Indeed, several researches in multiple settings have shown that migratory responses to environmental pressure appear to be household risk diversification strategies, which are consistent with the NELM approach. As concrete examples to support this claim, in rural Cambodia, migration has become

an alternative strategy for agricultural livelihoods, as environmental uncertainty increases risk perceptions (Bylander, 2013), which could be applicable to this study as well.

2.3 Empirical Literature

The following section of the chapter is intended to discuss about reviews of empirical literatures on the topics such as demographic determinants in which influencing migration, as well as about environmental determinants of rural out-migration.

2.3.1 Demographic Determinants of Migration

The characteristics and peculiarities of potential migrants have long played an indispensable role in expounding who migrates and who does not. It is important to note that people who migrate for professional work purposes can be very different from those who migrate for family reunification. Moreover, each migrant flow is unique in terms of the demographic characteristics, including age, gender, marital status, and family size of migrants. Many of migrants are often at younger age, as they will have more time to realize the expected benefits of migration. Historically, labor migrants were mostly men of working-age, but migratory flow is increasingly made up of women and families looking for employment abroad (and in some cases joining families are already in the host nation). Marital status is also another factor in migration, and so married people are generally being less likely to migrate alone and tend to return back home sooner. The reasons driving the motive and decision to migrate can be varying and considerably changeable depending on the qualification, skill or educational attainment of the migrant (Simpson, 2017).

In what follows, the well prominent demographic characteristics of potential migrants such as age, sex or gender, marital status, as well as family size as the determinant factors of rural out-migration are discussed.

- **Age Composition:** It has been demonstrated in a number of internal as well as international migration studies that only distinction of migration has been held with some degree of consistency and texture in several contextual circumstances. According to the FAO (2020), 60 to 70 percent of all migrants are between 15 and 34 years of age. Young people are the most dynamic part of the population and are more likely to move in search of new employment opportunities and better living conditions with better income. Regarding migrant's age composition, age-specific sex ratios from the 2007 Ethiopian population and housing census show that males outnumber females in age groups 30 to 44 and 55 to 69, while females dominate males at young and old ages of 15 to 29 and 70 to 75+ years.

- **Sex Composition:** Until recently, several studies indicated that, migration was preponderantly dominated by males rather than females (De Haan, 2000). In fact, the feminization of migration is one of the most significant recent developments in population movement. The reasons for women's migration are complex and can include both economic and non-economic factors. For females, if they are engaged in socially stigmatized work (ranging from specific manual labor jobs to commercial sexual services (Tacoli, 2001), migration can provide them a possible opportunity to escape social control, and gender based discrimination (Posel, 2003) as well as prejudice in their home community

- **Marital Status:** Numerous studies have shown that marriage is an important factor influencing migration. Upon marriage at least one of the spouse, and usually both partners, migrate. The predominance of younger age groups, particularly women aged 15 to 29, is associated with causes of marriage-related migration such as divorce and separation. The prevalence of the high divorce rate among female migrants is due to the fact that divorced women are placed as socially unacceptable and are often pressured to leave their usual place of residence and migrate to nearby urban centers at unusually high proportion. In general terms, the majority of these migrant women are either divorced, separated or never married (CSA, 2007).

- **Family Size:** It is generally recognized that demographic pressure is an important driver engine of the overall global migration flows. Some of previous studies have shown that higher fertility encourages emigration as the size of population cohort increases (Hanson and McIntosh, 2016). In rural areas, those households having extended families can stimulate investment in the form of sending and migrating family members towards refined nearby urban areas. It is important to note that household demographics can determine who is enabled to migrate within the family, as migration is costly and selective in nature (Chen, 2006). As several studies on migrant's demographic characteristics and family status revealed out that, the majority of migrants from rural areas came from households of having large size of family members. This fact indicates that those individuals with large number of family size are more likely to migrate than those with smaller size of family members. Insofar to, this research inquiry will also attempt to examine and verify whether this empirical evidence is statistically correct or not.

2.3.2 Environmental Determinants of Rural Out-Migration

Since migration is often an adaptive strategy in the face of environmental stress such as rainfall shortage and variability or intense heat (Carman and Zint, 2020), understanding migration in the context of livelihood strategies can suggest actions to increase households' adaptive capacity and, thereby, reshape migration patterns (Mueller et al. 2020b). Environmental change and natural disasters have always been considered among major drivers of migration. In similar pathway, the 2018 Global Compact for Safe, Orderly and Regular Migration (GCM), which is the first deeply negotiated global framework on migration, recognizes and acknowledges that migration is a reality in the context of natural disasters, climate change, and environmental degradation, and makes commitments and pledges to support both migrants and nations.

In terms of conceptual aspect, there is no legally pinpointed definition for persons on the move due to environmental drivers exist to date and neither a formally accepted one. But IOM put forward in 2007 a broad working definition for Environmental Migration. Thus according to IOM "Environmental migration is movement of persons or groups of persons who,

predominantly for reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their usual residence, or choose to do so, either temporarily or permanently, and who move either within their country or abroad" (IOM, 2007:33).

In most current years, threats related with environmental onsets such as soil degradation, drought, flooding, irregularity in rainfall or temperature, as well as low agricultural productivity, crop failure and natural disasters have been identified as potential causes of large migration flows, with a development which is expected to increase even more in the future (IPPC, 2014; UNFPA, 2009). Similarly, Cattaneo et al. (2019) describe the diversity in human mobility with respect to both slow-onset events, such as land degradation or droughts, and quick-onset events, such as storms or floods. Although the latter are mostly associated with forced and sudden internal movement, while the former are more complex to relate to particular climate events due to their delayed human response.

At the end of 1992, the data from International Organization for Migration stated that environmental degradation was already leading cause for large number of migrants, with the possibility of substantial increases due to climate change (IOM/RPG, 1992). During that similar year, Bilsborrow (1992) put forward his early effort to theorize the environmental dimensions of migration. He attempted to link the demographic changes, namely population growth, with economic motivations for land intensification (due to increase in food demand) and therefore resulted into out-migration to rural frontier regions (Ibid). In relation to environmental factors of migration, rainfall and temperature stress and its change may impact livelihood viability, especially in rural settings characterized by agricultural and natural resource-based livelihoods (Eakin, 2005).

Among a variety of environmental factors of migration, drought represents a frequently studied environmental stressor in connection to rural-out migration, and it fuels both long- and short-

term movement in a variety of environmental settings. In some of cases, households have sent family members towards urban provinces to reduce household food demand such as during the drought in Mali in 1983–1985 (Findley, 1994). Alongside with this, in vulnerable drought-prone areas of Ethiopia, those highly vulnerable households are more likely to send migrants into feeding camps or urban areas during frequent famine periods (Ezra and Kiros, 2001). In other cases in Africa, such as in Burkina Faso, residents found dry regions are especially likely to take part in both temporary and permanent migration towards another rural area that have better agricultural prospects (Henry et al., 2004).

As a corresponding coping strategy, migration is only one of several options for households facing of environmental stress. Another strategy to combat this is to increase participation in the off-farm labor market (Kochar, 1999; Rose, 2001). In the case of Ethiopia, Bezabih et al. (2010) found out that participation in the non-agricultural labor market was indeed positively correlated with changes in rainfall patterns. As another coping strategies, Kazianga and Udry (2006) although show that households that experienced a severe drought in Burkina Faso did not rely on selling their livestock, but rather used them as a reserve stock for future droughts. Indeed, as Meze-Hausken (2000) demonstrates about the situation in Ethiopia, migration is likely to be the last strategy to be used by the family after trying other alternatives such as selling of assets or obtaining credit. In the same regard, Di Falco et al. (2012) found a similar result in a study of 1000 households in the Nile Valley of Ethiopia. Less than 5 percent of the households' self-reported climate change coping strategies involved migration or transitioning to work in non-agricultural sector. Instead, the coping strategy frequently used is to do nothing (more than half of the samples were temperature change and more than 40% were for rainfall changes), changing crop varieties or implementing soil conservation activities, and planting trees.

Alongside with this, Ethiopia has been commonly identified in the form of rural-urban migration flows mainly happened due to environmental reasons and other associated factors of environmental influences. As a result, rural-to-urban migration trend in Ethiopia can be demonstrated by a number of so-called push and pull factors (Fransen and Kuschminder, 2009).

In harmony with this, Markos and Gebre-Egziabher (2001) cited in Birhanu and Kavita (2017), summarize in their study the main push factors of rural-urban migration in Ethiopia as being over population, drought, famine, poverty, land scarcity and lack of agricultural resources and associated inputs for agriculture. In similar vein with this, environmental change in the most highland parts of Ethiopia contributes, in a variety of ways, to encouraging migration out of rural areas towards cities and towns.

In similar connection, environmental change is, of course, not the only kind of upheavals that a household can experience. Unusual shocks, such as sudden floods or death in the family, must need to be taken into account when evaluating migration decisions. The magnitude of the environmental stress is significant, however, because it cannot be saved by conventional means, especially when it affects an entire region. A variety of strategies can be employed by farmers in response to adapt environmental shocks (Katrin, 2015). Amongst other things, the family may send one or more members as migrants in the hope of receiving future remittances. For a migration strategy to be effective, it must be uncorrelated with climate variability in the destination area. As adaptation mechanism, irrigation practice often uses as compensates for poor quality of land, and households with access to irrigation are less likely to migrate when faced with environmental challenges (Shah, 2010).

In general terms, in accordance with the study literatures that are currently available on migration trends in Ethiopia, environmental strikes and changes generally have a significant influence on the mobility of population in most rural parts of Ethiopia (Comenetz and Caviedes, 2003). In a similar view, it is common for environmental stressors to threaten most household's well-being as a result of changing precipitation patterns with its unpredictability nature and other environmental factors shift over time and space, often leading to stimulates rural out-migration in Ethiopia (Gray and Mueller, 2012). These studies further highlight that climate variability have long been a major obstacle and challenge to Ethiopia's agricultural economy and livelihoods. As it is actually evidential that the majorities of Ethiopians live in rural settlements and rely mainly on smallholder rain-fed agriculture for their livelihoods, the occurrence of recurrent droughts,

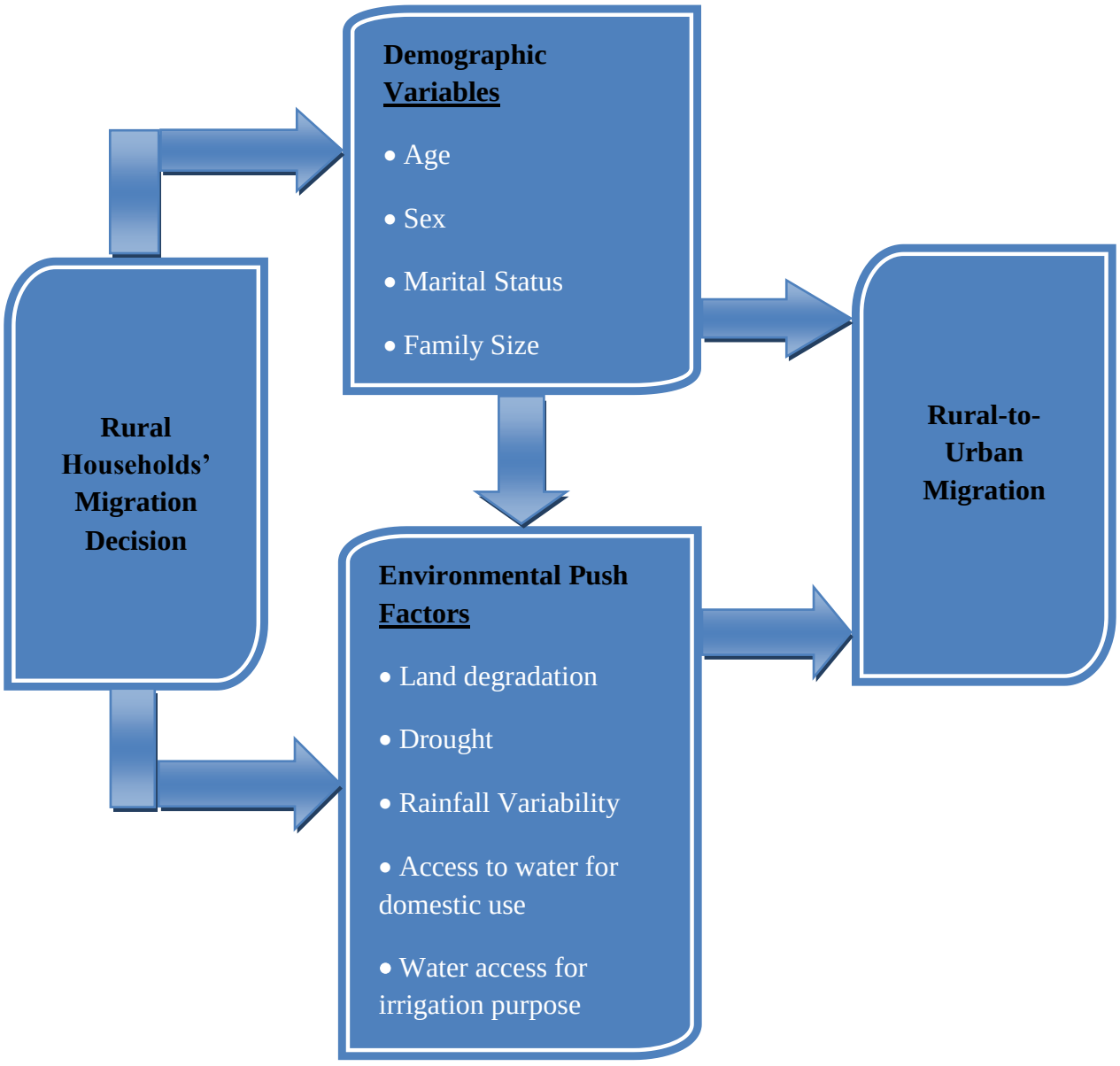
rain shortages and erratic rainfall caused by climate change often threaten the survival of this small rain-dependent subsistence agriculture. This frequent situation, in turn, has stimulating migratory processes in most rural areas.

2.4 Conceptual Framework of the Study

In this research paper, migration perspectives of migrants have been used to explore and portrayed the demographic and environmental determinants of rural urban migratory movements of people towards the urban environment in Addis Ababa. Henceforth, this section of the paper sets out an examination of the theoretical and conceptual embedding of the study, which was accomplished by reviewing relevant related literatures and evidence from previously conducted researches in the field of rural-urban migration studies.

As a principal implication, the conceptual framework of this study schematically illustrates how environmental perceiving push factors of migration along with the demographic determinant variables of rural-urban migration interact and are correlated one another in determining the extent of rural-to-urban migration. In accordance with such manner, the following conceptual model of the study is built using the reviewed available literary sources and by the proposition that rural and urban areas are interdependent places which could be represented as an area of origin and place of destination respectively.

Figure 2.1: Conceptual Framework of the Study



Source: Derived from reviewed literatures, and developed by the Author, 2023

CHAPTER THREE

STUDY AREA, DATA SOURCES AND METHODOLOGY

This research chapter attempts to provide a discussion on the sources of data, methods and procedures those utilized throughout the course of conveying the study. In this respect, background of the study area is expounded in the first section; the research method, research design, study participants, techniques employed to select study participants and data collection methods in the second part; methods of data analysis procedures in the third segment; and the final section discussed about ethical consideration and data quality assurance of the study.

3.1 Description of the Study Area

The city of Addis Ababa is the capital as well as the largest city in Ethiopia. According to the 2020 proclamation of city municipal, the city of Addis Ababa is subdivided into 11 distinguishable sub-cities. Of these, Yeka Sub-city is one of the 11 sub- cities functioning under the jurisdiction of City government of Addis Ababa which is located in the North-Eastern part of the capital city with a geographical coordinate of 900 010 30.730N and 3800 46027.550E. According to CSA (2022) population projection report, the total area of the sub-city is about 85.98 km squares.

The city of Addis Ababa is not only a prime place of destination for local migrants, but also a transitory point of destination for migrants arising from rural parts of the country. According to different literature sources, the magnitude and extent of migration from rural toward urban places is increasing significantly in Ethiopia. For instance, referring to the CSA (2007) Population and Housing Census report, it is showed that the proportion of rural-urban migration rate in Ethiopia have increased from 24.8% in 1999 into 32.5% in 2007. Out of these migration rates, Addis Ababa accounts for a profoundly majority share (47.6%) of the total rural-to-urban migration

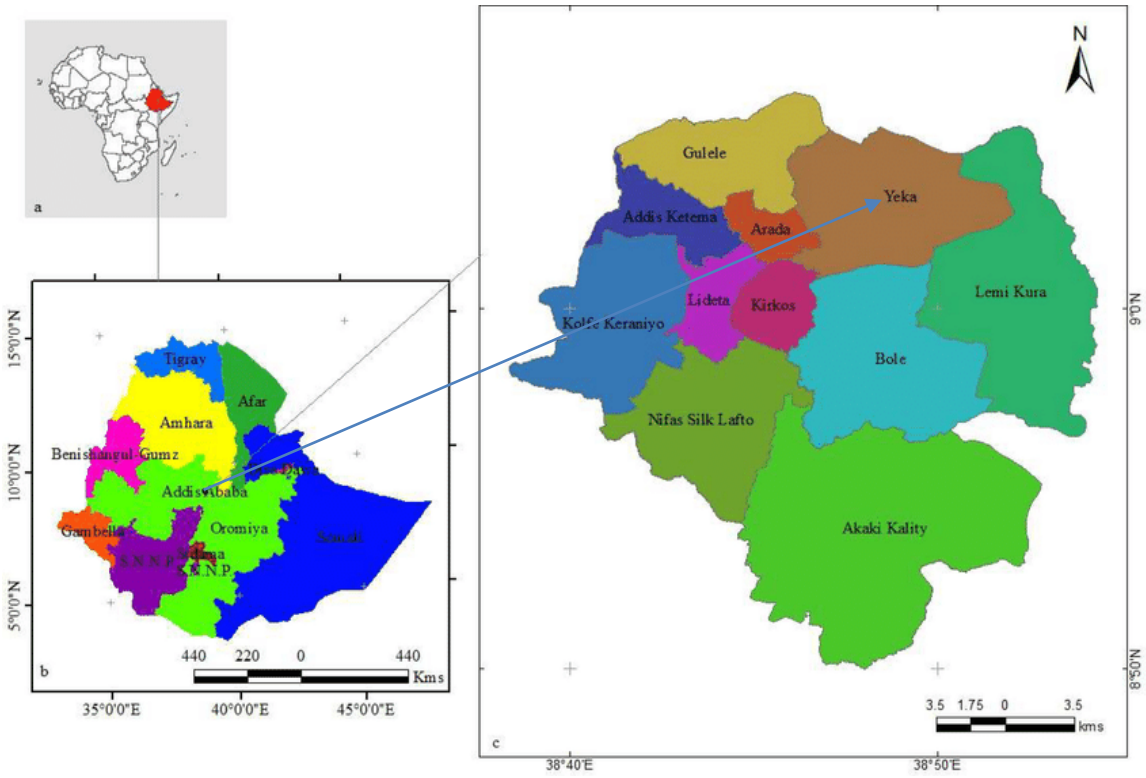
proportion in Ethiopia. In the same pattern, the Sub-city of Yeka, one of the city administration's 11 sub-cities, is a home for a significant proportion of all domestic rural migrants residing in Addis Ababa.

The Sub-city of Yeka is amongst the eleven sub-cities of Addis Ababa City Administration which is located in Northeastern suburb of the capital. It shares border with the districts of Gullele, Arada, Kirkos, Lemi Kura and Bole Sub cities. It consists of about 12 Wereda districts. According to the result of 2007 Population and Housing census conducted by the Central Statistical Agency (CSA) of Ethiopia, the sub-city has a total population size of 346,664. But as reported by the Population projection data of Ethiopia (CSA, 2022), total population of Yeka sub-city has estimated about 488,537 of which 225,543 are male and the remaining 262,994 are female. On the basis of similar population projection result, the sub-city has a population density of 5,682 peoples per kilometer square with 2.3% of annual population growth rate.

The study area is located within Yeka Sub-city around Lambert locality of wereda 08, 09 and 11, which are among the densely populated areas of Yeka sub-city that is surrounded by major commercial centers, social and economic sectors like National Cross-country public transport terminal (Meniharya), a number of urban construction sites, large community market places namely of Sholla and Kotebe markets, various hotel and hospitality centers, and small business enterprises those accommodating plenty number of migrant workers. All these factors and other several economic activities running inside the study area, makes Yeka sub-city to become center of attraction for a number of internal migrants originated from rural areas outside of Addis Ababa. As a result of all these facts, the sub-city under study is preferred to be one among the possible places of destination for several internal migrants moving from rural parts of Ethiopia.

For further reference, the current geographic map of Addis Ababa city that constitutes the recent eleven sub cities with their specific geographical boundaries is attached beneath.

Figure 3.1: Geographic Map of Addis Ababa City, with 11 Sub-cities



Source: Ethio GIS, (2022)

3.2 Research Methodology

This study inquiry is predominantly a perception-based quantitative study which emphasized on demographic and environmental perceiving determinant push forces in the extent of rural-urban migration in Yeka Sub city of Addis Ababa. With reference to this, this section of the thesis describes about research design, sources of data, method of data acquisition and approaches of data analysis that properly helps to achieve the previously stated objectives and research questions of the study.

3.2.1 Research Method

In order to conduct this research, a quantitative research approach was employed due to the given nature of the specific objectives of the study has focused on perceiving determinant factors of migration. This is also due to the fact that the use of quantitative method is advisable as it provides precise summaries and comparisons regarding the issue under inquiry (Bhattacherje, 2012). Hence, this quantitative research method is believed to be more appropriate to examine the topic under investigation – demographic and environmental determinants of rural-urban migration in Yeka sub city of Addis Ababa.

3.2.2 Research Design

According to Kothari (2006), the research design helps the researcher plan in advance of the methods to be adopted for collecting the relevant data and techniques to be used during analysis. As a research design serve as a notion of ideas to frame any given study, this study has employed a cross sectional research design. This design used to identify the extent and nature of relationships between study variables by taking sample respondents from the study area. By putting these facts into consideration, this study was designed to be carried on a quantitative cross-sectional research design, which is also known as a single-shot or status study design. This design is selected because of its simplicity, as it is only a singular instance contact study with the target population and comparatively cheap to undertake along with its easy nature to analyze.

3.2.3 Types and Sources of Data

For this study, quantitative data was collected from primary sources of sample respondents. The relevant data about background of the study area and number of target population in the study area was obtained from pertinent governmental organizations working and conducting relevant

information related to filing migrant data particularly in the area of rural to urban migration stream within the sample Weredas. The primary data of the study was collected from sample rural migrants those selected from the domain of rural migrants within three sample weredas in the study area of Yeka sub city. Primary data on basic demographic characteristics of migrants, including sex, age, marital status, and family size in combination with data on environmental determinants of rural out-migration, were collected from a sample respondents in the study area.

3.2.4. Methods of Data Collection

A questionnaire interview was used as a data collection instrument to gather the required primary data for the study from sample respondents. The study data were collected by well trained interviewers through a structured household survey questionnaire. This structured survey questionnaire is employed to investigate the relationship between major demographic and environmental determining factors of rural-urban migration in the study area. The questionnaire was presented to selected sample rural migrants in the study area. The study questionnaire was initially designed in English language and then translated into one of a major and commonly spoken Ethiopian local language of Amharic for smooth and better communication among the data collectors and sample respondents. The designed survey questionnaire have subdivided into three different sections; the first section is basically about area identification of the sample study areas, the second section of the questionnaire deals with respondent's basic demographic characteristics, and the final third section consists about list of questions regarding environmental determinant push factors of rural-to-urban migration.

3.2.5 Sample Size and Sampling Technique

With regard to sample size calculation, a single population proportion sampling formula is believed better to select sample that enable to answer the research question efficiently and to meet the predetermined objectives of the study. According to recent study conducted by

International Food Policy Research Institute (IFPRI), the rate of Rural to urban migration in Ethiopia between 2010 and 2014 is around 30% (Kosec et al., 2017). Thus, the required sample size for the study has determined using the single population proportion formula as shown below:

$$n = \frac{Z_{\alpha/2}^2 * p*(1-p)}{d2}$$

Where, n = desired sample size

$Z_{\alpha}/2 = 1.96$ (Z score corresponds to 95% confidence level)

P=30%

d2 = 0.05 (Margin of error), therefore,

$$n = \frac{(1.96)2 * 0.30\ (1- 0.30)}{(0.05)2}$$

$$= \frac{3.8416 * 0.30\ (0.7)}{0.0025} = 323 + 10\% = 355$$

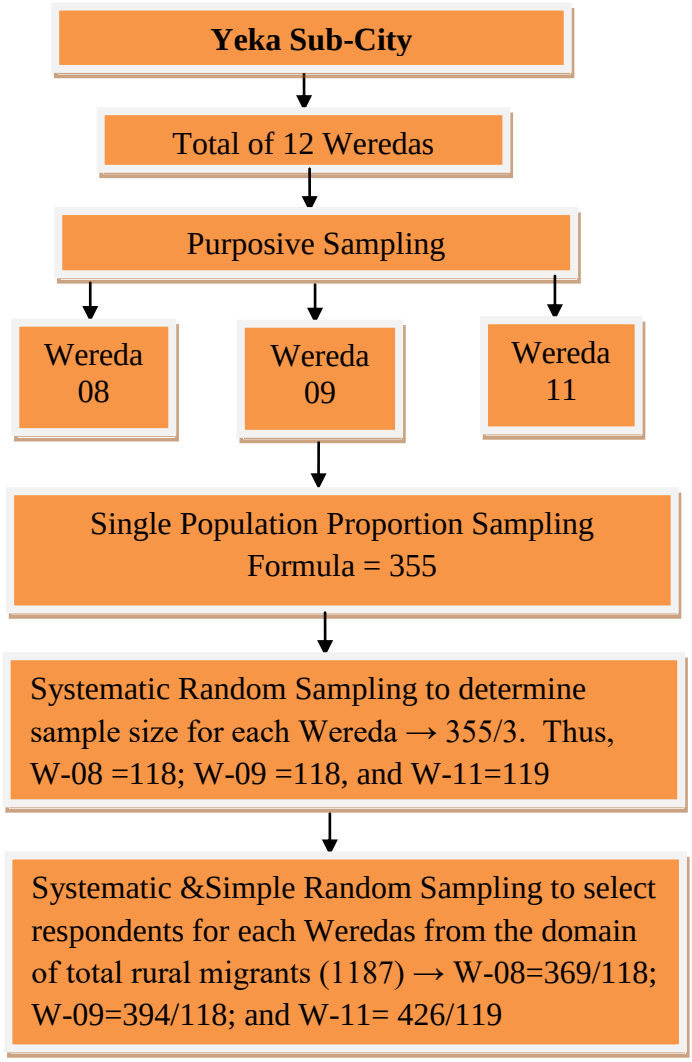
Thenceforth, after adding 10 percent of non-respondent rate, the final calculated sample size required for the study would be 355 households.

Regarding sampling technique employed for this study, it has used both probability and non-probability techniques of sampling. The probability sampling is applied at specific Weredas for the determination of desired sample respondents that is required for the study. Whereas, the non probability sampling method mainly of purposive non probability sampling technique is employed to select representative sample Weredas for the study from a total of twelve weredas functioning under Yeka sub city.

As indicated above, the required Sample size for the study is determined using the aforementioned formula, and samples were selected from the domain of rural migrant population found in the sample weredas of the sub city, and which based on the data obtained from the three sample wereda administrators, the total proportion of rural migrants are 1187. For this study, the three more populated weredas were purposively selected from the sub city under study. The selected weredas are namely: 08, 09 and wereda 11 out of the total 12 weredas functioning under the study sub city. The primary reason behind purposive selection of these weredas is the availability of large number of rural migrants residing in these areas. Furthermore, these areas serve as a potential place of destination for majority of rural migrants moving towards the area under study as a result of the availability of National Cross-country public transport terminal of Lamberet and the presence of large market places such as Sholla and Kotebe community markets within these selected weredas, which accommodate a large number of rural migrants and these localities preferred by migrants as it provides better job opportunity than any other areas in the sub-city.

To summarize the details of the sampling method, and so for better understanding the overall sampling procedure of the study, a simple but more illustrative figure that indicates each single step of the sampling procedure used in the study are attached in the page that right follows.

Figure 3.2: Illustration of the Sampling Procedure



Source: Developed by Author, 2023

3.3. Methods of Data Analysis

The collected data were analyzed and interpreted after being properly cleaned and verified in order to minimize entry errors, outliers and missing values. The data were analyzed using various statistical techniques. This includes the use of univariate analysis to describe the respondent's demographic characteristics and the result was presented in a tabular and graphic form using frequencies and percentages. Bivariate analysis was used to examine the association between

explanatory variables with the dependent variable of rural out-migration. At this level, statistical significance of variables was set at P-value of less than 0.05. Such variables that shows as statistically significance P-value of less than 0.05 at bivariate level was further analyzed by multiple regression methods. Multivariate logistic regression analysis was used to show factors that determine the outcome variable of rural-to-urban migration. Since the dependent variable is dichotomous, binary logistic regression model was fitted. The logistic regression model was applied to examine the relationship between rural to urban migration and a set of predictor variables such as demographic and environmental variables.

3.4. Description of Study Variables included in the Analysis

3.4.1. Dependent Variable

Table 3.1 Description of Dependent Variable

Variable	Label	Value
Y	Rural-to-Urban Migration	1= Non-Migrant
		2= Migrant

3.4.2. Independent Variables

Table 3.2 Description of Demographic Variables

Variables	Label	Value
X1	Sex of Respondent	1= Male 2= Female
X2	Age of Respondent	1=Below 20years, 2=20-24years, 3=25-29years, 4=30-34years, 5=35-39years, 6= Above 40 years

X3	Marital Status	1=Never married, 2=Married 3=Divorced 4=Widowed 5=Separated
X4	Household Family Size	1=Below 4members, 2=4-5 members, 3= 6-7 members, 4=8-9 members, 5= 10–11 members, 6=Above 11

Table 3.3 Description of Environmental Perception Variables

Variables	Label	Value
X5	Land/ Environmental Degradation Perception	1=Observe proportion of area with steeper slope 2=Observe presence of erosion 3=Presence of perennial plant cover 4=change in soil type
X6	Land Degradation as Migration determinant	1= Yes, 2= No
X7	Drought Situation Perception	1=Observe plant stress & crop failure, 2=Prolonged heat & warm temperature, 3=Short or late rainy Season, 4=Low level of water supply, 5=Poor health condition of live stocks
X8	Drought as Migration determinant	1= Yes, 2= No
X9	Rainfall Variability Perception	1=Observe long term changes in weather precipitation, 2=Observe variation in rainfall amount, 3=Observe variation in rainfall timing, 4=Observe variation in rainfall duration, 5=Observe variation in rainfall distribution
X10	Rainfall Variability as Migration determinant	1= Yes, 2= No
X11	Water access for Domestic use perception	1=Perceive that there is no reserve for the next day, 2= Noticed when it is below the recommended daily standard

X12	Water access for Domestic use as Migration determinant	1= Yes, 2= No
X13	Water access for Irrigation use perception	1=Observe as it is not sufficient at required amount, 2=When it is not accessed during needed time, 3=When it is not available at all
X14	Water access for Irrigation use as Migration determinant	1= Yes, 2= No

Source: Developed by Author

3.5. Ethical Considerations of the Research

As an initial prerequisite for conducting this academic thesis study, an ethical clearance for the research and approval was obtained from the Institutional Research Ethical Committee (IREC) of College of Development Studies of Addis Ababa University and the Yeka Sub city executives in Addis Ababa City administration so that to carry out the research inquiry in a manner that ensures a common level of understanding among the various stakeholders those actively involved in the study. In addition to this, the academic research has been carried out in strict compliance with the Addis Ababa University Anti-Plagiarism Policy Framework, which was introduced in November 2019 and adheres to recognized standards with respect to originality and overall internal quality.

With regard to research ethical consideration, Mugenda (2008) emphasizes that any participation in scientific research activities supposed to be made in a voluntary basis, and the respondents always have the unconditional right to withdraw from the study whenever they want to do so, and the researcher must also respect their right not to participate in the study. Alongside with this, the researcher has obliged to clearly explain the overall objective and significance of the study to those participating in the research. Furthermore, there is no participant will be forced to be involved in the study against of their will. Thus, the fundamental rule of volunteerism was applied all across the research data collection process. In addition to the introductory part of the

questionnaire, which clearly describes the study objective, the researcher informed all participants of the study that their responses confidentiality were guaranteed and that the collected information would be serve for academic research purposes only.

3.6. Data Quality Assurance

Early before field work, training to data collectors was given by principal investigators for one day about the objectives of the study, data collection instruments, data collection procedures and the ethical consideration during data collection. During the entire operation of the study, the desired quality of data was ensured through a proper screening approach and standard training procedure of field data collectors, as well as through close, careful and frequent field supervision with on-spot checks in order to receive immediate feedback from the enumerators. The data quality assurance process further includes reviewing, checking and editing of each completed questionnaires on a daily basis. All the necessary information related to fieldwork was exchanged daily among enumerators and field supervisors with a motive to resolve encountered problems in a shorter time frame within the course of data collection. Furthermore, all completed questionnaires were reviewed for their completeness, accuracy and consistency by the principal field invigilator as promptly as possible.

CHAPTER FOUR

STUDY RESULTS, DATA ANALYSIS AND INTERPRETATION

This chapter of the study discusses and presents about the analysis, results and interpretation of data obtained from the questionnaires completed by a specific sample of migrant households who were selected from Yeka sub-city of Addis Ababa. In the entire course of conducting this research, a cumulative amount of 355 questionnaires, which is equivalent with the estimated number of required sample size, were initially distributed among the respondents selected for this study. Of these aggregate copies of questionnaires, 351 of them were appropriately completed and returned back by the respondents, whilst the remaining four copies of questionnaires were either left both blank and incomplete or the respondents were observed being refusals, and thus have been no longer returned back to the researcher. As a result of this, the researcher has obliged to operate the analysis, data presentation and interpretation task of the study on the basis of these accurately executed data of 351 survey questionnaires. Henceforth, the overall response proportion of the study was approximately 98.9% of total response.

By considering the facts mentioned above, this chapter has therefore, intended to focus on the analysis, presentation, and interpretation of the main demographic characteristics of the respondents' background and the detailed of environmental push factors of rural-urban migration in Yeka Sub-city of Addis Ababa.

4.1. Descriptive Statistics

4.1.1. Demographic Characteristics of the Study Populations

This subsection of the chapter makes an attempt to describe and present study findings in relation with participants' essential demographic characteristics, including sex, age, marital status as well as the family size of interviewed respondents.

Table 4.1: Percentage distribution of the respondents by Sex, age, marital status and family size, Yeka Sub-city, 2023

	Respondents		
Sex	Option	Frequency	Percent (%)
	Male	203	57.8%
	Female	148	42.2%
	Total	351	100%
Age	20 - 24 years	12	3.4%
	25 - 29 years	73	20.8%
	30 - 34 years	127	36.2%
	35 - 39 years	88	25.1%
	Above 40 years	51	14.5%
	Total	351	100%
Marital Status	Never Married (Single)	186	53 %
	Married (In Union)	27	7.7 %
	Divorced	58	16.5 %
	Widowed/Widower	43	12.3 %
	Separated	37	10.5 %
	Total	351	100%
Family Size	Quantity	Frequency	Percent (%)
	4 - 5 members	53	15.1%
	6 - 7 members	229	65.2%

	8 - 9 members	62	17.7%
	10 – 11 members	7	2.0%
	Total	351	100%

Source: Own Survey data, 2023

1. **Sex of Respondents**

One of the variables used to discuss the demographic characteristics of the respondents is sex. As it can be observed from the Table 4.1 above, approximately 57.8 percent of the total number of surveyed migrants were discovered to be male and the remaining 42.2 percent of respondents were female migrants.

2. **Age of Respondents**

The age distribution of respondents included in the survey is presented in the above Table 4.1. And thus, closely 3.4 percent of the respondents were under the age of 25, while 20.8 percent of the respondents were aged between 25 and 29 years old. Correspondingly, nearly 36.2 percent of the migrants surveyed were belonged to the age group between 30 to 34 years old, which is identified as young adult group of a population. Coincidentally, around 25.1 percent and 14.5 percent of the respondents were aged between 35 to 39 years and age over 40 years old respectively.

3. **Marital Status of Respondents**

As it is illustrated in the Table 4.1 above, the majority of respondent migrants that is approximately about 53 percent of the total were discovered to be single or never married, and another significant share nearly close to 16.5 percent of all interviewed migrants were identified

being divorced in their marital status. On top of this, the remaining miniature cases of marital status, which constitutes an estimated proportion of about 12.3, 10.5 and 7.7 percent of all respondents, were found to be widowed, separated, and married, respectively.

4. Family Size of Respondents

As it has been pointed out in the above Table 4.1, it is clearly noted that nearly 65.2 percent of the respondents have consists a family size between 6 to 7 members within their family. Consequently of this, it can easily be observed that the minimum size of a family is 4 members, whereas the maximum number of family size is 11 members per household. From this point of view, it can be possible to conclude that majority of respondents have an average estimated family size of 8 members per household.

4.2. Environmental Perception Determinant Factors of Rural-to-Urban Migration

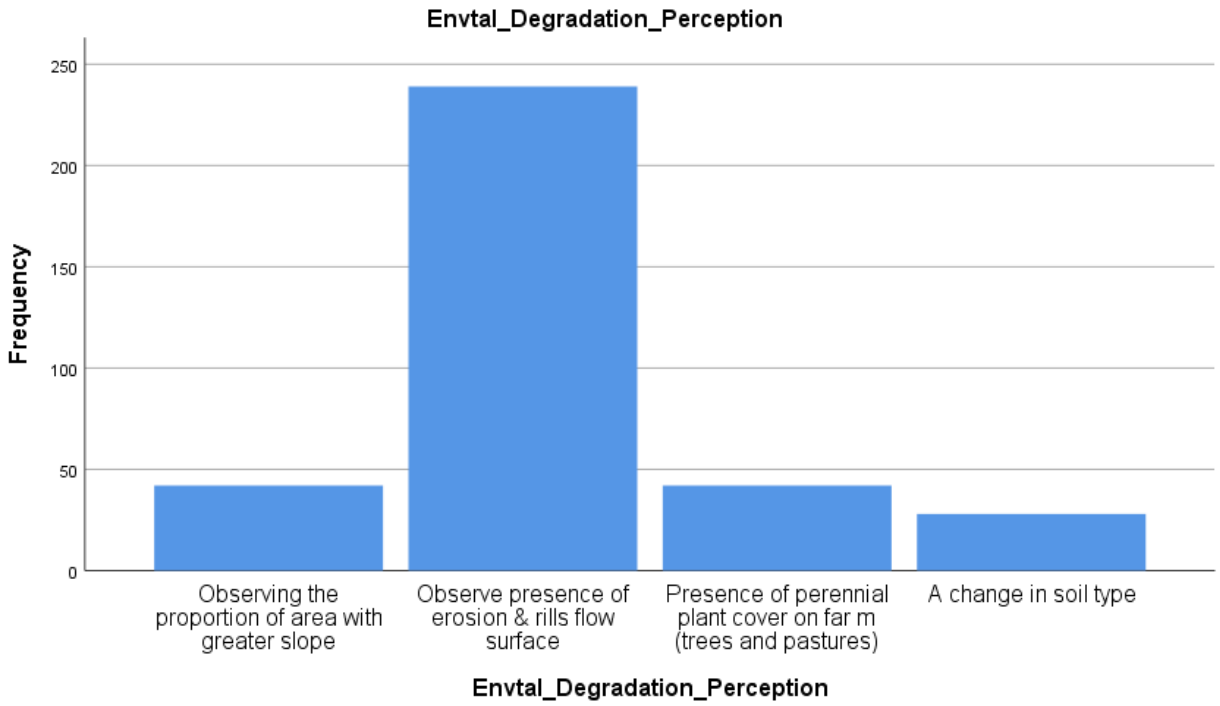
This section of the chapter is primarily intended to concentrate and aims to present a consolidated set of research findings on environment-related factors of migration, which essentially influence and determine the decisions of rural population regarding migration. As a matter of fact, this particular part of the chapter further demonstrate details of study findings on environmental/ land degradation factors, aspects of drought situation, changing in rainfall patterns, access to water resource for domestic use, and finally expounds the result on water access for irrigation purposes.

4.2.1. Results on Land/ Environmental Degradation

In actual term, this section attempts to illustrate how environmental or land degradation factors have imposed and being influences the decision made by respondent households throughout their entire course of rural out-migration. The following figure provides different land degradation

factors in which analyzed from the perspective view of respondents in the study area. It further presents respondent's level of perception and expression on environmental or land degradation situational factors in the given premises.

Figure 4.1: Perception distribution about Land/ Environmental Degradation, Yeka Sub-city, 2023



Source: Own Survey data, 2023

On the basis of the above Figure 4.1, from the entire total case households involved in the study, approximately 11.7 percent (41 observations) and 68.1 percents (239 observations) of them have perceived about the occurrence of land degradation onsets by observing the proportion of sloppy land areas and by noticing the presence of erosion with rills flow surface, respectively. In addition, the remaining significant proportion of respondents engaged in observing visual presence of perennial plant cover on farm and by visual observation of changes in soil type as a method of perceiving the incidence of environmental degradation that constitutes 12.2 percent (43 observations) and 8 percents (28 observations) of all cases, respectively.

Substantially, these results indicate that erosion and soil degradation factors are quite prominent in the assessed area and its impact on the process of rural out-migration. Most of respondent migrants (about 68.1%) has perceived about the occurrence of land degradation through visual signs of erosion and the presence of exposed soil. Additionally, the relatively lower frequencies for the presence of perennial plant cover and a change in soil type suggest that these factors may be less prevalent in the area. These findings could serve as valuable insights for land management and conservation efforts, as well as highlighting areas of concern that may require targeted interventions to prevent further soil degradation and erosion.

Table 4.2: Percentage distribution of Land/ Environmental degradation as Migration determinant factor for Migrant Households, Yeka Sub-city, 2023

No.	Option	Frequency	Percent
1	Environmental degradation determines me to leave place of origin	226	64.4%
2	Environmental degradation not determines me to leave place of origin	125	35.6%
	Total	351	100

Source: Own Survey data, 2023

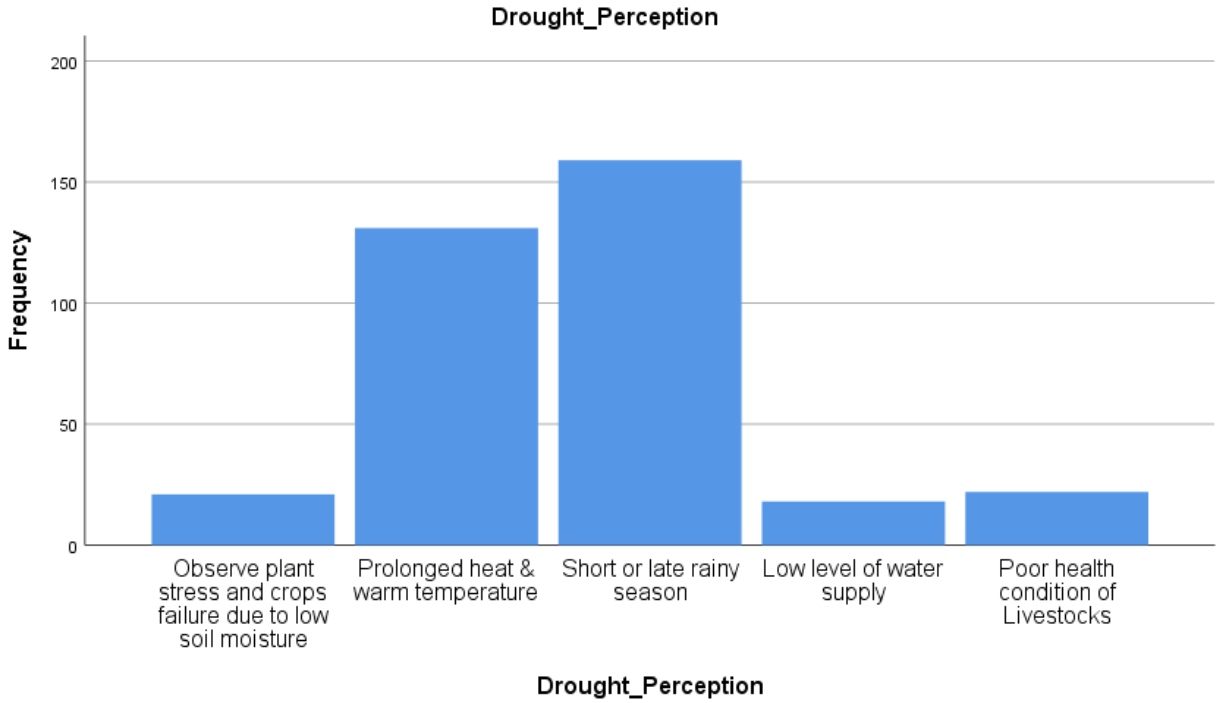
According to the table illustrated above, approximately 64.4 percent of the surveyed migrant households were determined to make the decision to migrate from their original place of residence, either temporarily or permanently, towards another location mainly under the influence of environmental degradation onsets.

4.2.2. Results on Drought Situation

Indisputably, this section has acquainted to demonstrate factors that help to perceive and understand the circumstance of environmental-drought in relation to how it determines rural out-

migration decisions. The following illustrative figure provides various factors related with drought situation in which analyzed from the perspective view of respondents in Yeka Sub-city regarding the incident of recurrent drought. It further presents respondent's level of perception regarding drought circumstances to the given postulation and its influence in determining rural-urban migration.

Figure 4.2: Perception distribution about Drought Situation, Yeka Sub-city, 2023



Source: Own Survey data, 2023

The Figure 4.2 illustrated above show that, closely about 6 percent of the total interviewed households (21 observations) has able to perceive about drought phenomenon by observing at crops and plant failures as a result of low soil moisture. A significant proportion around 37.3 percent of households under study (131 observations) has able to recognize about the happening of drought while observing prolonged heat and situations of warm temperature. Another significant proportion of about 45.3 percent of respondents (159 observations) have engaged to distinguish about drought occurrence while noticing either shorter period of precipitation or late arrival of the rainy season. Some other 5.1 percent of interviewed respondent households (18 observations) can able to detect and perceive about drought events while witnessing low level of

water supply or lack of water source. A smaller segment of about 6.3 percent of respondent households (22 observations) attempted to identify and being perceive about drought phenomenon through investigating poor and fragile health situation of their domestic animals.

Comprehensively, these findings provide insight into the specific influence of environmental drought on households' decision to migrate from their place of origin. The relatively highly prevalent perceiving factors to notice about drought situation are shorter or delayed rainy period (Factor 3), and prolonged heat and warm temperature (Factor 2). It further indicates that how these aspects play a prominent role in influencing the perception about the onset of environmental drought. Furthermore, these findings may help to develop drought mitigation and adaption strategies, especially in areas where these factors are more prevalent.

Table 4.3: Percentage distribution of drought situation as Migration determinant factor for Migrant Households, Yeka Sub-city, 2023

No.	Option	Frequency	Percent
1	Drought determines me to leave place of origin	141	40,2%
3	Drought not determines me to leave place of origin	210	59.8%
	Total	351	100%

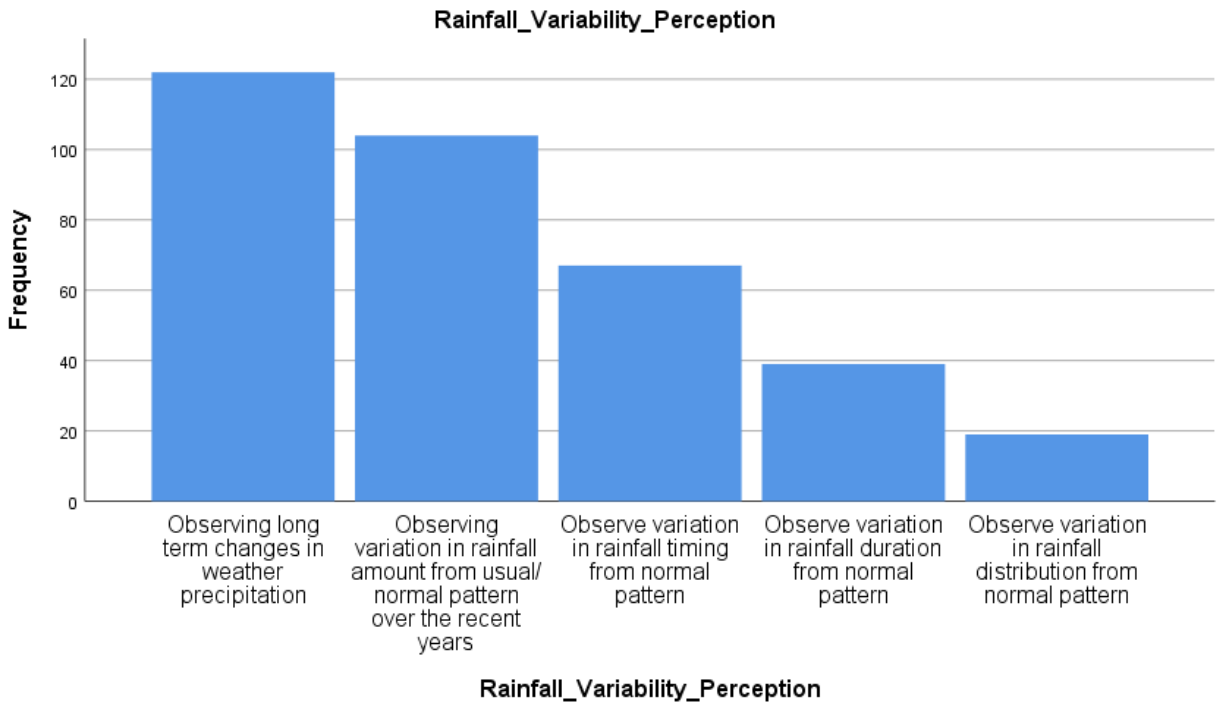
Source: Own Survey data, 2023

As it is reported in the table above, considerably about 40.2 percent of the migrant respondents decision to leave their original place of rural residence, either temporarily or permanently to other places have been influenced and determined by the situation of recurrent drought happened in their usual place of residence. This figure of the finding represents more than one third companion of the total sample.

4.2.3. Results on Rainfall Variability

This segment of the chapter has incontestably endeavored to exhibit results on the environmental factors of migration with regard to rainfall variability, which can potentially influences rural out-migration decisions. An illustrative figure available below shows the distribution of different rainfall variability factors, which analyzed from the perspective view of respondents in Yeka Sub-city based on their perceptions on rainfall variability patterns.

Figure 4.3: Perception level distribution about Rainfall Variability, Yeka Sub-city, 2023



Source: Own Survey data, 2023

As indicated in Figure 4.3 above, a significant proportion, about more than 34.8 percent of respondents (122 observations), are able to perceive about rainfall variability event at their place of origin by noticing long-term changes in weather conditions over extended period. Approximately, 29.6 percent of the respondents (104 observations) have perceived about the onset of rainfall variation patterns in their rural origin by observing the fluctuations in the available amount and quantity of rainfall and its pattern. Correspondingly, nearly about 19.1 percent of the total respondents (67 observations) were interested to recognize about rainfall variability pattern by witnessing changes in the rainfall timing and how it occurs, whether early

or late. It has also observed that a relatively about 11.1 percent of all respondents (39 observations) were engaged to realize about changes in rainfall patterns by conceiving differences in rainfall duration and it's raining deviation from the normal periods. Another insignificant proportion, which is about only 5.4 percent of all the surveyed households (19 observations) were understand about the onset of rainfall variability by distinguishing variations in the distribution of precipitation across time and spaces.

In general sense, these results provide insight into the extent and nature of rainfall variability in the respondent's place of origin and its influence on the course of rural-urban migration. The relatively higher frequency for factors such as long-term changes in precipitation (Factor 1) and variation in the amount of precipitation (Factor 2) suggests that these aspects are particularly noteworthy and have implications for local climate and hydrology. These findings may contribute to discussions and strategies related to climate adaptation, water resource management and ecosystem resilience in the face of changing rainfall patterns.

Table 4.4: Percentage distribution of Rainfall Variability as Migration determinant factor for Migrant Households, Yeka Sub-city, 2023

No.	Option	Frequency	Percent
1	Rainfall Variability determines me to leave place of origin	182	51.9%
3	Rainfall Variability not determines me to leave place of origin	169	48.1%
	Total	351	100%

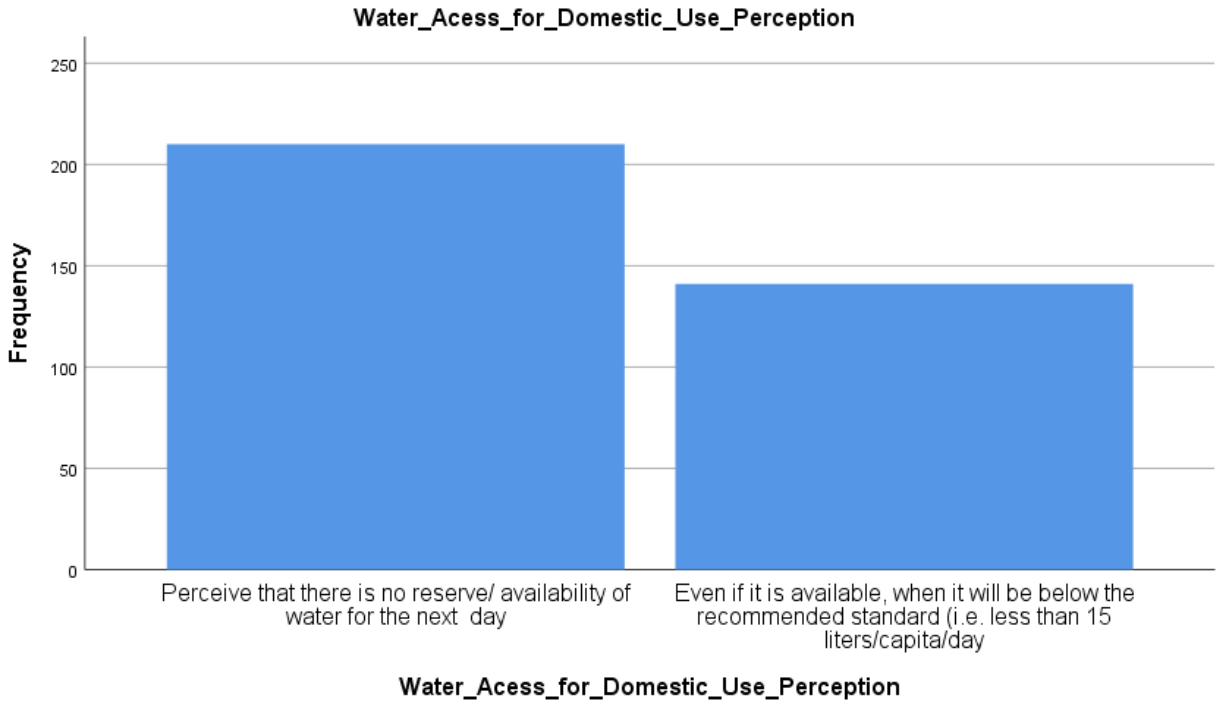
Source: Own Survey data, 2023

In consonance with the Table 4.4 above, a considerable proportion of 51.9 percent of migrant respondents' decision to leave their rural settlements, either temporarily or permanently, toward another destination was determined mainly due to environment related changing patterns of rainfall factors. It further point outs that more than half of the respondent's decision to migrate is determined by variability in rainfall patterns.

4.2.4. Results on Water Access for Domestic Use

As a chapter framework, this section intends to explicate outcomes on environmental perception-based factors about water access for domestic use in terms of how it affects household decisions on rural out-migration. The subsequent explanatory figure below provides distribution of perception factors related to access to water resource for domestic use, which was analyzed on the basis of perspective responses from the viewpoints of households interviewed in Yeka Sub-city.

Figure 4.4: Perception level distribution about Water Access for domestic use, Yeka Sub-city, 2023



Source: Own Survey data, 2023

As it is clearly indicated in the Figure 4.4 above, a significant high proportion of about 59.8 percent of households surveyed (210 observations) responded that they may perceive about their

inaccessibility to water for their domestic use when they realized that there is no enough supply of water for the next day. The remaining proportions, nearly about 40.2 percent of total respondents (141 observations) were distinguished about water shortage for domestic purpose while perceived that it appears being accessible but just falls below the recommended daily minimum standard of 15 liters per person. This element further emphasizes the availability of water as well as the recommended quality and quantity of access to domestic water.

Overall, these results highlight the challenges that rural people have encountered regarding water access for domestic use and its impact on migration. The higher frequency reported for lack of availability or reserve (Factor 1) may reflect the uncertainty or perception of scarcity that many rural households or communities experience. The frequency of insufficient accessibility, even when it is available (Factor 2), underscores the importance of taking into account not only the presence of water, but also its quality and quantity when assessing water access for basic domestic needs. In general, these findings are expected to serve as important indicator for policymakers, water resource managers, and other similar organizations working to improve water access and ensure that communities need to have reliable and sufficient access to clean and safe water.

Table 4.5: Percentage distribution of Water Access for domestic use as Migration determinant factor for Migrant respondents, Yeka Sub-city, 2023

No.	Option	Frequency	Percent
1	Shortage of water for domestic purpose determines me to leave place of origin	41	11.7%
3	Shortage of water for domestic use not determines me to leave place of origin	310	88.3%
	Total	351	100%

Source: Own Survey data, 2023

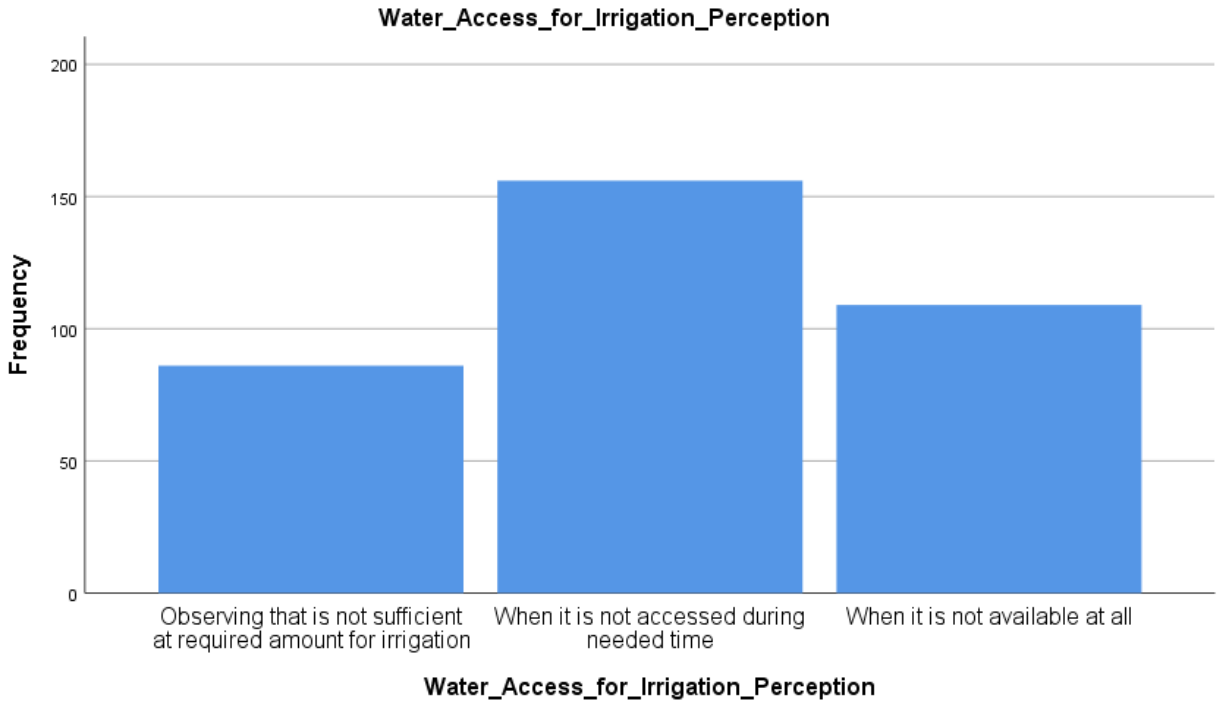
In line with the above illustrated table, a negligible portion of 11.7 percent of the migrant respondents' decision to migrate and leave their original place of residence either temporarily or permanently to other places were basically determined by environmental factors related to water

shortage and its inaccessibility for domestic purposes. This finding further demonstrates that, in contrast to other environmental push factors, scarcity of water for domestic purpose does not play a significant role and it accounts for a smaller fraction in household's decision regarding rural out-migration.

4.2.5. Results on Water Access for Irrigation Use

As a subsection of a chapter, this section discusses about how environmental push factors related to access of water for irrigation use have an impact on rural out-migration. The following frequency figure provides results on factors of water access for irrigation use which was examined from the perspective view of respondents in Yeka Sub-city. The table also presents respondents' perception and understanding of factors affecting rainfall variability in relation to the process of rural-urban migration.

Figure 4.5: Perception level distribution about Water Access for Irrigation use, Yeka Sub-city, 2023



Source: Own Survey data, 2023

As illustrated in the Figure 4.5 above, approximately about 24.5 percent of all respondents (86 observations), have realized about insufficiency and shortage of water required for irrigation use while they experienced the available water quantity is not sufficient and found below the necessary minimum amount for irrigation. On the other hand, a sizeable proportion of respondents, that is 44.4 percent of all (156 observations), reported that they had understood or perceived about water inaccessibility for irrigation use when they encountered it was not accessible during when required for use at the necessary time for irrigation. The remaining 31.1 percent of all the households participated in the survey (109 observations) have able to perceive about water inaccessibility for irrigation when they notice that water is not completely available for irrigation use. This factor draws attention to circumstances where water source for irrigation use is totally unavailable.

In general, these results underscore the challenges associated with water access for irrigation purposes and its implication on the entire course of rural out-migration. The higher frequencies for timely accessibility issues (Factor 2) and complete unavailability (Factor 3) indicate that these factors are particularly prevalent in the assessed area. Therefore, addressing these challenges is essential for ensuring agricultural sustainability and productivity in areas that rely much on irrigation practices for cultivation of agricultural crops.

Table 4.6: Percentage distribution of Water Access for Irrigation use as Migration determinant factor for Migrant respondents, Yeka Sub-city, 2023

No.	Option	Frequency	Percent
1	Water access for irrigation purpose determines me to leave place of origin	192	54.7%
2	Water access for irrigation purpose not determines me to leave place of origin	159	45.3%
	Total	351	100%

Source: Own Survey data, 2023

In accordance with the table demonstrated above, a sizeable share of the respondents, about 54.7 percent of surveyed households were decided to leave their original rural settlements, either temporarily or permanently, primarily due to the environmental factors related to water shortage and potential inability to access it for irrigation use. This finding indicates that more than half proportions of the factors affecting rural out-migration are linked to lack of water resource for irrigation purpose.

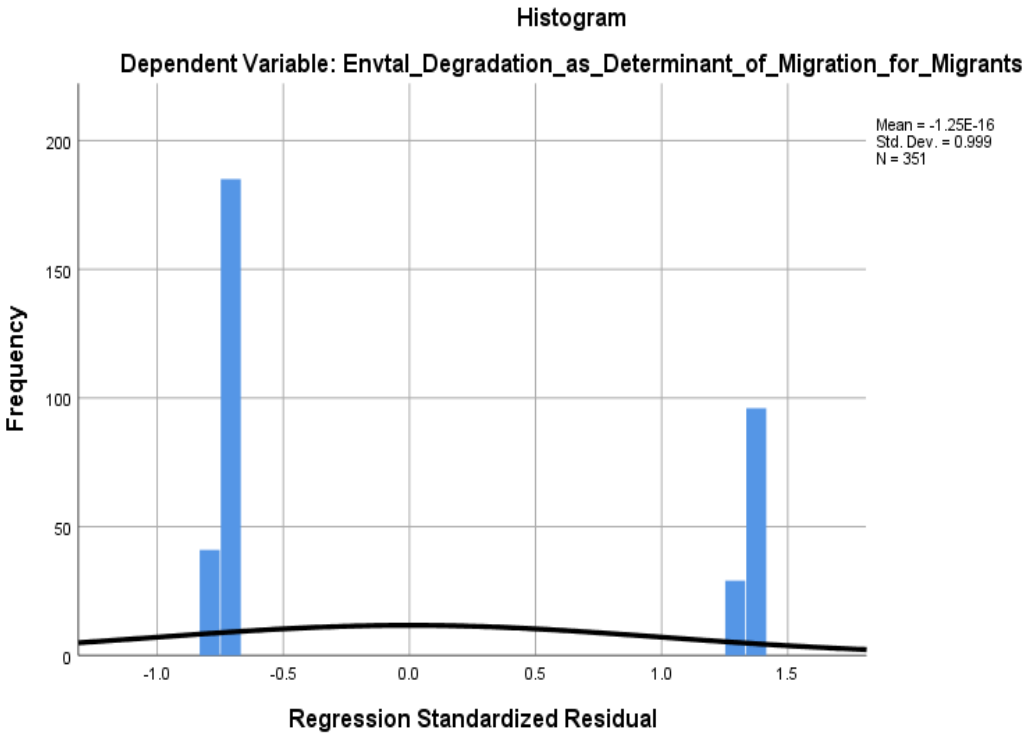
4.3. Multicollinearity Effects

Multicollinearity is present when there is a significant correlation among two or more predictors within a regression model. This issue primarily arises in multiple regression scenarios where there are more than two predictors involved. A perfect collinearity occurs when at least one

predictor can be expressed as a perfect linear combination of the others. Various statistical references suggest one method for detecting multi-collinearity is to examine the correlation matrix of all predictor variables and identify cases where correlations are notably high, typically exceeding 0.80 or 0.90.

Model		**Collinearity**	
1	**Constant**	**Tolerance**	**VIF**
	Land/ Environmental Degradation	1.00	1.00
	Drought Situation	0.90	1.00
	Rainfall Variability	1.00	1.00
	Water access for domestic use	1.00	1.00
	Water for Irrigation purpose	0.90	1.00

VIF- Variance Inflation Factor



4.4. Results of Bi-Variate Logistic Regression Analysis

4.4.1. Environment-related Determinants of Rural-to-Urban Migration

From the environmental related determinant variables of rural-urban migration, the variables such as environmental/land degradation (P value=0.001), drought (P value=0.005), rainfall variability (P value=0.048), water access for domestic use (P value=0.005) and water for Irrigation purpose (P value=0.157). This result of logistic regression showed only environmental degradation, drought situation, rainfall variability and water access for domestic use have significant association with the dependent variable of rural-to-urban migration.

Table 4.7: Bi-Variate Regression Results for Environmental Perception Determinants of Rural-Urban Migration

Variables	Beta	Sig.
Environmental Variables		
Environmental/Land Degradation	-1.040	*0.001
Drought	0.818	*0.005
Rainfall Variability	-0.472	*0.048
Water access for domestic use	0.962	*0.005
Water for Irrigation purpose	-0.475	0.157

Key: * P < 0.05

Source: Own Survey data, 2023

4.5. Results of Multi Variant Analysis

Multivariate logistic regression was employed to demonstrate the significance of the relationship between independent variables that exhibited notable associations in bivariate logistic regression,

with a p-value below 0.05, and the dependent variable which is migration from rural to urban area.

Table 4.8: Multi-Variant Logistic Model Result for Demographic and Environmental determinants of Rural-Urban Migration

Variables	Beta	Sig.	CI
Sex			
Male	0.310	*0.005	
Female **(RC)**			
Age	0.024	0.429	0.964
Marital Status			
Never Married/Single	1.604	*0.000	
Married/in union	-0.307	*0.243	
Divorced	0.444	*0.043	
Widowed/Widower	0.111	0.638	
Separated **(RC)**			
Family Size			
Family size 4	0.788	0.144	
Family size 5	1.946	*0.000	
Family size 6	3.109	*0.000	
Family size 7	2.965	*0.000	
Family size 8	2.175	*0.000	
Family size 9	1.030	*0.048	
Family size 10	-1.609	0.142	
Family size 11 **(RC)**			
Environmental/Land Degradation			
Observing the proportion of area with greater slope	0.611	*0.032	
Visual presence of erosion & rills flow surface	1.338	*0.000	
Presence of perennial plant cover on farm	0.051	0.873	
Change in soil type	0.170	0.283	
Drought Perception			
Observe plant stress and crops failure	1.335	*0.008	
Prolonged heat & warn temperature	2.965	*0.000	
Shorter or late rainy season	2.955	*0.000	
Low level of water supply	1.099	*0.033	
Poor health condition of live stocks	0.336	0.566	
Rainfall Variability Perception			
Observing long term changes in weather precipitation	1.756	*0.000	

Observing variation in rainfall amount from usual/ normal pattern over the recent years	1.620	*0.000	
Observe variation in rainfall timing from normal pattern	1.150	*0.000	
Observe variation in rainfall duration from normal pattern	0.582	*0.042	
Water access for domestic use perception			
Perceive that there is no reserve	0.440	*0.000	
Water Access for Irrigation Perception			
Observing that is not sufficient at required amount for irrigation	-0.174	0.255	
When it is not accessed during when needed	0.440	*0.001	

*** P < 0.05, RC**- Reference Category

Source: Own Survey data, 2023

CHAPTER FIVE

DISCUSSION OF THE STUDY FINDINGS

In the chapter that follows, we engage in a comprehensive discussion that synthesizes the key findings of the study, concentrating on the interactions among demographic variables, environmental factors, and patterns of rural-urban migration in the Yeka Sub-City of Addis Ababa. The discussion further aims to provide insights into the multifaceted nature of rural out-migration dynamics and their overall implications both for households, institutions and government policymakers. The percentage distribution and frequency data from our study's various factors are similarly integrated and delves deeper into this chapter's more thorough discussion, which illuminates on the intricately complex interaction between demographic variables, environmental push factors, and rural migration patterns in the area under study.

5.1. Integrating Demographic Factors and Migration

This study basically foregrounds the close integral relationship of demographic variables and environmental push factors in shaping rural inhabitants' decisions to migrate and the overall determinant factors of migration dynamics. Henceforth, the basic demographic factors addressed in this discussion section include age, sex, marital status as well as family size of sample households.

In line with such instance, while one of the particular demographic factor, that is age traits of the migrants is concerned, the research enquiry pointed out that male migrants make up a substantially preponderant proportion, which is roughly 57.8 percent of surveyed household heads, and the remaining proportion was accounted by female migrants. Broadly speaking, the finding of the study suggests that the migratory processes under study are mostly dominated by male population as compared to the female counterparts. This finding of the study is in a similar

consistent track with several studies that has been indicating that, until recently, the migration process was dominated mainly by men than female migrants (De Haan, 2000).

Another indispensable demographic aspect that must be considered in this study is age factor of the migrants. In such regard, a relatively higher proportion of 36.2 percent of all migrant household heads interviewed were found between age group 30 to 35 years, which according to UN (1982) standard for age classification is identified as young adult group of a population. Predominantly, it can be said that, about nearly 82 percent of the surveyed household heads were fall within the 25 and 40 years of age range. In such instance, it can be said that the majority percent of the respondents interviewed are between the ages of 25 and 40 years old. Similarly, the age group of 30 to 35 and 36 to 40 were constitutes the predominant migratory age groups which together accounts for around 61 percent of total migrant populations. Henceforth, on such basis, the researcher can generally able to conclude that majority of the respondents are found of young age.

An extra prominent demographic factor examined in this study in relation to migration is the marital status of migrants. In such respect, the majority of migrants or about 53 percent were discovered to be Never married (Single), and the remaining 47 percent of respondents were found among an Ever married category that include married, divorced, separated and widowed migrants. The predominance of younger age groups is associated with causes of marriage-related migration such as divorce and separation. The prevalence of the high divorce rate among female migrants is due to the fact that divorced women are placed as socially unacceptable. Additional demographic aspect that was also examined in the study is family size of respondents. In order that, the study finding revealed out that the highest size of a family under study was 11 members, and the smallest size is 4 members per household. Therefore, it is possible to conclude that an average family size for the households under study is about 7.5 members (almost close to 8 members per family), which is considered being large. This finding of the study asserts the fact revealed in the literature review which has been stated that a household comprising a large size of family members are more likely to be migratory than other counterparts (Hanson and McIntosh, 2016).

5.2. Environmental Perception Push Factors and Migration

This perception-based study aimed to explore the impact of environment-related conditions on migration choices by investigating the factors influencing rural-urban migration patterns. The percentage distribution and frequency data collected through this study provided important new insights about the prevalence and significance of various environmental factors in determining rural out-migration decisions.

5.2.1. Land/ Environmental Degradation and Rural-Urban Migration

The analyzed outcome data obtained from this study accentuates a solid positive correlation and significant role of environmental degradation factor as a major driving force in rural-urban migration courses when compared with other environmental determinant push factors of migration. Among the total study observations, a substantial 64.4 percents or (226 observations) of migrant respondents in the surveyed households were expressed their concerns about the impact of environmental degradation on their decisions and intentions to migrate out of their rural origin. This increased frequency reflects the stark reality that the degradation of natural resources, loss of rural livelihoods, and diminished agricultural productivity are compelling factors motivating households and individuals to seek improved living conditions in urban areas. The prevalence of such concerns further indicates that the rural migrants surveyed in the study area are profoundly influenced by the deteriorating environmental conditions in their place of origin.

In comparison with other studies, this finding of the study referring to the nexus between environmental degradation and migration has been found to be consistent with one by Erulkar et al. (2006) and Mberu (2006) , that indicated the major factors that causes people in Ethiopia to abandon their rural places and engage in rural out-migration is their high vulnerability to a

severely serious rural land degradation onsets that in turn led to shortage of agricultural land, insufficient small farm plots and low agricultural productivity, which then motivate and drives migration. Similar to this, the International Organization for Migration also indicated that environmental degradation was already resulting in large numbers of rural migrants, and there could be possible substantial increases in migration rate due to climate change and weather-related events, such as floods, droughts (IOM, 2007).

5.2.2. Environmental Drought and Rural-Urban Migration

The analyzed data and frequency distribution of the study also underscores the substantial positive association between the drought-related environmental factors and rural-urban migration pattern. As it can be noticed from the study observations, majority of migrant interviewed responders, estimated about 37.3 and 45.3 percent of all, had indicated that they understood about the occurrence of drought onsets while perceiving and sensing the onset of factors such as prolonged heat with a very warm temperatures, and shorter or late rainy season followed by absence of rainfall, respectively. This result suggesting that environmental drought and events related with erratically prolonged heat coupled with absence of rainy seasons are among common environmental occurrences in the respondent's area of origin which in turn stimulates rural out-migration.

The aforementioned visual evidence of drought onset is consistent with respondents' perceptions, which emphasized the impact of the drought on their decision to migrate. In the course of determining migratory decisions of migrant respondents, the incidence of drought accounts for 40.2 percent proportions of the total cases of migrants. The relatively high frequency of perceptions related to environmental drought implies that water scarcity and reduced agricultural productivity resulting from drought situations play a pivotal role in rural communities' migration considerations. Comparatively to other findings, the end result obtained out of this study concerning the association between drought events and migration has been similarly underscored in the study by Ezra and Kiros (2001) that in vulnerable drought-prone areas of Ethiopia, those

highly drought susceptible households are more likely to send their family members into urban provinces and feeding camps to reduce household food demands during frequent drought periods.

5.2.3. Rainfall Variability and Rural Out-Migration

As it is indicated by the data from the analyzed study, environmental push factor related to rainfall variability has emerged become another salient factor that has a positive correlation with the pattern of rural out-migration in influencing migratory decisions. Among the aggregate number of observations, the majority of 34.8 percent were recognize the occurrence of precipitation variability by noticing the presence of longer dry seasons and observing long-term changes in weather precipitation, which in turn suggests that shifts in rainfall patterns have been affecting migrant's rural origin. An approximate proportion around 51.9 percent among migrant household have discovered that the onset of rainfall variability was a major factor that determine and exhilarate their decision to migrate out of their rural origin. This finding of respondent's echoed perception advocates that the vast majority of rural dwellers' intentions to migrate were influenced by their realization of the irregularity of rainfall patterns.

The analyzed data about the occurrence related to rainfall variability patterns further underscores the importance of considering changing rainfall patterns in understanding migration dynamics, particularly in regions where agricultural practices heavily depend on consistent precipitation amount. In contrast with other studies, an outcome gained from this study regarding the linkup between patterns of rainfall variability and migration has been a parallel indication with Marchiori, Maystadt, and Schumacher's (2012) study that suggested and investigated about how rainfall and temperature irregularities in Sub-Saharan Africa have initially led to an increased rate of internal rural-to-urban migration trends.

5.2.4. Water Access for Domestic Use and Rural-Urban Migration

The highest percentage data of the study revealed that 59.8 percents out of the total samples indicated that the interviewed responders had perceptions about environmental factors related to the inaccessibility of domestic water by noticing that there is no reserve supply of water for the following day, and the remaining 40.2 percent (141 observations) of them had realized about a similar environmental factor of domestic water shortage when observed it was below the recommended standard, that is less than 15 liters per capital per day.

Along with this, a smaller portion nearly about 11.7 percent of all the interviewed migrant households were responded that their decision to migrate, either temporarily or permanently, had determined by environment factor linked with inability of accessing water for domestic use. This outcome continued to reveals out the challenge that rural inhabitants has faced in securing adequate access to water for their domestic use. This finding further highlights the vulnerability of water sources, potentially due to environmental degradation and drought.

5.2.5. Rural-Urban Migration and Water Access for Irrigation Purpose

The analyzed outcome data concerning water access for irrigation use has depicted another distinct challenge faced by the rural residents so far. In this way such data showed that, the majority of 44.4 percents were realized about inability to access water for irrigation use when it was not accessed during the time needed to use. In the same manner, about 54.7 percent of migrant respondents were replied that their migratory decision to leave their rural origin towards other destination areas were primarily determined and influenced by environmental factor related to shortage of water for irrigation use. This finding pointed out the situations where water cradle for irrigation use is not accessible for larger rural communities, and at the same time foregrounding the impediment rural residents confronted in ensuring adequate source of water for their irrigation demand.

All the while, when a comparison is made with other similar field research findings regarding the potential relationship among rural out-migration and environmental factors such as water shortage for domestic use as well as for irrigation purpose, a recent study carried out by UNICEF (2022) in Horn of Africa nations has been reported in the same way that, there was 88 percent increase in rural household water insecurity from 5.6 million to 10.5 million within the past couple of months during 2022 across the Horn of Africa: including Ethiopia, Kenya and Somalia, which in turn led to an increase in the rate of rural out-migration. The report further added that Ethiopia has a large population size over 120 million people and has immense water resources. But variability in rainfall patterns and distribution, coupled with extreme climatic events, has led to water scarcity in many areas of the nation, with a potential to hasten the rate of out migration.

5.3. Perception-Based Insights

The utilization of a perception-based data collection approach has allowed us to gain a deeper understanding of individuals' viewpoints and experiences towards environmental factors that influence household's decision associated with migration. It further carried out so as to comprehend the opinion of the given target audience, in this case referred to rural migrants. The obtained filed data of such concern has corroborated the respondents' perspectives on the relationship between environmental push conditions and migration patterns.

5.4. Policy Implications and Sustainability

The implications of the study findings extend beyond understanding patterns of rural out-migration. They further underscore the importance of informed policy interventions. Recognizing the interconnectedness of demographic aspects and environmental factors, policymakers should consider holistic approaches to address rural-urban migration trends. Strategies aimed at improving rural livelihoods, promoting education and skill development, and bolstering local economies could alleviate migration pressures. A Sustainable rural development

planning is essential to accommodate migrants' needs while also addressing environmental challenges, such as water access and natural resource management.

The analyzed data provide a foundation for identifying policy implications that can address the challenges posed by rural-urban migration, as well as the interaction between demographic variables and environmental factors necessitates comprehensive strategies. The relatively higher percentage of environmental challenges such as respondents' perception about land degradation onsets by noticing a visual presence of erosion (around 68.1%) and unavailability of water for irrigation during when needed (about 44.4%) underscores the urgency of better and updated environmental protection strategies as well as improved water resource management policies.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

On the basis of the study findings, the following section of the paper's closing chapter attempts to draw a summarized concluding final remark of the study and put forward suggestive potential recommendations to the various stakeholders and involved parties in the issue of rural out-migration. These suggestions are meant to give those concerned parties additional tools with which to effectively and properly mitigate the problems that have been identified throughout the course of this research carrier.

6.1. Conclusion

As a chapter closing reflection, we synthesize the insights gathered from this study on the demographic and environmental determinants of rural-urban migration in the Yeka Sub-City of Addis Ababa. The journey of exploration has provided valuable insights into the multifaceted dynamics that influence migration decisions in a complex demographic-environmental context.

As it has been comprehensively noted and addressed in the study's result finding portion, the study has primarily engrossed on investigating the major environmental and demographic factors that influence the courses of rural-urban migration. At the same moment, the study findings obtained from this analyzed research data has validate and enrich our understanding about the complex interplay between demographic variables, environmental factors, and rural-urban migration. The study has sought to contribute to a holistically comprehensive understanding about rural-urban migration by illuminating an intricate interrelationship between demographic elements and environmental aspects. Through rigorous analysis of perception-based data and frequency data related to environmental degradation, environmental drought, rainfall variability, as well as water access for domestic and irrigation use, we have unearthed significant patterns and positive correlations of these environmental factors with trends of rural-to-urban migration. By contextualizing perceptions and motivations of the target study populations, the study

contributes to a more holistic comprehension of migration dynamics in a better encompassing manner.

The principal findings and worthwhile discussions reproduced from this study have supposed to contribute an insightfully valuable beneficence for government policymakers, researchers, non-governmental organizations and other interested parties those involved in the area of concern to duly address rural out-migration challenges which are mainly associated with amidst of demographic traits and issues of changing environmental conditions. Furthermore, the study findings in like manner, resonated harmoniously with global current discussions on prevailing migration propensity and its decisive sources which notably emphasize the noteworthiness of considering both human demographics and related environmental dimensions in the course of studying migration issues, particularly the rural to urban stream of internal migration.

The analyzed data of the study has unveiled the prominent role of environmental factors in shaping migration decisions. Notably, environmental degradation emerged as a compelling driver, with a substantial frequency of respondents expressing concerns about its impact. This highlights the urgent need for sustainable resource management and ecological restoration strategies to curb the detrimental effects of land degradation. Environmental drought and irregular rainfall patterns also stood out, influencing perceptions of migrants. In addition, the frequency data aligned with respondents' experiences emphasizing the influence of water scarcity on migration intentions. These findings underscore the importance of water resource management strategies that address the changing climate patterns and enhance water availability.

Furthermore, the analysis of this study revealed out the integration of the demographic variables with that of environmental challenges. It showed that younger and unmarried individuals with a higher demand to escape the rural land shortage and poverty seemed more inclined to migrate when facing environmental stressors, while family considerations played a significant role for those wish to migrate. This complexity highlights the need for comprehensive policies that cater

to diverse population segments and maintain the problem of rural out-migration right at the source.

In conclusion, this study contributes to the broader discourse on rural out-migration by shedding light on the nuanced interactions between demographics, environment-related influencing factors, and migrant's decision to migrate. In a similar vein, the study findings underscore how it is important to adopt a multifaceted perspective in order to address such challenges brought on due to rural out-migration. As the process of rural-urban migration continues to shape the trends of urbanization, the results obtained from this study insights can serve as a source of useful information for government policymakers, researchers, and other concerned non-governmental organizations striving to develop sustainable development pathways in rural areas that harmonize the demographic aspirations and environmental considerations related to determinants and intention of migration decisions.

As the journey of exploration is far from over, this study paves the way for future research to delve deeper into specific subgroups so as to analyze the impacts of rural out-migration, and assess the effectiveness of policy interventions. Correspondingly, future research personalities intends to carried out similar study has recommended to operate and explore the research on the basis of subgroups within the population and investigating long-term migration impacts for a more comparative advantage to obtain best out of the study topic. Ultimately, it is author's hope that the findings and a knowledge generated from this study has convey its definitive contribution in the ways to make an informed and sound decision-making activity that supports to foster a resilient and an equitable urban future for all.

6.2. Recommendations

On the basis of the findings and basic insights gleaned through this study on the demographic and environmental determinants of rural-to-urban migration in the Yeka Sub-City of Addis

Ababa, the study attempts to propound and put forward the following set of possible recommendations that encompass policy implications, research avenues, and community engagement strategies that improve the livelihood of the rural communities and thereby to mitigate the problem of rural-to-urban migration both at the rural origin and urban destination places as well.

A) Implement Sustainable Environment Protection and Natural Resource Management

Addressing the concerns raised by the analyzed data regarding environmental degradation requires concerted efforts towards sustainable natural resource management approaches. The concerned local government authorities such as Zonal and Wereda administrations, rural wider communities and non-governmental organizations should collaborate and act together to implement ecosystem restoration projects, afforestation initiatives, and sustainable land-use planning activities so as to mitigate the influence of the aforementioned environmental aspects on rural out-migration trends. A targeted management action of natural resources, such as active restoration of degraded landscapes and appropriate conservation of natural resources, can mitigate the adverse impact of land degradation onset on the wider rural communities, thereby reducing the expected pressures on rural out-migration.

B) Implementing Climate-Resilient Water Resource Management Strategy

Given the considerable influence of environmental push factors such as land degradation, environmental drought, irregular rainfall patterns and water scarcity on rural migrant's decision to migrate, it is imperative to adopt climate-resilient water resource management strategies in more vulnerable rural origins. The concerned government authorities such as Zonal and Wereda administrations, in partnership with local development stakeholders, should work and invest more in ground water storage and distribution systems, rainwater harvesting facilities, and efficient irrigation use adoptable technologies within the rural settlements more prone to rural out-migration trends. These above indicated measures can ensure consistent access to water

resource within rural communities for their domestic as well as agricultural purpose, thereby enhancing the livelihoods of rural communities and reducing their possible intentions for out-migration associated with the scarcity of water resources.

C) Targeted Skill Development Trainings and Basic Education

The study findings strongly underscored that demographic factors such as the age and marital status of rural migrants (particularly of the younger age groups and those within the never married status) have a significance impact on rural migrants' decision to migrate towards urban settlements. In order to harness the potential migration trend of such younger individuals with higher stimulation to migrate, a targeted approach of skill development actions and vocational training programs has to be put in place at the susceptible migrant's rural place of origin. These kinds of skill development initiatives can equip the rural youth with remarkable practical skills that enhance their opportunity to get employed in other off-farm activities and better alternatives to establish their own business firms that concurrently contributing to local economic growth as well. By aligning education and practical skill development trainings together with emerging job opportunities in rural areas, the rate of urban migration among the educated youth could be balanced.

D) Community-Centered Policies

The concerned government policymakers should prioritize community-centered policies that account for the diverse population segments and their unique migration drivers within more out-migration vulnerable rural communities. As the role of family considerations in migration decisions is recognizable in the study, establishing a carefully targeted support mechanism for such families more vulnerable to engage in rural-to-urban migration and those contain more dependent family members, can reduce the continuous rate of out-migration trend. Additionally of this, comprehensive policies can be developed and designed to address the necessary concern and needs of older age rural residents, who are more likely entrenched to stay in their rural places

of origin, so that to promote and encourage sustainable rural livelihoods within the more vulnerable rural settlements.

E) Conducting Longitudinal Research

The complex interplay between demographic variables, environmental push factors, and migration dynamics warrants longitudinal research to assess the long-term impacts of rural out-migration both on the rural source and areas of destination. Besides this, future studies would have track changes in environmental conditions, demographic trends, environmental influences and socio-economic indicators to provide a comprehensive understanding and far-reaching implications of rural-to-urban migration trends.

F) Widening Stakeholders Collaboration and Awareness

A strengthened collaboration between local government authorities such as Zonal and Wereda administrations, concerned non-governmental organizations, academic institutions, and rural communities is found to be essential in implementing the aforementioned recommendations of the study. Along the same lines, community awareness raising campaigns on the negative impact of rural out-migration can therefore help rural residents to understand the potential benefits of staying at their place of origins through actively participating in sustainable rural development initiatives that takes place within their rural settlements.

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APPENDICES

Annex A: Household Survey Questionnaire: English Version

ADDIS ABABA UNIVERSITY

COLLEGE OF DEVELOPMENT STUDIES

CENTER FOR POPULATION STUDIES

Thesis Questionnaire

Section One: Area Identification

S/N	Identification	Name	Code	Signature
1	Region/ City			
2	Sub City			
3	Wereda			
4	Supervisor			
5	Enumerator			

Introduction and Informed Consent

Dear Respondent,

Greeting, my name is _____. I am currently working on this study with a graduate student from Center for Population Studies, College of Development Studies of the Addis Ababa University. I am available here to gather research data on the topic entitled "Demographic and Environmental Determinants of Rural-Urban migration in Yeka Sub city of Addis Ababa". The main objective of the study is to explore and examines the key determinant factors of rural-to-urban migration in your locality. In such essence, we basically want to identify

the major demographic and environmental determinant forces that influence rural out-migration in Yeka Sub city of Addis Ababa. A data generated from this discussion and interviews will allow the city administration under investigation as well as its regional counterparts to collaboratively identify, examine, manage, and to properly address the major determinant factors and essential driving variables of rural out-migration that predominantly influence rural inhabitants to move away from their rural origin towards another urban destination center.

From this point forward, your participation in this study will primarily be determined and guided by the fundamental principles of volunteerism. On the basis such basic principle, you do have an absolute right not to answer to particular questions of the research; and you can also refuse to continue with the ongoing interview any time during when you feel discomforted with the entire process of the interview. Furthermore, each part of the data you delivered through this interview will kept strictly confidential, and also will not be disclosed to or shared with any other third parties the fact it will serve for academic research purposes only.

Henceforward:

♦ Are you willing to participate in this study? Yes ☐ No ☐

♦ In respect to your permission, may I continue with the interview questions?

☐ Yes, = Ok (proceed to the interview) ☐ No, = End (Thank the individual and proceed to another interviewee)

Section Two: Demographic Background of Sample Respondents

Sample Selection Number: _____

Item No.	Questions	Coding Categories	Code Number	Skip to
201	Sex of Respondent	Male	1	

		Female	2	
202.1	How old are you?	Age in completed Year		
202.2	When did you born?	Month (No. of the Month. E.g. If it is September= use 01)→ Year (In Ethiopian Calendar)→		
203	Marital Status of Respondent			
203.1	What is your Marital Status?	Never married/ Single Married (In union) Divorced Widowed/ Widower Separated Others, (specify)→	1 2 3 4 5 _____	
204	Migratory status of Respondent			
204.1	Where did you born?	Addis Ababa (Non-Migrant) Other than Addis Ababa / Rural (Migrant)	1 2→	Skip to Q. 204.2
204.2	How many years have you ever lived continuously in Addis Ababa?	Write the response in Number. (N.B. Write "00" if it is less than one year).		
205	Family Size			
205.1	How many family members have you had at your origin?	Below 4 members 4-5 members 6-7 members 8-9 members 10–11 members Above 11	1 2 3 4 5 6	

Section Three: Environment- Related Perceiving Determinant Factors of Rural Out-Migration

Item No.	Questions	Coding Categories	Code Number	Skip to
301	About Environmental/ Land Degradation			
301.1	In your level of understanding, how do you perceive about an occurrence of environmental or land degradation in your previous area of origin/ residence?	By: - Observing the proportion of area with steeper slope - Observe presence of erosion and rills flow surface - Presence of perennial plant cover on far m (trees and pastures) - A change in soil type - Do not Know	1 2 3 4 99→	Skip to Q. 302
301.2	Does this event of environmental degradation determine or influence you to left your place of origin temporarily or permanently for other places?	Yes → No →	1 2 →	Skip to Q. 301.3
301.3	Do you perceive that this environmental degradation event influence other non-migrant household member in your previous location to leave their place of origin temporarily or permanently for other places?	Yes → No →	1 2	
302	About Drought Situation			
302.1	In your level of understanding, how do you perceive about an occurrence of drought and weather	By: - Observe plant stress & crop failure due to low soil moisture	1	

	change in your previous area of origin/ residence?	-Prolonged heat & warm temperature - Short or late rainy Season - Low level of water supply/ reserve - Poor health condition & death of live stocks - Do not Know	2 3 4 5 99→	Skip to Q. 303
302.2	Does this event of drought/ weather change determine & influence you to leave your place of origin/ residence temporarily or permanently for other places?	Yes → No →	1 2 →	Skip to Q. 302.3
302.3	Do you perceive that this incident of drought/ weather change influence other non-migrant household members in your previous location to leave their place of origin temporarily or permanently for other places?	Yes → No →	1 2	
303	About Rainfall Variability			
303.1	In your level of understanding, how do you perceive about occurrence of rainfall variability patterns in your previous area of origin/ residence?	By: - Observing long term changes in weather precipitation - Observing variation in rainfall amount from usual/ normal pattern over the recent years - Observe variation in rainfall timing - Observe variation in rainfall duration from normal pattern - Observe variation in rainfall distribution from normal pattern - Do not Know	1 2 3 4 5 99 →	Skip to Q. 304

303.2	Does this event of rainfall variability determine or influence you to leave your place of origin/ residence temporarily or permanently for other places?	Yes → No →	1 2 →	Skip to Q. 303.3
303.3	Do you perceive that this event of rainfall variability influence other non-migrant household members in your previous location to leave their place of origin temporarily or permanently for other places?	Yes → No →	1 2	
304	About Water resources access for Domestic use			
304.1	In your level of understanding, how do you perceive about accessibility/ shortage of water resource for your domestic use in your previous area of origin/ residence?	By: - Perceive that there is no reserve/ availability of water for the next day - Even if it is available, when it will be below the recommended daily standard(i.e. less than 15 liters/capita) - Do not Know	1 2 99→	Skip to Q. 305
304.2	Do this inaccessibility/ shortage of water for domestic use determine or influence you to leave your place of origin/ residence temporarily or permanently for other places?	Yes → No →	1 2 →	Skip to Q. 304.3
304.3	Do you perceive that this inaccessibility/ shortage of water for domestic use influence other non-migrant household members in your	Yes → No →	1 2	

	previous location to leave their place of origin temporarily or permanently for other places?			
305	About Water access for Irrigation purpose			
305.1	In your level of understanding, how do you perceive about accessibility/ shortage of water resource for agriculture/ irrigation purpose in your previous area of origin/ residence?	By: - Observing that is not sufficient at required amount for irrigation - When it is not accessed during needed time - When it is completely unavailable - Do not Know	1 2 3 99→	Finish
305.2	Do this inaccessibility/ shortage of water for irrigation purpose determine or influence you to leave your place of origin temporarily or permanently for other places?	Yes → No →	1 2 →	Skip to Q. 305.3
305.3	Do you perceive that inaccessibility of water for irrigation purpose influence other non-migrant household members in your previous location to leave their place of origin temporarily or permanently for other places?	Yes → No →	1 2	

……. PLENTIFUL THANKS FOR YOUR TIME CONSIDERATION!!!