REGIONAL AND LOCAL DEVELOPMENT STUDIES

DETERMINANT OF URBAN MULTIDIMENSIONAL POVERTY: A HOUSEHOLD LEVEL ANALYSIS IN THE CASE OF KOLFE KERANIYO SUB CITY OF ADDIS ABABA CITY

BY

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ADDIS ABABA, ETHIOPIA

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This is to certify that the thesis prepared by **Netsanet Ayalew**, entitled: Determinant of Urban Multidimensional Poverty: A House Hold Level Analysis In The Case of Kolfe Keraniyo Sub City of Addis Ababa and submitted in partial fulfillment of the requirements for the Degree of Master of Art in Regional And Local Development Studies complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

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DECLARATION

I, the undersigned, declare that the thesis is my original work, has not been presented for degrees in any other University and all sources of materials used for the thesis have been duly acknowledged.

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ACRONYMS

CSA	Central Statistics Authority
EEA	Ethiopian Economics Association
ETB	Ethiopian Birr
FAO	Food and Agriculture Organization
GPRS	Ghana Poverty Reduction Strategy
HDI	Human Development Index
HH	Household
MoFED	Ministry of Finance and Economic Development
MPI	Multidimensional Poverty Indicators
NGOs	Non-Governmental Organizations
SNNPR	South Nation, Nationalities and People
SSA	Sub Saharan Africa
USD	United States Dollar
WB	World Bank
WDR	World Development Report

ABSTRACT

Poverty is a problem in all countries, but it is particularly acute in Sub-Saharan Africa. Ethiopia is working to eradicate poverty in all of its forms as part of the nation's 2030 fundamental goals. As a result, it is vital to measure urban poverty in order to advance the effort. As a result, the study's goal was to look into the factors that contribute to urban poverty at the household level in Addis Ababa in the case of Kolfe Keranio sub city. The data for the study were taken from 398 sampled households residing in Kolfe Keranio. Both descriptive and Econometrics analysis are employed in the data analysis. The determinants of being multidimensionally poor are investigated using a logistic regression model. According to the descriptive analysis, 65.32 percent of the households in the sample are multidimensionally poor. The intensity of poverty is 89.0% and the adjusted headcount ratio is found to be 64.57%. The living standard component (34.6%) contributes the most to the overall multidimensional poverty of the sample households, followed by the education (15.4%) and health dimensions (3.0 percent). Asset indicators (63.8 percent) and cooking fuel (59.0 percent) had the biggest relative contributions to the total multidimensional poverty index of the study region among the ten multidimensional poverty index variables. In addition, the results of logistic regression revealed that the being male household, being married household head, being employed house head and being obtained loan are statistically significant determinants of households being multidimensionally poor. Policy implications that prioritize living standards and education, as well as policy implications that take key elements into account in poverty reduction initiatives, are essential.

***Keywords**: Multidimensional Poverty, Logistic Regression Model, Urban poverty*

CHAPTER ONE

INTRODUCTION

1.1. Backgrounds of the Study

The Sustainable Development Goals (SDGs) now aim for all people to be free of poverty and hunger by 2030 (Beegle et al., 2016; SDG Center for Africa (SDGC/A), 2019). Despite the fact that the world's poor people are concentrated in Sub-Saharan Africa and South Asia (UNDP, 2019), Sub-Saharan Africa has the worst situation, with 41 percent of the population living on less than $1.25 a day and the lowest Human Development Index (HDI) in the world at 0.537. (UNDP, 2018; IPC-IG, 2019).

By all accepted metrics of poverty, Ethiopia is one of the poorest countries according to various study findings (UNDP Ethiopia, 2018;UNDP, 2018). Ethiopia's HDI rating is 0.463, which is lower than the average of Sub-Saharan African nations (0.537) and even lower than the low human developed countries (0.50), according to the 2019 UNDP human development report.

Poverty is described in different ways. Historically, the concept of poverty mainly evolve around income and consumption which remains the core of the concept today (Ludi and Bird, 2007). It has evolved from the 19th century idea about subsistence needs 'what a person needs to survive. During mid-20th century, conceptualization of poverty is considered lacking basic needs', extending the subsistence idea by also including basic facilities and services such as healthcare, sanitation, and education, to the late 20th century understanding of poverty as relative deprivation ‘, including income and other resources, as well as social conditions: (Ludi and Bird, 2007).

Even though poverty was defined by one-dimensional measures, such as income. As a result of Conceptual evolution in understanding poverty, it was realized that only one indicator alone can Capture the multiple aspects that constitute poverty. The multidimensional poverty encompasses a number of elements that contribute to poor people's deprivation, including bad health, a lack of education, an inadequate living standard, and a lack of income, disempowerment, terrible working conditions, and the fear of violence (Arjun.R, 2013).

According to OPHI (2020), Around 1.3 billion people live in multidimensional poverty in 107 developing countries. This is equivalent to 22% of the population of the 107 countries. 98.8% of the 1.3 billion persons who are multidimensionally poor are deficient in at least three indices at the same time. In Sub-Saharan Africa, 55 percent of the population is poor on several levels. In comparison to other regions, Saharan African countries have the largest percentages of people who are multidimensionally impoverished and lack schooling years. (Niger, Burkina Faso, South Sudan, Chad and Ethiopia) and school attendance (South Sudan, Burkina Faso, Niger, Chad and Mali) (OPHI, 2020).

In Sub-Saharan Africa, 71.9 percent of rural people (466 million people) are multidimensionally poor, compared to 25.2 percent (92 million people) in urban regions (OPHI, 2020).Ethiopia is one of the low-income countries in Sub- Saharan Africa where multidimensional poverty continues to be a serious problem. According to the head count multidimensional poverty metric, around 83.5 percent of individuals in the country are in multidimensional poverty. The urban and rural multidimensional poverty is 16.0 percent and 54.7% respectively. The MPI poverty of Addis Ababa city administration is 5.9% (OPHI, 2020). As a result, this study attempted to analyze the determinant aspect of multidimensional poverty in the Kolfe Keranio Sub city of Addis Ababa. Kolfe Keranio was selected purposely because it has the largest and the diverse households as compared to other sub cities in Addis Ababa CSA (2007).

1.2. Statement of the Problem

Ethiopia is Africa's second-most populated country, with 115 million inhabitants and one of the region's fastest-growing economies. According to the World Bank (2020), Ethiopia's economy grew at a solid, broad-based rate of 9.8% per year from 2008/2009 to 2018/2019, with the proportion of the population living below the national poverty line falling from 38% to 24% during that time. The International Monetary Fund (2020) notes that Ethiopia’s per capita income has risen by about 200% since 1990 while life expectancy increased by about 10 years in a decade and infant mortality was reduced by half. Despite this impressive economic growth, Ethiopia remains one of the poorest countries in the world with a per capita annual income that the government estimates at $883 (MoFEC, 2019). Findings from the most recent Afrobarometer survey (2020) show that macroeconomic gains do not tell the whole story. With a high

prevalence of lived poverty, many Ethiopians continue to experience frequent shortages of necessities in their daily lives.

According to the report by OPHI (2020), 83.5% percent of the Ethiopian population was poor as measured by Head count Multidimensional Poverty Indicators (MPI), which means they were deprived in at least one-third of the weighted MPI indicators. Hence, as per utilizing the MPI technique, Ethiopia ranked as one of the poorest countries in the world. Despite this fact, vulnerability of urban households' poverty and related risk factors is not properly addressed. Esubalew (2006) and Mohammed (2017) are two of the few evaluations of poverty in Ethiopia that have focused on the determinants of urban poverty and they used income as the sole indicator of poverty, ignoring other aspects of life such as health, education, and living standards. However, according to OPHI (2020), poor people's experiences of poverty are defined by factors other than their income. Lack of education, health, shelter, empowerment, humiliation, employment, personal security, and other factors are frequently mentioned. No single metric, such as income or consumption, is capable of capturing all of the factors that lead to poverty.

According to (UN-Habitat, 2008), more than 80% of Addis Ababa residents live in a slum, with 70% of them living in government-owned rental housing (UN-Habitat, 2008). According to the report, the inner city of Addis Ababa is dominated by congested and decaying dwellings, with an estimated 70-80 percent of the city's housing stock under "slum conditions. Unemployment among young people (aged 15 to 29) is a big issue; in Addis Ababa, over 25% of young people (aged 15 to 29) were unemployed in 2020(Ezana H. 2021).Furthermore, Addis Ababa also sees a lot of immigration, and most of the newcomers face economic hardship and a poor quality of life (Ezana H.2021). Rapid urbanization and extraordinary population expansion have put immense strain on Addis Ababa's ability to offer cheap housing and essential services to its citizens, particularly low-income households, in recent decades (UN-Habitat, 2017).

Another key indicator of a city's ability to improve its citizens' quality of life is the availability of urban health services. Although many children in Addis Ababa continue to be malnourished, there has been steady development. Despite all of the advancements, children from low-income families are more likely to be stunted (UNCIF 2018). It also demonstrates that children whose mothers have no formal education have a 31% stunting rate compared to 10% for children whose mothers have finished secondary or higher school (UNCIF 2018)

There is a major water deficit in Addis Ababa. Because of the continual disruption and limited capacity to replenish public water supplies, residents of informal settlements and low-income areas are disproportionately affected. (Ezana H.2021) Flooding is becoming more likely as a result of informal house building, inadequate drainage, incorrect solid waste management, and the loss of green spaces. Despite the fact that the use of electricity as a source of illumination has remained largely consistent, power supplies for lighting, cooking, and refrigeration remain insufficient (UN-Habitat, 2017).

Due to the usage of kerosene and open fire for cooking, the congested settlement pattern, and poor housing quality in the inner-city slums, many portions of the city are also at risk of fire. (Ezana H.2021.) In Addis Ababa, power disruptions have become a common occurrence. The amount of homes reporting power outages for 1-2 days, 3-4 days, and 5-7 days per week (UN-Habitat, 2017). Despite the city's recent economic boom, the current increased unemployment rate poses a growing threat to Addis Ababa's urban economy. According to the CSA (2015), the economically active population includes all people who provide labor to produce products and services. In terms of gender disparities, males (70.0 percent) had a 15.3 percent greater activity rate than females (54.9 percent). The city of Addis Ababa's activity rate was reported to be 60.8 percent in 2015, lower than the national estimate of 63.7 percent.

Available literatures also indicated that absence of adequate water and sanitation in slum areas have resulted in the presence of various diseases (Fry et al, 2002; Water aid, 2008). Despite all of the facts, the city of Addis Ababa's urban households' exposure to poverty and its risk factors were not adequately addressed. There is only one research attempt regarding multidimensional poverty of households at Addis Ababa city level studied by Etaferahu C. and Andualem G. (2019) using Ethiopia Socioeconomic Survey (2013/2014 – (2015/2016) data. This study has its own limitation because it didn't reflect the multidimestion poverty status of household at sub city levels as well as the data used for the study does not shows the current multidimensional poverty status of the city. Therefore, to fill this gap this study attempted to examine the determinant of urban multidimensional poverty in Addis Ababa at Kolfe Keraniho sub city by collecting the primary level data from the households. The study place i.e. Kolfe Keraniho was selected for this study because it has the diverse and the largest household number as compared to other sub cities in Addis Ababa city CSA (2007).

1.3. Research Questions

The research has the following question

i. What is the level of poverty in Kolfe Keranio Sub-city of Addis Ababa?
ii. What proximate factors are associated with multidimensional poverty in the Kolfe Keranio sub city?
iii. What are determinates of urban multidimensional poverty in Kolfe Keranio Sub city?

1.4. Objectives of the Study

General Objective

The general objective of this study is to examine the determinates of multi-dimensional urban poverty in Kolfe Keranio Sub City of Addis Ababa Administration.

Specific Objectives

- To assess the number of households deprived in different poverty indicators
- To measure the multi-dimensional poverty index of the Kolfe Keranio sub city
- To identify factors correlated with urban multidimensional poverty in the sub city
- To Examine the determinants of multidimensional urban poverty of the sub city

1.5. Significance of the Study

Several studies undertaken in Ethiopia to investigate the elements that contribute to multidimensional poverty have discovered a number of characteristics that contribute to multidimensional poverty. But very few of these studies gave attention to multidimensional poverty at urban level. The goal of this study was to determine the most relevant factors associated with urban multidimensional poverty and to investigate the impact of these factors on multidimensional poverty among sampled residents in Addis Ababa's Kolfe Keriniho Sub-city. This finding will be helpful for better understanding of the determinate factor associated with urban multidimensional poverty in Addis Ababa as general and in Kolfe Keranio sub city in particular

i. This study will be helpful for the formulation of policies and strategies towards alleviating urban multidimensional poverty
ii. Finally, the findings and conclusion for this study can be used as the basis for further research on the area targeting urban poor peoples

1.6. Scope of the Study

Urban multidimensional poverty was a global issue, particularly in developing countries like Ethiopia. Even though urban poverty is a concern in many cities in Ethiopia, the scope of the study is confined to the level of Addis Ababa city in the case of Kolfe Keranio Sub city. The sample was collected from households in 15 of the sub city's woredas (districts). The study also looked at the socioeconomic and demographic features of the households and the heads of the families. The study's core assessments focused on identifying the main causes that led to multidimensional poverty in urban households

1.7. Organization of the Paper

The rest of the paper is organized as follows. Chapter two contains both theoretical and empirical literature reviews. Chapter three describes the methodological issues of the study and chapter four gives the results and discussions. Finally, Summary conclusions and recommendations of the study are presented in chapter five.

CHAPTER TWO

LITERATURE REVIEW

In this chapter, we present a review of both theoretical and empirical literatures on determinant of multidimensional poverty. Relevant studies were reviewed giving special focus on findings and methodological issue in developing countries.

2.1. Theoretical Literature Review

2.1.1. Concept and Definitions

The 'income paradigm of poverty' has been traditionally dominant in the literature. Poverty is conceptualized following the maximizing utility behavior subject to a budgetary restriction. The individual choices over a set of goods and services are conceived as an expression of the revealed preferences of the individuals, rational and autonomous with access to a full set of information. Under this tradition, poverty is defined as a standard of living below a poverty line fixed using monetary resources (income, consumption, expenditure).

However, since the late 1970s different authors have identified the limitations not only in the concept of poverty but also of the indicators used. Townsend (1979) was a pioneer arguing that poverty was not a lack of income to purchase goods in the market but the lack of resources to participate in society. He also introduced different indicators, mainly focusing on the access to goods and services, to account for his concept of poverty.

In 1971, Rawls presented his 'justice as fairness' conceptual framework under the social contract tradition: "It conveys the idea that the principles of justice are agreed to in an initial situation that is fair" (Rawls, 1971, p. 11). He describes his approach as based on principles of justice, using the concept of the original position of equity. For Rawls, the space of equality is the set of 'primary goods' in which he positions: rights and liberties, powers and opportunities, income and wealth, and health and vigor.

Also at the end of the 1970s Sen proposes the 'capability approach' as a framework to understand development and specifies that poverty is a 'capability deprivation'. He argues that income is not a satisfactory space to evaluate the well-being of individuals. For him, the

monetary tradition is a very limited framework to understand development. Income is just one particular means among many others but not an end in itself: "Aristotle had pointed out, at the very beginning of his Nicomachean Ethics, that income and wealth are only instrumentally1 valued, and we have to go deeper to understand what makes human life rich and human freedoms effective" (Sen, 2006, p. 35).

The proliferation of conceptual frameworks since the late 1970s has shifted the focus of understanding and measuring poverty from income to other dimensions of development. At the same time research on its measurement is booming. It is a complex subject to navigate and although several innovations have been proposed, the 'income paradigm' is still the main framework used to understand and measure poverty. "Life is richer and more complex than buying and selling goods and services, but unfortunately, this creates the need for alternative measures which are not so readily available and are likely to generate more controversy and more difficulties in measurement" (Fleurbaey, 2015, p. 201). Poverty has different shapes and magnitudes. Poverty can be defined in terms of income, capabilities, basic needs, social exclusion, and vulnerability to risk shocks. It can be considered permanent or transitory. It can be defined in relative or absolute terms. It can be understood in objective or subjective terms. The discourse in the field of poverty studies has agreed, at least, that poverty is multidimensional, as noted by Jenkins and Mickelwright (2007, p. 7), "these developments reflect the view that poverty is not only about having enough money, and that inequality is not just about differences in money income".

Multidimensional poverty encompasses the various deprivations experienced by poor people in their daily lives – such as poor health, lack of education, inadequate living standards, disempowerment, poor quality of work, the threat of violence, and living in areas that are environmentally hazardous, among others (OPHI 2015).

A multidimensional measure of poverty can incorporate a range of indicators that capture the complexity of this phenomenon in order to inform policies aimed at reducing poverty and deprivation in a country. Depending on the context of a country and the purpose of the measure, different indicators can be chosen to reflect the needs and priorities of a nation, as well as its constituent regions, districts, provinces, etc (OPHI 2015).

A multidimensional poverty measure takes into account both the monetary and non-monetary aspects of poverty. It also places welfare in the space of freedom and accomplishments that affect human existence. For instance, individuals must be adequately fed, have access to education, be in good health, participate in community life, be free, appear in public without shame, etc. The main dimensions that are often taken into account in multidimensional poverty analysis can then be summarized as follows: income, education, health, water, sanitation, nutrition, housing, employment, access to productive assets, access to market, etc. (Asselin, 2009).

2.1.2. Measure of Multidimensional poverty

The measurement of poverty has been under constant scrutiny from academics and policy-makers. For many years, income (or consumption/expenditures) has been used as a proxy to understand and measure poverty. Nonetheless, over the last decades, increasingly theoretical and methodological discussions have shifted the attention to what is now called Multidimensional Poverty. Starting with the seminal works of Peter Townsend (1979), Amartya Sen (1976) and John Rawls (1971), social scientists have devised different approaches to understanding poverty without relying on income. Some of these are the basic needs approach, material deprivation, subjective well-being, and the capability approach.

Since 2010, the Human Development Report (HDR), the publication containing the Human Development Index, has included a ranking of more than 100 developing countries, in the form of an index, referred to as the Multidimensional Poverty (MPI). The publication of the HDR not only sparked a debate about the interpretation of such rankings and comparisons of poverty between countries but also about the measurement of poverty in general (See Decanq and Lugo (2010), Ferreira and Lugo (2013), Ravallion (2011) and Alkire (2011)). The ranking published in the HDR is constructed on the basis of the most widely used counting index of multidimensional poverty, the Adjusted Headcount Ratio of the Alkire-Foster (AF) family of indices.

2.1.3. Theories of Poverty

There are several compelling theories of poverty which frequently caught the attention of researchers when a need arises to anchor the causes of poverty on theories.

According to Sen (1987) the value of the living standard lies in the living, and not in the possessing of commodities. Such an approach to the definition and /or measurement of poverty suggests a broader set of criteria for assessing poverty than just income and/or consumption. The measure is said to include publicly provided but non-marketed services; like, sanitation, health care, education & life expectancy. Sen (1987) also introduced the notion of capabilities in poverty definition and assessments. Hede fined poverty not only as a matter of low level of well-being, but also as lack of ability to chase well-being specifically because of lack of economic means. He favored the capability to function as criteria for assessing standard of living, and by implication poverty rather than the utility that might be derived from using that capability.

Human capital theories of poverty developed by Becker (1975) and Mincer (1974) explains both individuals 'decisions to invest in human capital (education and training) and the pattern of individuals 'lifetime earnings, and their different levels of investment in education and training determine the outcome of an individual either to be poor or non-poor. This theory also explains why the minorities within the society such as women among others have higher incidence of poverty due to lower earnings from labor market which in turn caused by low investment in human capital. But, this theory is too shallow to explain the causes of poverty since earnings are one of the determinants of poverty (Tasew et al, 2013)

The other dominant theory tried to relate the causes of poverty on the basis of geographical disparities. This theory explains why poverty is most intense in certain areas and why some regions lack the economic base to compete. More specifically, remoteness, lack of certain types of natural resource endowments, political disadvantageousness, and weak integration can all contribute to the creation of intra-country spatial poverty traps Morrill& Wohlenberg(1971)

The frame of reference for both theories extends across national, cultural, ethnic, racial, and other boundaries. But both cultural and structural theorists have recognized, explicitly or implicitly, that there are certain societal characteristics necessary to the development of the poverty syndrome. Such characteristics are high under- and unemployment for unskilled labor, low wages, little social organization among the poor, a bilateral kinship system, a value system stressing the individual accumulation of wealth David Elesh (1970). Since poverty is multifaceted and multidimensional, it is worthy to construct model of poverty determination

taking in to account various causes of poverty mentioned in theories and identifies the significant causes for a specific area David Elesh (1970).

2.1.4. Poverty in Ethiopia

Ethiopia continues to be one of the poorest countries in the world by different standards and measures of one-dimensional and multidimensional poverty (Apablaza and Yalonetzky, 2013). Even though there have been improvements in living standards, subjective poverty measures indicate that poverty remains high in Ethiopia. The United Nations' HDI ranked Ethiopia 174 out of 187 countries where average per capita income was less than half of the sub-Saharan average (The World Bank, 2014).

Similarly, a young lives multidimensional poverty analysis also indicated that Ethiopia's multidimensional poverty index was very high (Alemayehu et al., 2015). Ethiopia is one of the poorest countries according to multidimensional poverty measures. Despite some progress, significant multidimensional poverty reduction has not been observed in Ethiopia. The OPHI (2013) showed that 87 percent of the population was multidimensional poor in 2011 which made Ethiopia the second poorest country in the world.

However, some studies have indicated that since 2000, Ethiopia has shown a reduction (around 33 percent) in the share of its population living in poverty (Apablaza and Yalonetzky, 2013; Stifel and Woldehanna, 2017; The World Bank, 2014)

In Ethiopia, the proportion of the population living below the poverty line deceased from48 percent in 1990-91 to around 38.7 percent in 2004-05. A notable reduction in the poverty gap and the depth of poverty was observed in the country in general and in rural Ethiopia in particular. a study by (Woldehanna and Hagos, 2013). Stifel and Woldehanna (2016) state that despite a nominal increase in income in Ethiopia over 2000 and 2011, the poorest urban population experienced no real change in their consumption levels.

2.1.5. Multi-Dimensional Poverty

There has been a shift of focus from one dimension to multiple dimensions of poverty. The multidimensional nature of poverty has become increasingly important in recent years and different contributions to this have been (Alkire et al., 2011). In addition to monetary income

or consumption expenditure, human lives and well-being are affected by different dimensions such as health and education.

A one-dimensional measure of poverty using income or consumption expenditure presupposes that a market exists for all goods and services; however, often markets do not exist for many goods and services or they function imperfectly (Bourguignon and Chakravarty, 2003; Thornback, 2008; Tsui, 2002) and therefore, monetary values cannot be assigned to particular aspects of well-being (Hulme and McKay, 2008; Thorbecke, 2008). Also, having a sufficient income for purchasing a basic basket of goods does not imply that it is spent on that basket of goods (Thorbecke,2008). Individual well-being is a multidimensional notion (Stiglitz et al., 2009), individual scare about many different aspects of their lives, including their material standard of living, health, and schooling.

As stated by Alkire and Santos (2011) low income, poor health, inadequate education, job insecurity, disempowerment, and precarious housing are clear manifestations of multidimensional poverty. The components of poverty change across people, time, and context but multiple domains are involved. Empirical literature has documented a mismatch between monetary and non-monetary deprivations (Berenger and Verdire_Chouchane, 2007; Hishe Gebreslassie, 2013; Tran et al., 2015). This difference is attributed to a possible bias in the single dimensional measure of poverty. For example, a study in India by Stewait et al., (2007) found that 53 percent Indian children living in income-poor households were not malnourished and 53 percent of malnourished children were not living in income poor households.

MPI was developed by the Oxford Poverty and Human Development Initiative (OPHI) at the University of Oxford (Alkire and Santos, 2011; Alkire et al., 2011). It is a comparable multidimensional measure of acute poverty in over 100 developing countries. MPI acknowledges that income or consumption is a necessary but not a sufficient measure of gauging social well-being. In addition to poverty headcount, the depth, persistence, and complexities of poverty must also be understood. It considers many deprivations faced by severely disadvantaged groups and it is closely linked to the MDGs' or SDGs' targets. MPI incorporates alternative indicators; poverty cut-offs, and weights and is composed of three dimensions made up of ten indicators. Each indicator is based on international consensus (such as the MDGs) and the minimum level of

satisfaction is called a deprivation cut-off. MPI combines the percentage of people who are poor (headcount ratio) and the average percentage of dimensions in which poor people are deprived.

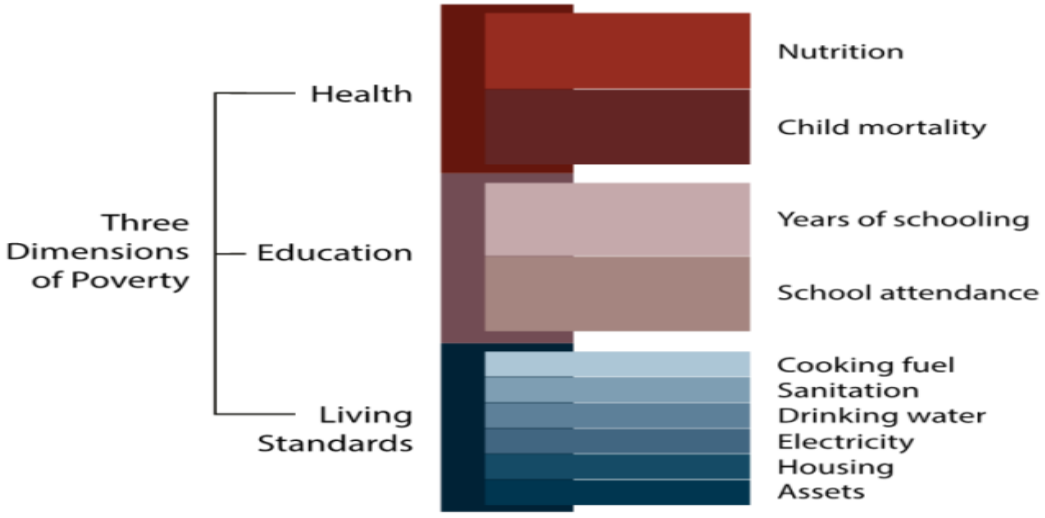
2.1.6. Global Multi-Dimensional Poverty Index 2020

The 2020 update of the global Multidimensional Poverty Index (MPI) covers 107 countries, 28 low income, 76 middle income and 3 high income and 5.9 billion people in developing regions**.** MPI values and data for the MPI's component indicators are also disaggregated by age group, for rural and urban areas and for 1,279subnational regions. Data for 25 countries covering 913 million people have been updated from the 2019 release. The 2020 estimates are based on 47 Demographic and Health Surveys (DHS), 47 Multiple Indicator Cluster Surveys (MICS), 3 Pan Arab Population and Family Health Surveys and 10 national surveys. All surveys are dated2008–2019, and data for 83 countries—home to 92 percent of multidimensional poor people—were collected in 2013/2014 or later.9The global MPI is thus a key resource for recent poverty data across developing regions OPHI and UNDP (2020)

In the global MPI, people are counted as multidimensional poor if they are deprived in one-third or more of 10 indicators (see figure 1), where each indicator is equally weighted within its dimension, so the health and education indicators are weighted 1/6 each and the.

The global MPI begins by establishing a deprivation profile for each person, which shows which of the 10 indicators they are deprived in. Each person is identified as deprived or non-deprived in each indicator based on a deprivation cutoff (Table 1). In the case of health and education, each household member may be identified as deprived or not deprived according to available information for other household members. For example, if any household member for whom data exist is malnourished, each person in that household is considered deprived in nutrition. Taking this approach which was required by the data does not reveal intra household disparities, but it is intuitive and assumes shared positive (or negative) effects of achieving (or not achieving) certain outcomes.

Figure 2.1: Composition of the Global MPI- Dimensions and indicators



Source: OPHI, 2018

Standard of living indicators are weighted 1/18 each. The intensity of multidimensional poor people is measured by the average number of weighted deprivations they experience. The MPI is the product of the incidence of poverty (proportion of poor people) and the intensity of poverty (average deprivation score5 of poor people) and is therefore sensitive to changes in both components. The MPI ranges from 0 to 1, and higher values imply higher poverty OPHI and UNDP (2020).

The global MPI begins by establishing a deprivation profile for each person, which shows which of the 10 indicators they are deprived in. Each person is identified as deprived or non-deprived in each indicator on the basis of a deprivation cutoff (Table 1). In the case of health and education, each household member may be identified as deprived or not deprived according to available information for other household members. For example, if any household member for whom data exist is malnourished, each person in that household is considered deprived in nutrition. Taking this approach, which was required by the data, does not reveal intra household disparities, but it is intuitive and assumes shared positive (or negative) effects of achieving (or not achieving) certain outcomes.

Looking across indicators, each person's deprivation scores based on a weighted average of the deprivations they experience. The indicators use a nested weight structure: equal weights across dimensions and an equal weight for each indicator within a dimension. The global MPI

specifies that a person is identified as MPI poor if he or she is deprived in at least one-third of the weighted indicators. In addition, the measure also identifies those who are close to the one-third threshold, that is, individuals are vulnerable to multidimensional poverty if they are deprived in20% to 33.33% of weighted indicators. The measure also specifies a higher poverty cutoff to identify those in severe poverty, that is, those deprived in 50% or more of the dimensions.

Table 1 : Global MPI 2020- Dimensions, Indicators, deprivation cutoffs and weights

Dimensions of poverty	Indicator	Deprived if...	SDG area	Weight
Health	Nutrition	Any person under 70 years of age for whom there is nutritional information is **undernourished**.1	SDG 2	1/6
	Child mortality	A child **under 18** has **died** in the household in the five-year period preceding the survey.2	SDG 3	1/6
Education	Years of schooling	**No** eligible household member has completed **six years** of **schooling**.3	SDG 4	1/6
	School attendance	Any school-aged child is **not attending** school **up to** the age at which he/she would complete **class 8**.4	SDG 4	1/6
Living Standards	Cooking fuel	A household cooks using **solid fuel**, such as dung, agricultural crop, shrubs, wood, charcoal, or coal.5	SDG 7	1/18
	Sanitation	The household has **unimproved** or **no** sanitation **facility** or it is improved but **shared** with other households.6	SDG 6	1/18
	Drinking water	The household's source of **drinking water** is **not safe** or safe drinking water is a **30-minute** or **longer walk** from home, roundtrip.7	SDG 6	1/18
	Electricity	The household has **no electricity**.8	SDG 7	1/18
	Housing	The household has **inadequate** housing materials in **any** of the three components: **floor**, **roof**, or **walls**.9	SDG 11	1/18
	Assets	The household does **not own more than one** of these **assets**: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.	SDG 1	1/18

Source Global Multidimensional Poverty Index (2020)

Health

The MPI uses two health indicators .The first indicator looks at nutrition of household members. Children under 5 years (60 months and younger) are considered undernourished if their z-score of either height-for-age (stunting) or weight-for-age (underweight) is below minus two standard deviations from the median of the reference population. Children 5–19 years (61–228 months) are identified as deprived if their age-specific BMI cutoff is below minus two standard deviations. Adults older than 19 to 70 years (229–840 months) are considered undernourished if their Body Mass Index (BMI) is below 18.5 m/kg² (Alkire, Kanagaratnam and Suppa, 2020).

The MPI identifies a person as deprived in nutrition if any person under 70 years of age for whom there is nutritional information is severely undernourished (Alkire, Kanagaratnam and Suppa, 2020).

The second indicator uses data on child mortality. The second indicator uses data on child mortality. Most, although not all, child deaths are preventable, being caused by infectious disease. Child malnutrition also contributes to child death. In the MPI, each household member is considered to as deprived if a child under 18 has died in the household (Alkire, Kanagaratnam and Suppa, 2020).

Education

The MPI uses two education indicators that harmonize each other within the education dimension. The first looks at completed years of schooling of household members, the second at whether children are attending school. Years of schooling acts as a proxy for the level of knowledge and understanding of household members. Note that both years of schooling and school attendance are imperfect proxies. They do not capture the quality of schooling, the level of knowledge attained or skills. Yet both are robust indicators, are widely available, and provide the closest feasible approximation to levels of education for household members. (Alkire, Kanagaratnam and Suppa, 2020).In the MPI, each household member is considered to be deprived if no eligible household member has completed six years of schooling and/or school-aged child is not attending school up to the age at which he/she would complete class 8 (Alkire, Kanagaratnam and Suppa, 2020).

Living standards

The MPI considers six indicators for standards of living. It includes cooking fuel, sanitation, drinking water, electricity, housing, and assets (Alkire, Kanagaratnam and Suppa, 2020).The selected deprivation cut-offs for each indicator are discussed below.

Cooking fuel: A household cooks using solid fuel, such as dung, agricultural crop, shrubs, wood, charcoal, or coal consider to as deprived

Sanitation: A household is considered to have access to improved sanitation if it has some type of flush toilet or latrine, or ventilated improved pit or composting toilet, provided that they are not shared.

Drinking Water: A household has access to clean drinking water if the water source is any of the following types: piped water, public tap, borehole or pump, protected well, protected spring, or rainwater, and it is within a 30-minute walk, round trip.

Electricity: A household considered as deprived if it has no access to electricity

Housing: A household considered as deprived if it has inadequate housing materials in any of the three components: floor, roof, or walls.

Assets: The household is deprived if; the household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck. In general for the theoretical foundations of multidimensional poverty; there are four approaches to multidimensional poverty analyses. First, the theory of the Fuzzy sets/ Fuzzy approach (TFA) is about the need for the characterizations of a whole series of variables/ particular aspect of poverty (Filippone, Cheli, & Agostino, 2001; Betti, Gagliardi, & Salvucci, 2014). Second, the information theory denotes that to identify the household as poor or not poor, weights are required to be assigned to the indicators (Deutsch & Silber, 2005). Third, the efficiency analysis approach denotes the need to brought information into composite/aggregation index (Deutsch & Silber, 2005; Alkire, Foster, Seth, Santos, Roche, & Ballon, 2015). Fourth, Sen (1981) capability theory and axiomatic derivations approach, aimed at designing poverty indices (Deutsch & Silber, 2005; Chakravarty, 2006; Alkire & Foster, 2008;2011;).

2.2. Empirical Literature Review

A Multivariate logistic regression study conducted in Nekemte Town, Eastern Wollega Zone has shown that the sex of household head significantly affect the poverty of the household **(**Melese, et al., 2017).The household head being female is positively correlated with the probability of being poor (Kebede & Sharma, 2014; Teka et al., 2019; Tsehay & Bauer, 2012).Female farm managers in Ethiopia are23 percent less productive than their male counterparts. They have less time to spend on formwork and farm less land, more of which is rented (World Bank, 2015). Female-headed households, especially in rural areas of Ethiopia are likely to have lower consumption (FDRE, 2018).

Age of the household head is measured in years and a study conducted in Ethiopia by Kebede and Sharma (2014) shows that the age of household head is negatively correlated with the probability of being poor. Hence, the age of the household head is expected to be positively and negatively associated with the welfare of the households.

A study done in Southern Nations, Nationalities and Peoples Region of Ethiopia by Mohammed (2017) shows that urban poverty found to be statistically significant variables with marital status of the household head. Likewise, a study conducted in Uganda using multinomial logistic regression analysis reveal that marital status of household's head is a significant determinant of urban poverty Eunice (2011).Education has a clear and positive correlation with consumption, in both urban and rural areas. Even completing informal education shows significant increases in consumption, showing that investment in adult education may also pay returns in Ethiopia (FDRE, 2018).Literacy and schooling are important indicators of the quality of life in their own right. That is the literacy was found to be negative and significant, which means that literate household heads are less likely to be poor than are illiterate households. This means that education might increase earning potential and improve the occupational and geographic mobility of labour (Kebede &Sharma, 2014; Teka et al., 2019; World Bank Institute, 2005). A study conducted in Uganda also shows household head education were significantly associated with the urban poverty Eunice (2011).

The previous study shows that credit is positively associated with the welfare of households (Teka et al., 2019; Tsehay& Bauer, 2012). Access to and utilization of credit is facilitated to increase or diversify household incomes and outflow from poverty. Research done by Kassie et al. (2014) found that possession of assets such as access to credit was found to be positively related to the well-being of sample households in Malawi. So, access to credit is expected to be positively associated with the welfare of households.

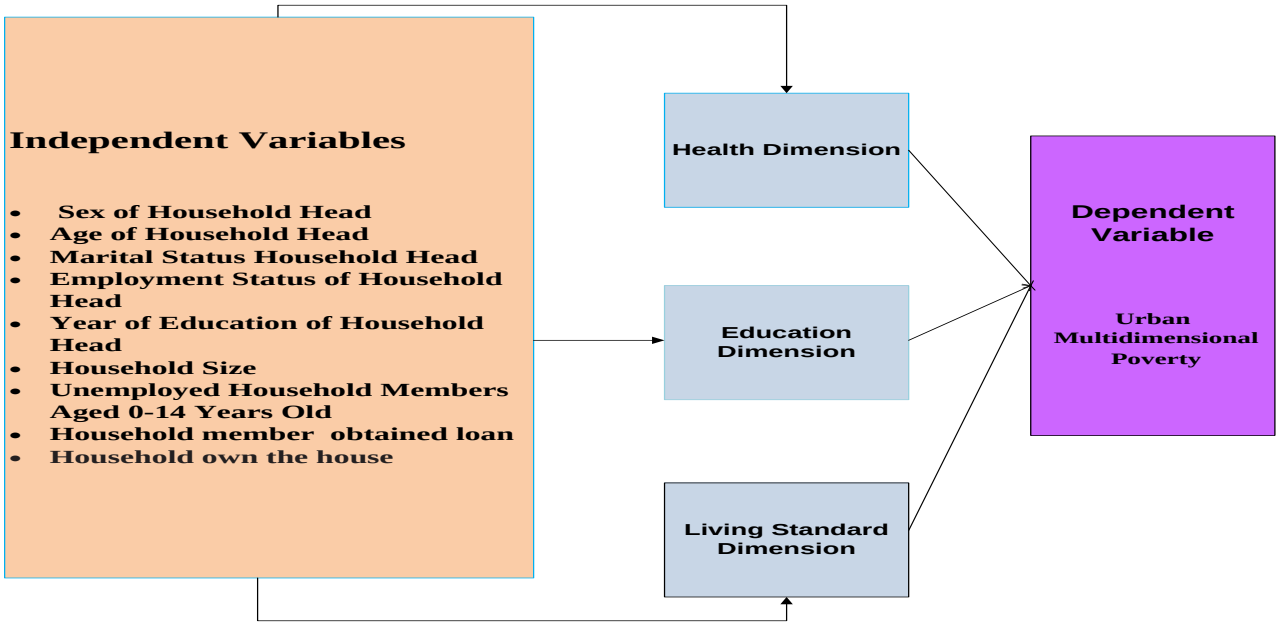
The total family size of the household affects the welfare of households. Households with larger family sizes are more likely to be poor (Bersisa & Heshmati, 2016; Kebede & Sharma, 2014).Multi-Dimensional Poverty study finding suggests that standard of living dimension contributes the most to MPI. MPI has substantial relationships with household head's educational achievement, access to electricity, and asset stock. Another multi-dimensional poverty study

finding suggests that standard of living dimension contributes the most to MPI. MPI has substantial relationships with household head's educational achievement, access to electricity, and asset stock.(Ebenezer T.2018).A study done in Ethiopia by Etaferahu C. and Andualem G. (2019) showed that access to loan and access for own house are negatively significant with urban multi-dimensional poverty.

2.3. Conceptual Framework

The researcher developed a conceptual framework based on the reviewed literature to analyze the determinants of urban multidimensional poverty. The three dimensions that is health dimension, education dimension and living standard dimension are aggregated to the urban multidimensional poverty index of the household as per Alkere and Forest (2011) procedure. The urban multidimensional poverty which is the depended variable of the study consists of a dummy variable categorized as poor and non-poor status of the households. The relationship between the depended and the independent variables is analyzed by using spearman rank correlation. And to estimate the effect of the independent and on the dependent variables the logistic regression model is used.

Figure 1.2: Conceptual Framework



Source: (Reviewed literature, 2021)

CHAPTER THREE

DATA AND METHODOLOGY

3.1. Description of the Study Area

The study was conducted in Kolfe Keraniyo sub-city of Addis Ababa City Administration in Ethiopia. Kolfe keraniyo sub-city is the largest and the most populous sub-city in Addis Ababa. According to 2007 national population census conducted by Central Statistical Agency (CSA), the population of the sub city was 428,895. The sub-city has 15 administrative areas (Woredas') with estimated 104,609 households.

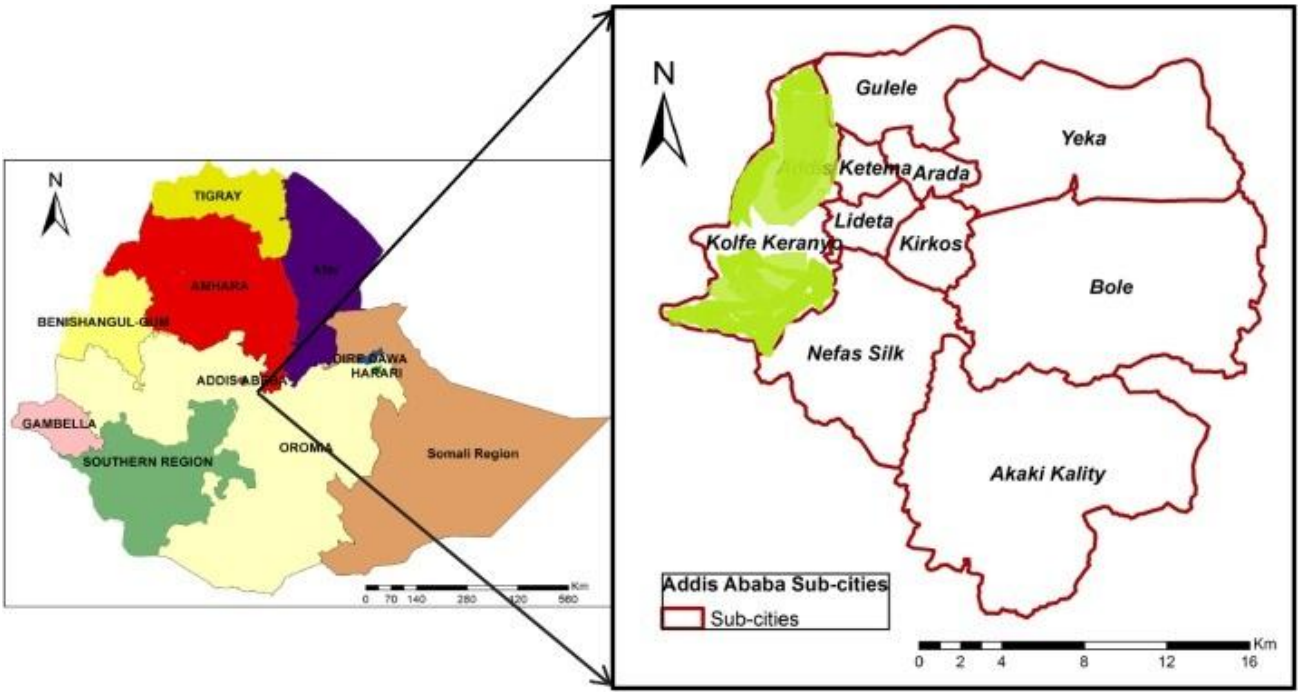


Figure 3.1: Map of Study Area

3.2. Research Design

The main purpose of this study was to assess the determinant of multi-dimensional urban poverty in Addis Ababa the case of Kolfe Keranio sub city. Therefore, to investigate this study utilized both descriptive and econometric analysis and use multi-dimensional poverty estimation to calculate multidimensional poverty index.

3.3. Source of Data

The data for this study was obtained from 398 households reside in Kolfe Keranio Sub city of Addis Ababa City Administration. For this purpose, a survey design was adopted, and a questionnaire was used to gather information from the target population. The target population of the study was all households located in Kolfe Keranio Sub city. In the current study, the target population was big enough to conduct a sampling procedure. Therefore, data were aimed to be collected from the sample households.

3.4. Sample Size Determination

The sample of this research is calculated by using Taro Yamane (Yamane, 1973) sample size determination formula with 95% confidence level. Such method is the most appropriate way of sample size determination for finite population (Yamane, 1973). This is presented as follow:

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

Where,

$n$is the sample size,

N is the population size and

e is the acceptable margin of error.

According to CSA (2007), there are 104,609 households in Kolfe Keraniyo Sub city with a total population of 428,895, of whom 207,641 (48.4%) are male and the remaining 221,254 (51.6%) are female. Therefore, the sample size is calculated as

$$\text{n} = \frac{104609}{1 + (104609 \text{ x } (0.05)^2)} = 398$$

Therefore, according to the above calculation a total of 398 questionnaires was randomly distributed to collect relevant data from 398 households in Kolfe Keraniyo sub cities.

3.5. Method of Data Analysis

3.5.1. Multidimensional Poverty Index (MPI) Estimation Method

The method used to measure MPI in this paper is the Alkire and Foster's (2011) multidimensional poverty measures, later called the AF methodology. The AF method is explained as follows:

Let n represent the number of households and $m \geq 2$ be the number of dimensions. Each dimension is represented by wellbeing indicators j where j is between 1 and d. Let $Y = |Y_{ij}|$ denote the $n \times d$ matrix of achievements, where the typical entry $Y_{ij} \geq 0$ is the achievement of household=1, 2,…, n in wellbeing indicator j=1,2, …,d. $|Z_j| > 0$ is the indicators cutoff below which a person is considered to be deprived in indicator j.

For any given Y, let $g = |g_{ij}|$ is a deprivation gap, which denote the 0-1 matrix of deprivations associated with Y, whose typical element gij is defined by $g_{ij} = 1$ when $Y_{ij} < Z_j$, while $g_{ij} = 0$ otherwise. Clearly, $|g_{ij}|$ is an n×d matrix whose ij^{th} entry is 1 when household i is deprived in the j^{th} indicator, and 0 when a person is not.

After the identification of deprivations, the next step is assigning weights to each dimension. The AF method implicitly assigned an equal weight to each dimension and similar weights to all indicators within a dimension. This has been done by assuming that the available chosen dimensions are relatively equally important (Alkire and Foster, 2011). Similar to the AF method, this paper used an equal weighting approach to each dimension and similar weights for indicators within a dimension. Having the weighted deprivation gap ($w_j g_{ij}$) for each indicator, finding the aggregate deprivation score for everyone (C_i) is the next task. $C_i$is defined as the horizontal sum of weighted deprivation gaps for everyone, which is written as follows:

$$C_i = \sum_{j=1}^{d} W_j g_{ij} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3.1)$$

The last step in the estimation of MPI is identification of those who are poor and not. In a multidimensional framework, there are three types of identification rules: intersection, union and intermediate. Under the union approach a person $i$is said to be multidimensional poor if there is at least one indicator in which the person is deprived. The intersection approach identifies person i as being poor only if the person is deprived in all indicators j . AF methodology uses an

intermediate cutoff level for C_i that lies somewhere between the two extremes of 1 and j. Therefore, AF identification includes the union and intersection methods as special cases of extreme values (Alkire and Santos, 2011). Consider $k$as the poverty cutoff and $q$as the number of poor people, then person *i* is considered poor when the number of indicators in which *i* is deprived is at least *k*. On the other hand, if the aggregate deprivation score falls below the cutoff *k*, then person *i* is non-poor and his/her value will be censored to zero. From eq1, if we censored all values of *Ci* to zero which are located below k, we will get a censored aggregate deprivation score (*Ci**). Hence, a person is identified as poor when the aggregate score *Ci* is above *k* (or equivalently *Ci**>0). The main challenging task in the intermediate method is the choice of the appropriate cutoff *k* among a set of *k* poverty cutoffs.

The choice of the appropriate *k* has more of a normative task which is left for the researcher like the income poverty (Sen, 1979; Alkire *et al*., 2014). Alkire *et al*, 2014 suggested two methods of choosing the appropriate cutoff from a set of alternatives. The first method to select the appropriate cutoff is to identify the number of poor people based on the available resources. In this case, the policy maker a priori selects the number of poor segment of the society that could be accommodated by the available resources. The second method is to use 1/3 to 1/5 of the available indicators. From "communication" point of view, those people who are deprived of 1/3 to 1/5 of the available indicators are vulnerable of becoming multidimensionally poor. "In the MPI, a person is identified as poor if he or she has a deprivation score higher than or equal to 1/3. In other words, a person's deprivation must be no less than a third of the (weighted) considered indicators to be considered MPI poor"(Alkire and Santos, 2011).Following this, the AF family of multidimensional poverty computation has two main parts

The first one is multidimensional headcount ratio (*H*) which is the proportion of incidence (depth) of people who experience multiple deprivations.

$$H = \frac{q}{n}$$

Where q is the number of multidimensional poor households and n is the total number of households. The second one is the intensity or width of poverty (*A*) is the average deprivation score of those poor segments of the population, written as

$$A = \frac{\sum_{i=1}^{n} \frac{1}{\mathrm{d}} \mathrm{C}^{*}}{q}$$

Where C^* the censored deprivation score of individual i and q is the number of people who are multidimensional poor. Therefore, multidimensional poverty is the product of the above two terms

$$MPI = H \times A$$

This study used three dimensions to measure multidimensional urban poverty: education, health, the standard of living and each dimension have choice three indicators according to the availability of data this selection is based on the Global multi-dimensional poverty index 2020. The following table shows those indicators with the associated cutoffs used to identify deprived households.

Table 3.1: MPI dimensions, indicators and weight

Dimensions of MPI	**Indicators in each dimension**	**Indicators cutoff (Deprived if)**	**Weight**
Health	Nutrition	Any person under 70 years of age for whom there is nutritional information is undernourished.	1/6
	Child mortality	A child under 18 has died in the household in the five-year period preceding the survey	1/6
Education	Years of schooling	No eligible household member has completed six years of schooling.	1/6
	School attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8.	1/6
Living Standard	Cooking fuel	A household cooks using solid fuel, such as dung, agricultural crop, shrubs, wood, charcoal, or coal.	1/18
	Sanitation	The household has unimproved or no sanitation facility or it is improved but shared with other households.	1/18
	Drinking water	The household's source of drinking water is not safe or safe drinking water is a 30-minute or longer walk from home, roundtrip.	1/18
	Electricity	The household has no electricity	1/18
	Housing	The household has inadequate housing materials in any of the three components: floor, roof, or walls	1/18
	Assets	The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.	1/18

Source (Global MPI 2020)

3.5.2. Descriptive Data Analysis

We started with an exploratory data analysis to gain insight into the dataset. Descriptive statistics were used to observe the measure of MPI at a possible link between explanatory variables and multidimensional poverty status. The explanatory variables variable were assessed using frequency tables, mean and standard deviation and the response variable were assessed with the use of pie chart.

3.5.3. Correlation Analysis

The correlation between variables can be measured with the use of different indices (Hauke J. & Kossowski T, 2011). The three most popular are Pearson's coefficient (r), Spearman's rho coefficient (rs), and Kendall's tau coefficient (τ). Kendall's tau, introduced by Kendall (1938), is a correlation coefficient that can be used as an alternative to Spearman's rho for data in the form of ranks. To apply the Pearson correlation analysis the study should meet linearity assumption, interval or ratio data and finally the assumptions of normality. If these assumptions not fulfilled it is better to use Spearman rho. In this study, because of the data were ordinal, the researcher was performed Spearman's correlation analysis to identify the association between variables and to test the research hypothesis (Hogan, and Agnello, 2004).

3.5.4. Econometric Model

3.5.4.1. Logistics Regression

Logistic regression is a popular modeling approach when the dependent variable is dichotomous, ordinal or multinomial. It allows predicting the log odds of outcomes of a dependent variable from a set of variables that may be continuous, discrete, categorical, or a mix of any of these (Agresti, 2002).

3.5.4.2. The Model

For a binary response $Y_i$and a quantitative explanatory variableX_{ji} , $j = 1,2, \dots, m$, and X_{ji} , $j = 1,2, \dots, n$. Let $\pi_i = P(x_i)$denote the success probability whenX_{ji} take the values x_{ji}.The problem with linear model is that the probability mode $E(Y)$ (where is the vectorof parameters to be estimated) is used to approximate a probability value $\pi_i = P(x_i)$within the interval 0 and 1,

while is not to be constrained. Therefore, we apply the logit transformation where the transformed quantity $ln\left(\frac{\pi_i}{1-\pi_i}\right)$lies in the interval$(-\infty,\infty)$and it is modeled as

$$logit(\pi_i) = ln\left(\frac{\pi_i}{1-\pi_i}\right) = \beta_0 + \beta_1 X_1 + \cdots + \beta_m X_{mi} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.2)$$

The probability of success can be expressed as

$$\pi_i = P\left(\frac{Y_i}{X_{1i}}, \ldots, X_{mi}\right) = \frac{exp(\beta_0 + \beta_1 X_1 + \cdots + \beta_m X_{mi})}{1 - exp(\beta_0 + \beta_1 X_1 + \cdots + \beta_m X_{mi})} \ldots\ldots\ldots\ldots\ldots\ldots (3.2)$$

Where the parameter $\beta_j$determines the rate of increase or decrease of X_{ji}on the log of odds that$Y_i = 1$, controlling for other variables. Furthermore, exp(β_j)is the multiplicativeeffect on the odds of unit increase in X_{ji} , at fixed level of other Xs (John and Forrest,1984).

With further rearrangement we obtain the odds of success.

$$\text{Odds}(\text{Y}_{1\text{i}} = 1) = \frac{\pi_{\text{i}}}{1 - \pi_{\text{i}}} = \exp(\text{X}'\beta) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.3)$$

The above three equations give suitable representations of log-odds, the success probability, and odds, respectively. Indeed, these representations facilitate interpretations of parameter estimates. The parameter refers to the effect of xi on the log odds that Y = 1, controlling the other X's.

3.5.4.3. Goodness of Fit of the Model

The goodness of fit or calibration of a model measures how well the model describes the data. Assessing goodness of fit involves investigating how close values predicted by the model are to the observed values. For likelihood-based models, the Hosmer and Lemeshow test is one of the most commonly recommended tests for overall fit of a binary logistic regression model (Hosmer & Lemeshow1980).

3.5.4.4. Model Diagnostics

Model building is not the final goal in regression analysis. The model adequacy checking is the main step of regression analysis after a model fit. It can measure based on diagnosing residuals and measure of influence. The most used model diagnosis is described here under.

Leverage Values (Hat Diagonal) is a measure of how far an observation is from the others in terms of the levels of the independent variables (not the dependent variable). Observations with leverage values larger than one are potentially highly influential (Belsley et al., 1980).

DFBETAS measure how much an observation has affected the estimate of a regression coefficient (there is one DFBETA for each regression coefficient, including the intercept). If DFBETAs is less than unity, this implies no specific impact of an observation on the coefficient of a particular predictor variable, while DFBETA of a case greater than 1.0, and implies the observation is an outlier (Cook and Weisberg, 1982).

Cook's D is a measure of aggregate impact of each observation on the group of regression coefficients, as well as the group of fitted values. In logistic regression, a case is identified as influential if its Cook's distance is greater than 1.0 (Cook, R. D., 1998)

3.5.5. Study Variables

3.5.5.1. Response Variable

The dependent variable of this study is the multidimensional poverty status. Following Alkire and Santos (2011) method of measuring multidimensional poverty, a household's deprivation score (c_i)is compared with the multidimensional poverty cut-offs (k). A house is considered poor if they are deprived in at least one third of the weighted indicators. In other word a household is identified as poor if it has a deprivation score greater than or equal to one-third (33 percent) (Alkire and Santos, 2011; OPHI, 2013). Following this we 0.33 cut off point for this study. This is represented by the binary variable (Y_i) that takes the value 1 or 0, as:

$$Y_i = \begin{cases} 1, & \text{if multidimensional poverty } (\boldsymbol{c_i} \geq 0.33) \\ 0 & \text{, Not multidimensional poverty} \end{cases}$$

The following Steps were used the study to calculate multidimensional poverty according to (Alkire and Foster (2007, 2011), those are:-

i. Select dimension:- health, education, living standard dimension
ii. Select indicators for each dimension according to data
iii. Use the first cutoff to determining deprivations (1 = deprived and 0 = non deprived)
iv. Attach weight for three dimensions each has weight .33 and for each dimension equally distributes the weight among indicator
v. Use second cutoff to determine poor person, since we have ten indicators, a person who do not have 1/3 of the total 10 indicators considered as poor, So a person who score below 0.33 considered as non-poor and get value 0 then count number of poor and calculate headcount index (H) = no of poor/total no of household and the other one

is the intensity of poverty (A) is the average deprivation score of those poor households i.e $A = \frac{\sum_{i=1}^{n} \frac{1}{d} c^{*}}{q}$

vi. Last calculate Mo = H×A

3.5.5.2. Explanatory Variables

The predictor variables at household and household head level expected to determine urban multidimensional poverty are listed in the below table.

Table 2.2: Description and Measurement Types of Explanatory Variables

No	Explanatory Variables	Measurement Type	Expected Sign
1	Sex of Household Head	Dummy(0= Female , 1= Male)	+/-
2	Age of Household Head	Categorical(0= 15-24 years, 1= 25-34 years, 2 = 35-44 years,3 = 45-54 years, 4 = 55 - 64 years , and 5 = 65 years and above)	+/-
3	Marital status of Household Head	Dummy(0= unmarried , 1= Married)	+/-
4	Year of Education of Household	Discrete	+/-
5	Employment Status of Household Head	Categorical (0 = Unemployed= Employed 2 = Pensioner)	-
6	Household Size	Discrete	+/-
7	Unemployed Household Members Aged 0-14 Years Old	Continuous	+/-
8	Household member obtained loan	Dummy(0 = No , 1=Yes)	+/-
9	Household own the house	Dummy (0 =No, 1 = Yes)	-

Source (Own Survey, 2021)

Table 3.2 shows that a total of nine independent variable of is proposed based on reviews of literature described in chapter two of this study. These independent variables are fitted to the logistic regression model in chapter four to identify the determinant of multidimensional poverty in kolfe Keranio sub cities of Addis Ababa City Administration. The proposed independent variables are specifically sex of household head, age of household head marital status of household head, year of education of household, employment status of household head, household size, unemployed household members aged 0-14 years old, household member obtained loan household own the house. And their measurement type and levels are mentioned in detail in the Table 3.1.

3.5.6. Instrumental Reliability and Validly

3.5.6.1. Instrument reliability

One of the major requirements of any research process is the consistence of the data and the results of the research finding (Kothari, 2004). A measuring instrument is reliable if it provides consistent results (Creswell, 2014). Correspondingly, to Cohen and his colleague (2003:117), reliability and consistency of the instruments over a group of respondents. By the same token, Kumar (1999) and Perry (2005) proposed that reliability is the issue of consistency, stability, predictability and accuracy of the research instrument. Finally, to make sure the reliability of Cronbach alpha test has been employed. The Cronbach alpha coefficient is the most common method used for assessing the reliability of a measurement scale (Hayes & Bob, 1998). The coefficient, which reflects homogeneity among a set of items, varies from 0 to 1.

The literature regarding test and scale construction suggests that an acceptable level of reliability is a function of the intended use of the test results. Nunnally JC. (1967) suggests that when a test or scale is used to make decisions about individuals, the reliability coefficients should be at least 0.90. However, it is impossible to achieve this number, especially assessing personality and feelings. Others are somewhat less conservative, suggesting that a reliability coefficient of 0.80 is acceptable for a test or scale that will be used for making decisions about an individual (Batjelsmit, 1977). Moreover, Saad, et al (1999) argues the following interpretations: 0.90 or higher = excellent, 0.80 to 0.89 = good, 0.70 to 0.79 = adequate and 0.69 and below = may have limited applicability. This study had a total of 10 variables (one dependent and nine independent variables) and the overall cronbach alpha value is depicted in Table 3.3.below

Table 3.3 Table Reliability Statistics

Cronbach's Alpha	N of Items
.891	10

From Table 3.3 we can see that the overall Cronbachs' alpha value of the study was **0.891**, which indicates that there was a good internal consistency in the scale (Saad et al,1999).

3.5.6.2. Instrument Validity

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. To assure the quality and the acceptability of the research evaluating validating is the most imperative task for the researcher (Burns, 1999). As Fraenkel and Wallen (2003) claimed that it is unquestionable to deal with the issues of validity of the instrument. Because researchers draw a conclusion from the study based on the instrument they design to collect data from the respondent. In the present study content validity, internal validity and external validity have been assessed to achieve the overall objectives of the study.

3.5.6.3. Content Validity

Scholars have argued that content validity does not have an exact meaning. Despite the fact that, most of them outlined content validity as the degree to which the elements of an evaluation instrument are representative of the dimensions or the variables of the investigation (Hayness et. al 1995). Along the same line, Polit & Beck (2006) claim that content validity as the extent to which an evaluation instrument contains an adequate sample of items for the construct assessed. Similarly, others determine the content validity as the levels of the instrument for a study has enough samples (Wynd, Schmidt, & Schaefer, 2003). Generally, therefore in this study content validity understood as the adequate items for each variable and to what extent that items measured the constructs or the variables (Polit & Beck 2006). To this end, the adequacies of items for this investigation were checked by the researcher advisor of the study.

3.5.6.4. Internal Validity

As Cook (1976) and Campbell (1979) proposed that, internal validity assessed whether or not an observation covariation should be considered causal relationships. Internal validity is the extent that an experimental variable is truly responsible for any variance in the dependent variable (Kothari, 2004). In line with this other researchers argued that internal validity is the degree to which a study establishes the cause-and-effect relationship between the treatment and the observed outcome (Marion & Jolaine, 2001). Internal validity also defined as a logical rather than statistical issue (Campbell & Stanley, 1963). The logical framework of the research is provided by the report's structure of the study. The method section describes how the study was designed and what procedures were followed to reduce or eliminate specific threats to internal

validity (Campbell & Stanley, 1963). The results section reports the data relevant to establishing the internal validity and the discussion section provides the investigators' assessment of the influence of bias. In all, in this study, the researcher made internal validity using a logical process in each part of the research design, results, and discussions.

3.5.6.5. External Validity

External validity is the accuracy with which experimental results can be generalized beyond the scope of the study (Creswell, 2014). External validity examines whether or not an observed causal relationship should be generalized to and across different measures, persons, settings and times (Campbell & Stanley, 1963).

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents, analyzes, and interprets the data received from participants via a standardized questionnaire. The overarching purpose of the research was to investigate the factors that influence multidimensional urban poverty in the Kolfe Keranio sub-city. Both descriptive and inferential statistical data analysis methodologies were used in this investigation

4.1 Descriptive Analysis

In this section, data obtained from 398 households' for the study is summarized

Table 4.1: **Descriptive Analysis of Categorical variables**

Variables	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Sex of Household Head	Female	87	21.9	21.9	21.9
	Male	311	78.1	78.1	100.0
	Total	398	100.0	100.0	
Marital Status of Household Head	Single	35	8.8	8.8	8.8
	Married	363	91.2	91.2	100.0
	Total	398	100.0	100.0	
Employment Status of Household Head	Unemployed	82	20.6	20.6	20.6
	Employed	270	67.8	67.8	88.4
	Pensioner	46	11.6	11.6	100.0
	Total	398	100.0	100.0	
Age of Household Head	15-24	2	.5	.5	.5
	25-34	66	16.6	16.6	17.1
	35-44	181	45.5	45.5	62.6
	45-54	77	19.3	19.3	81.9
	55-64	46	11.6	11.6	93.5
	>=65	26	6.5	6.5	100.0
	Total	398	100.0	100.0	
Household member got loan	No	253	63.6	63.6	63.6
	Yes	145	36.4	36.4	100.0
	Total	398	100.0	100.0	
Household own the house	No	251	63.1	63.1	63.1
	Yes	147	36.9	36.9	100.0
	Total	398	100.0	100.0	

(Source: Own computation, 2021)

Table 4.1 shows that from the total households, 87 (21.9%) households are headed by female and the remaining 331 (78.1%) households are headed by male. This indicates that the proportion of male household head is larger than of female. From the sample household, it appears that 91.2% of the household head are married and only 8.8 household head were found unmarried during the survey time. The employment status of household head counted that, 82 (20.6%) have not employed, 270(67.0%) employed, and the remaining 46 (37.9%) of the household head are pensioner. This implies that the large majority of the household head are employed one.

With regards to household head age, the highest proportion of household head was observed among those whose age group 35-44 years (45.5 percent) followed by age group 45-54 years (19.3%) as opposed to the smallest percentage (0.5 percent) of household head was observed among those whose age group of 15-24 years. Of the total household, 253 (63.6%) of them do not get access to loan services. Only 145(36.4) of the sampled household get loan services. This infers that majority of the sampled household do not get a chance of loan services.

Finally, the participants of this study were asked about their ownership of the house they live in. Accordingly, 251(63.1%) households' responded the house they live in is not their own house. Conversely, the remaining 147(36.9%) of the responded they own the house they currently live in.

Table 4.2 Descriptive Statistics of Continues Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Year of Schooling	398	4.00	23.00	11.0251	3.17807
Household Size	398	2	9	4.40	1.571
Unemployed Household Members Aged 0-14 Years Old	398	0	3	0.79	.517
Valid N (listwise)	398				

(Source: Own computation, 2021)

It can be observed from Table 4.2 that the average years of schooling of the household head in the study area is 11.025 years with a minimum and maximum of 4 years and 23 years of schooling respectively. The result of the descriptive analysis also reveals that the average family size of the sampled household is 4.4.

Regarding the unemployed household member aged (0 to 14 years), on average 0.79 unemployed household member aged (0 to 14 years) were found in the household with a maximum of 3 children per household.

4.2. Result of Multidimensional poverty analysis

The results of the table 4.3 show the number of deprived households in health, education and living standard dimension and their respective indicators. The study used the counting approach to identify the number of deprived household from non-deprived one that is counting the number of deprived household for each specific indicator and presented the summarized deprivation status of the households of the study area as follows

Table 4.3 Number of Household Deprived in Different Indicators

Dimensions of MPI	**Indicators of each dimensions**	**Global MPI Deprived if**	**No of deprived household and (%)**	**Weight**
Health	Nutrition	Any person under 70 years of age for whom there is nutritional information is undernourished.	69(17.30)%	1/6
	Child mortality	A child under 18 has died in the household in the five-year period preceding the survey	65(16.30%)	1/6
Education	Years of schooling	No eligible household member has completed six years of schooling.	219(55%)	1/6
	School attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8.	233(58.50)5	1/6
Living Standard	Cooking fuel	A household cooks using solid fuel, such as dung, agricultural crop, shrubs, wood, charcoal, or coal.	235(59%)	1/18
	Sanitation	The household has unimproved or no sanitation facility or it is improved but shared with other households.	221(55.50%)	1/18
	Drinking water	The household's source of drinking water is not safe or safe drinking water is a 30-minute or longer walk from home, roundtrip.	210(52.80%)	1/18
	Electricity	The household has no electricity	221(53%)	1/18
	Housing	The household has inadequate housing materials in any of the three components: floor, roof, or walls	231(58%)	1/18
	Assets	The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike, or refrigerator, and does not own a car or truck.	254(63.80%)	1/18

(Source: Own computation, 2021)

Table 4.3 showed that large number households deprived in assets (63.8%) of the living standard indicator, followed by cooking fuel (59.0%) of the same living standard indicators and the lower number of households is depraved in child mortality (16.3%). The table also showed that most of the households deprived many indicators of the standard of living dimension. This implies that, there are simultaneous deprivations. The following figure shows households status about simultaneous deprivations.

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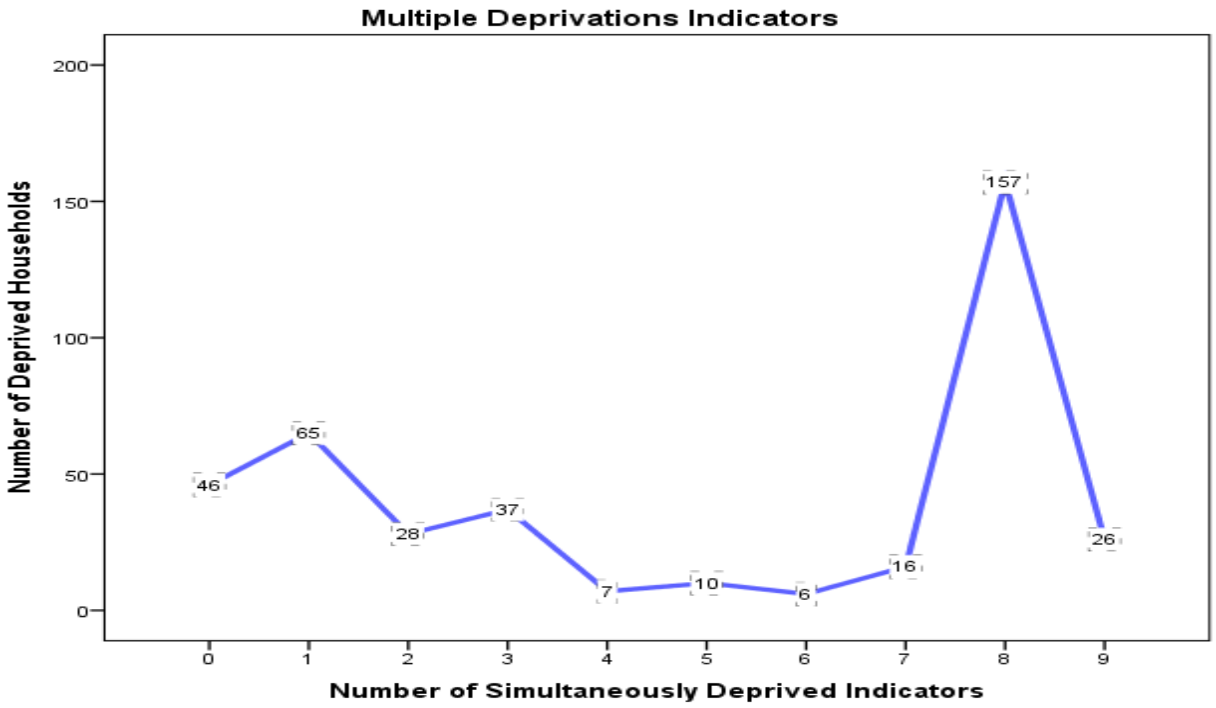

(Source: Own computation, 2021)

Figure 3.2: Multiple Deprivations of Indicators of the Households

From the total sampled households, 157 households deprived in eight indicators simultaneously. On the other hand, only 26 individuals faced simultaneous deprivation in 9 indicators. Furthermore, the above graph also showed that except 46 households all the other 352 households are deprived at least in one indicator. In general, multiplicative deprivation is unevenly distributed among the households and its inclusion in the estimation would have an advantage to understand the severity of poverty that arose due to multiple deprivations. This severity due to multiplicative deprivations is different from the severity of an indicator that captured by the deprivation gap. As shown in figure 3 above, those 26households who are

deprived in 9 indicators simultaneously are suffering more than any other households in the sample.

Table 4.4: MPI Estimation

Poverty cutoffs	H(incidence)	A(intensity)	MPI
$k = 33\%$ $(C_i \geq 0.33)$	0.6532	0.890	0.6457

(Source: Own computation, 2021)

As can be seen in the below table 4.4 the poverty headcount, H, is 0.6532 indicating that around 65.8% of the households were deprived in at least three of the indicator dimensions. Once this is adjusted for the number of deprivations suffered, the MPI is computed as 0.6457. This indicates that 64.57% of the sampled households are multidimensionally poor.

Table 4.5 Relative contribution of dimensions to MPI

Dimension	H(incidence)	A(intensity)	MPI
Health	0.090	0.330	0.030
Education	0.467	0.330	0.154
Living Standard	0.568	0.610	0.346

The relative contribution of the various dimensions to overall multidimensional poverty is shown in Table 4.5. The result showed that living standard dimension contribution to the overall MPI (0.346) is higher as compare to others dimension because it has the highest MPI values. On the contrary Health dimension has lower contribution to overall MPI (0.03).

4.3. Results of Spearman Correlation Analyses

Based on the result of the spearman correlation analyst in Table 4.6below, urban multidimensional poverty was found to be significantly associated with sex of household head, marital status of household head, year of education of household, employment status of household head, unemployed household members aged 0-14 years old, household member got loan (loan access)and household own the house at 5% level of significance. Except sex of household head and marital status of household head, all other significant predictor variables are

negatively associated with urban multidimensional poverty whereas in the study,urban multidimensional poverty does not have significant association with age of household head and household size. And due to this we exclude the non-significant predictor variables from the logistic regression model.

Table 4.6 Spearman Rank Correlation Analysis of the explanatory and the response variable

	MPI	Sex_HH~d	Age_Ca~d	Mariti~d	Educat~d	Employ~d	Househ~e	Unempl~f
MPI	1.0000							
Sex_HH_Head	0.1571*	1.0000						
Age_Catego~d	0.0144	-0.0685	1.0000					
Maritial_S~d	0.1860*	0.0719	-0.0251	1.0000				
Education_~d	-0.2509*	-0.0340	-0.0108	-0.0333	1.0000			
Employent_~d	-0.1516*	-0.0055	-0.0310	0.0764	0.0965	1.0000		
Household_~e	-0.0059	-0.0442	0.4596*	-0.0719	-0.0660	-0.0296	1.0000	
Unemployed~f	-0.1013*	-0.0515	-0.3902*	-0.0135	0.0241	-0.0157	-0.0859	1.0000
Access_Loan	-0.6119*	-0.1049*	-0.0088	-0.0415	0.1901*	0.0971	-0.0243	0.0662
Home_Owner~p	-0.5168*	-0.1873*	0.0207	-0.0565	0.1387*	0.0707	0.0116	0.0216

	Access~n	Home_O~p
Access_Loan	1.0000	
Home_Owner~p	0.8702*	1.0000

4.4. Econometric Analysis

Multiple logistic regression analysis was used to identify the effect of each predictor variables on multidimensional urban poverty status of the households. Since the response variable is binary meaning zero or one, with one being multidimensional poor and zero otherwise.

4.4.1. Parameter Estimation

The parameter estimation analysis was done by using Stata 14 software package. The resulting maximum likelihood estimate of model parameters is presented in Table 4.3.

Table 4.7 Maximum Likelihood Estimates of Model Parameters

Logistic regression — Number of obs = 398; LR chi2(8) = 212.48; Prob > chi2 = 0.0000; Log likelihood = -169.0224; Pseudo R2 = 0.3860

MPI	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Sex_HH_Head						
Male	1.861584	.6453192	1.79	0.073	.9436551	3.672419
Maritial_Status_HH_Head						
Married	7.1405	3.69969	3.79	0.000	2.586411	19.71331
Education_HH_Head	.889367	.0390928	-2.67	0.008	.8159543	.9693848
Employent_Status_HH_Head						
Employed	.2417208	.0925516	-3.71	0.000	.1141302	.5119501
Pensioner	.4133517	.21576	-1.69	0.091	.1485977	1.149813
Unemployed_HHMem_Aged_lessthan_f	.7194878	.1917284	-1.24	0.217	.4267721	1.212972
Access_Loan						
Yes	.0258045	.0173655	-5.43	0.000	.0069003	.0964992
Home_Ownership						
Yes	1.683858	1.111513	0.79	0.430	.4617722	6.140205
_cons	4.475829	3.612345	1.86	0.063	.9202104	21.77007

In Table 4.7, estimated binary logistic regression model fit results sex of household head, marital status of household head, year of education of household, employment status of household head, unemployed household members aged 0-14 years old, household member got loan (loan access) and household own the house. From these predictor variables marital status of household head, year of education of household head, employment status of household head and household member obtained loan were found to be statistically significant predictor of multidimensional poverty status of the households at 5% level of significance and sex of household head was significant at 10% level of significance. The rest predictor variable was not significantly predicting the multidimensional poverty status of the households. The State result further reveals that from the significant predictor variables, sex of household head and marital status of household head have odd ratios greater than one, which means that these variables are positively correlated with the probability of being multidimensional poor. On the other hand, predictor variables such as year of education of household, employment status of household head,

household member obtained loan, odd ratios less than one, which means that these variables are negatively correlated with the probability of being multidimensional poor.

4.4.2. Model Checking Techniques

After a model is fitted the next important step is checking its model adequacy, assuming that we are primarily satisfied with the final model or model contains variables in their correct functional form. The objective is to look at how closely model fitted responses approximate observed responses. It is based on graphical as well as statistical point of view. There are numerous steps involved in evaluating the appropriateness, adequacy and usefulness of model. First, the overall usefulness was assessed. Second, the importance of each predictor variable was assessed by carrying out statistical tests of significance of coefficients then, detecting influential observations.

4.4.3. Goodness of Fit of the Model

The goodness of fit or calibration of a model measures how well the model describes the data. Assessing goodness of fit involves investigating how close values predicted by the model are to the observed values. The diagnostic test results of the Hosmer- Lemeshow test presented in Table 4.7 below shows a chi-square value of 10.70 with p-value of 0.2192 which is not significant showing that there is no difference between the observed and the model predicted values and hence estimates of the model adequately fit the data.

Table 4.8 Hosmer- Lemeshow Goodness of Fit Test

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. estat gof,group(10)table
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Logistic model for MPI_Status, goodness-of-fit test

(Table collapsed on quantiles of estimated probabilities)

Group	Prob	Obs_1	Exp_1	Obs_0	Exp_0	Total
1	0.0600	1	1.6	39	38.4	40
2	0.0972	6	3.4	36	38.6	42
3	0.1715	3	5.1	35	32.9	38
4	0.4310	12	12.0	29	29.0	41
5	0.6671	23	23.8	16	15.2	39
6	0.7621	32	34.4	15	12.6	47
7	0.8020	34	31.5	6	8.5	40
8	0.8513	25	26.6	7	5.4	32
9	0.9129	41	37.0	1	5.0	42
10	0.9707	33	34.7	4	2.3	37

```
number of observations =       398
      number of groups =        10
Hosmer-Lemeshow chi2(8) =       10.70
            Prob > chi2 =        0.2192
```

4.4.4. Model Diagnostics

The next important step in marginal model building is to perform an analysis of residuals and diagnostics to study influence of observations. Residuals are used to filter points with outlying response values. The diagnostic test results for detection of outliers and influential values are presented in Annex. The DFBETAs for model parameters including the constant term and Cook's influence statistic were both less than unity. DFBETAs less than unity imply no specific impact of an observation on the coefficient of a particular predictor variable, while Cook's distance less than unity showed that an observation had no overall impact on the estimated vector of regression coefficients β. A value of the leverage statistic less than one shows that no subject

has a substantial large impact on the predicted values of the model. And none of the observation has standard and deviance residuals larger than 3 in absolute value. The residuals less than 3 in absolute value show the absence of an outlier observation. Thus, from diagnostic checking we can say that our model is adequate (See Annex).

4.5. Discussions of the Results

Sex of Household Head: The model's outcome shows that the OR is 1.77. At a 10% level of significance, this means that a household led by a man has a 1.77 times higher chance of being multidimensionally poor than a home headed by a woman.. In other word, female-headed households had a lower probability of being poor as compared to male-headed households. The result of this study is in line with the study done by Mekonnen B. and Almas H. (2021) that shows female-headed households had a lower probability of being poor as compared to male-headed households. The other study by Jayamohan & Amenu (2014) showed that a household head with more active females has a higher level of living standards and a lower probability of being poor Jayamohan & Amenu (2014).

This may be associated with women decision making power in the household. a study by Frederik B. and Sevias G. (2021) showed that assigning greater financial decision-making power to women also holds the promise of improving household welfare in the longer term via its impact on resource allocations. The empowerment of women has impacted positively not only on the wellbeing of women themselves but also on their children's education. School enrolment has been shown to be associated with women's decision-making autonomy in Mozambique (Luz and Agadjanian 2015) and Honduras (Hendrick and Marteleto 2017).However the finding of this study is inconsistence with previous study conducted in Ethiopia by Anteneh Mulugeta (2020) and Araya Mebrahtu (2010).

Marital Status of Household Head: The estimated coefficients for marital status of household head are positive and statistically significant; suggest that at a 1% significance level, household headed by married household head have a higher probability of falling into multidimensional urban poverty than the unmarried households head in the study area. The marginal effect indicates, keeping other factors constant, married household head 7.08 (OR: 7.08) times more

likely to be multidimensional poor than their counterpart. The reason might be due to the fact that if the household head get married household size will increase as new children are born and expenditures increase which in turn leads to searching for mechanisms of fulfilling additional needs and necessities for the family.

The finding of this study is in agreement with the findings in other study conducted in Ethiopian by Melese T. et al. (2017) in of Nekemte town.

Year of Education of Household: With a year increase in education of household head the likelihood of being multidimensional poor of the household decreased by 11.34% (OR: 0.8866). This implies education reduces the probability of a household being poor. This is because a higher level of education provides greater opportunities for a better job and, subsequently, a higher income. The findings of this study is consistence with a study done in Ethiopia by Kebede B.(2019) that showed if schooling level of the head of household increases by one grade, the probability of household falling into urban poverty reduces by 1.863. The finding this study also in line with the conclusions of other studies, such as Debeli and Endegena (2019) and Bigsten *et al*. (2003). Furthermore, a study by World Bank (2002) conformed that an increase in educational attainment, a household head could secure a job and take opportunities which would otherwise not be possible and the household less vulnerable to poverty. Education is expected to lead to increased earning potential and improve occupational and geographical mobility of labor. Higher levels of educational attainment will provide higher levels of welfare for the household.

Employment Status of Household Head: The employment status of the household head significantly affects multidimensional poverty status of the household in the area. Specifically, as shown from the above table, a household headed by employed household head have less probability of falling into multidimensional poverty status than household headed the unemployed head. For the given household, keeping the random intercept and other covariates constant, the likelihood of being multidimensional poor for employed household head was decreased by0.2375 (OR = 0.2375) times that of unemployed household head in the study area. This could have been resulted because employment is the source of income for the households. The same result was observed in the study by Mekonnen (2002) and Debeli and Endegena (2019). The result of the study further shows that is there is no significance difference between

the household headed by unemployed and pensioner household head regarding the likelihood of being in multidimensional poverty status.

House hold member have accessed to loan: This variable is negative and statistically significant OR=0.04. That, if other variables are held constant, the higher access to loan services the lower probability of multidimensionally poor. This implied that a households having access to loan in any organization, they create a better life by doing their own business and a household‘s increase living standards, change their life style by getting a better health care or nutrition, school and standard of living that is the quality of house, access to safe water, improvement in sanitation, So a household that assess to getting loan have lower probability of being multi dimensionally poor. As increased access to credit market enhances household welfare through the provision of investment credit to boost household income (Adugna and Heidhues, 2000) as well as smooth consumption (Zeller, et al, 1994), which could significantly influence a household’s income by helping its members to tap economic opportunities, thereby assisting them to get out of poverty (Binswinger and Khandker**,** 1995; Adugna and Heidhues, 2000).

In this study home ownership do not have significant effect on the multidimensional poverty status. This may be because of two reasons. The first reason is this study did not use income/consumption as measure of poverty and owning house do not need to increase their income or decrease their consumptions. The second reason is that this study used MPI to analyze the poverty of the households and owing the house does not necessarily reflect quality of the house as per the living standard dimension of multidimensional poverty measurement. The result of this study also showed that despite the household own the house they live in, most of them are poor in living standard dimension that is they are in poor in terms of cooking fuel usage, sanitation usage, access drinking water, access to electricity, adequate housing materials and ownership of assets.

CHAPTER FIVE

CONCLUSIONS AND POLICY IMPLICATION

In this chapter we discuss the conclusion and policy implication of the study

5.1. Conclusion

This paper attempted to identify and analyze the determinants of the multidimensional poverty in Kolfe Keranio Sub-City of Addis Ababa city using binary logistic regression model. A primary level data that were collected from 398 households were used for analysis. The study used education, health and living standards dimensions to compute multidimensional poverty index of the household. The main objective was to examine the effects of predictors' variables on the multidimensional poverty status of the households. Of the total sampled households, 157 households deprived in eight indicators simultaneously. On the other hand, 26 individuals faced simultaneous deprivation of 9 indicators from the sampled households.

The results of the MPI analysis show that the incidence of poverty status of the sample respondents is 65.32%, the intensity of poverty is 89.0% and the adjusted headcount ratio or MPI is 64.57%.Moreover, the large number of households were found to be poor in living standard dimension as compare to health and education dimension. The result of the Logit model captured predictor variables that had significant effects on the multidimensional poverty. The model fit results indicated sex of household head, marital status of household head, year of education of household head, employment status of household head and household member obtained loan were found to be statistically significant predictor of urban multidimensional poverty status of the households at 5% level of significance and rest predictor variable were not significantly predict the multidimensional poverty status of the households.

This study shows that male and married household heads are more likely to be affected by urban multidimensional poverty than their female counterparts.. On the other hand, education found to be an important element in reducing the exposure of urban multidimensional poverty. With an increase in educational attainment, a household head has a high possibility to secure a job and take opportunities to increase earning potential through employment and creation job opportunity. The other important variables found in the study is employment status of household

head, a household headed by employed household head has a better chance of escaping from urban multidimensional poverty. Finally, the crucial predictor variable in this study is access to loan, As an increased access to loan enhances household welfare through the provision of investment credit to boost household income, startup business of the household as well as smooth consumption.

5.2. Policy Implication

Based on the analysis made, results obtained, and conclusions drawn, the following policy implications are forwarded to the policy makers, concerned government actors and other stakeholder.

i. To minimize multidimensional poverty, policy implications need be in place that prioritize living standard components, followed by education and health.
ii. When formulating development strategies, the government, development agencies, and other interested parties should take into account the major characteristics identified in each sub city that contribute to multidimensional urban poverty in their country's development efforts.
iii. The likelihood of the multidimensional urban poverty in the sub city is lower for the household headed by female household head .Therefore; working more on women empowerment is crucial steps to alleviate poverty issues at household level. As female is the heart of the household, supporting and enabling them to generate their own income has multi effects to improve the lives of the households
iv. Education is a weapon one has to alleviate multidimensional poverty. Hence, expanding schooling access is a vital for reducing the vulnerability of household multidimensional urban poverty. Besides, reducing unemployment through job creation, it can provide technical assistance for self-employed opportunity for the household members.
v. As urban household do not participate in farming activities like rural households, we highly recommend creating employment opportunity for the household if the policy makes aims to reduce urban multidimensional poverty
vi. It is also suggested that assisting households in obtaining financial services reduces the susceptibility of multidimensional urban poverty. Allowing urban residents to receive

credit services will provide financial freedom for household members to launch new economic operations, reducing the many facets of poverty..

vii. Finally this study has used cross sectional data collected from 398 households dwell in Kolfe Keranio sub city of Addis Ababa city administration and the outcomes may not be able to make generalization for other Sub city over a period of time. Therefore, the researcher recommends conducting further studies to explore other factors affecting the multidimensional urban poverty that were not covered in this study as well as investigating the dynamics of urban multidimensional poverty overtime

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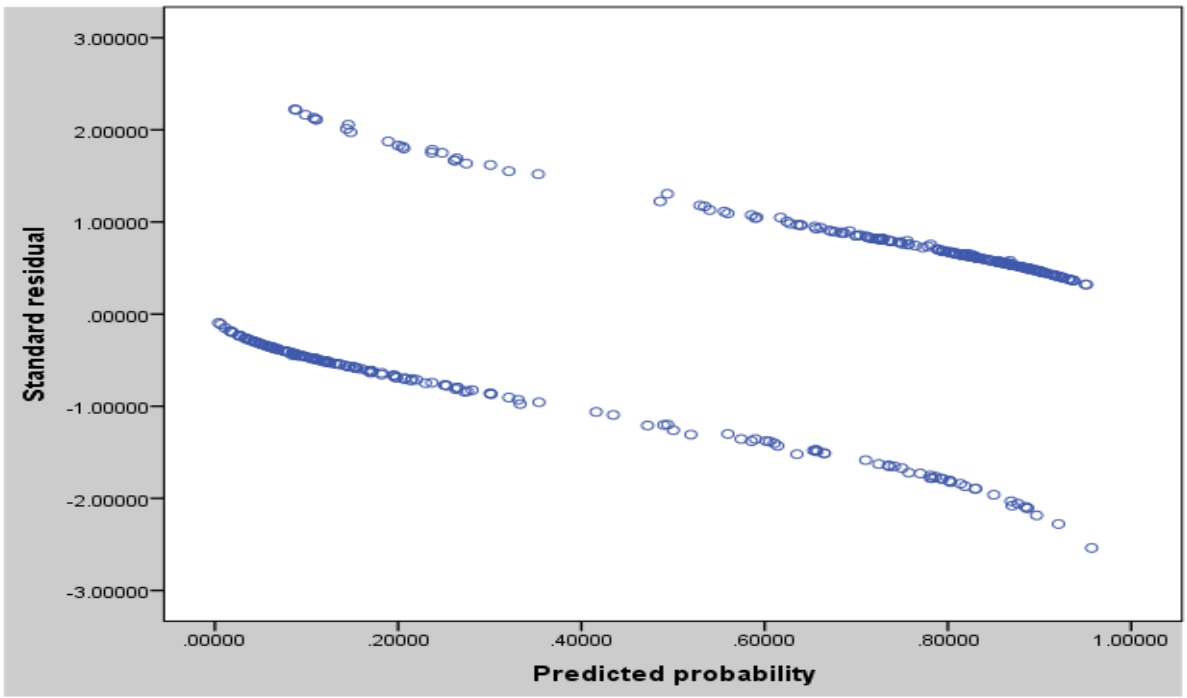
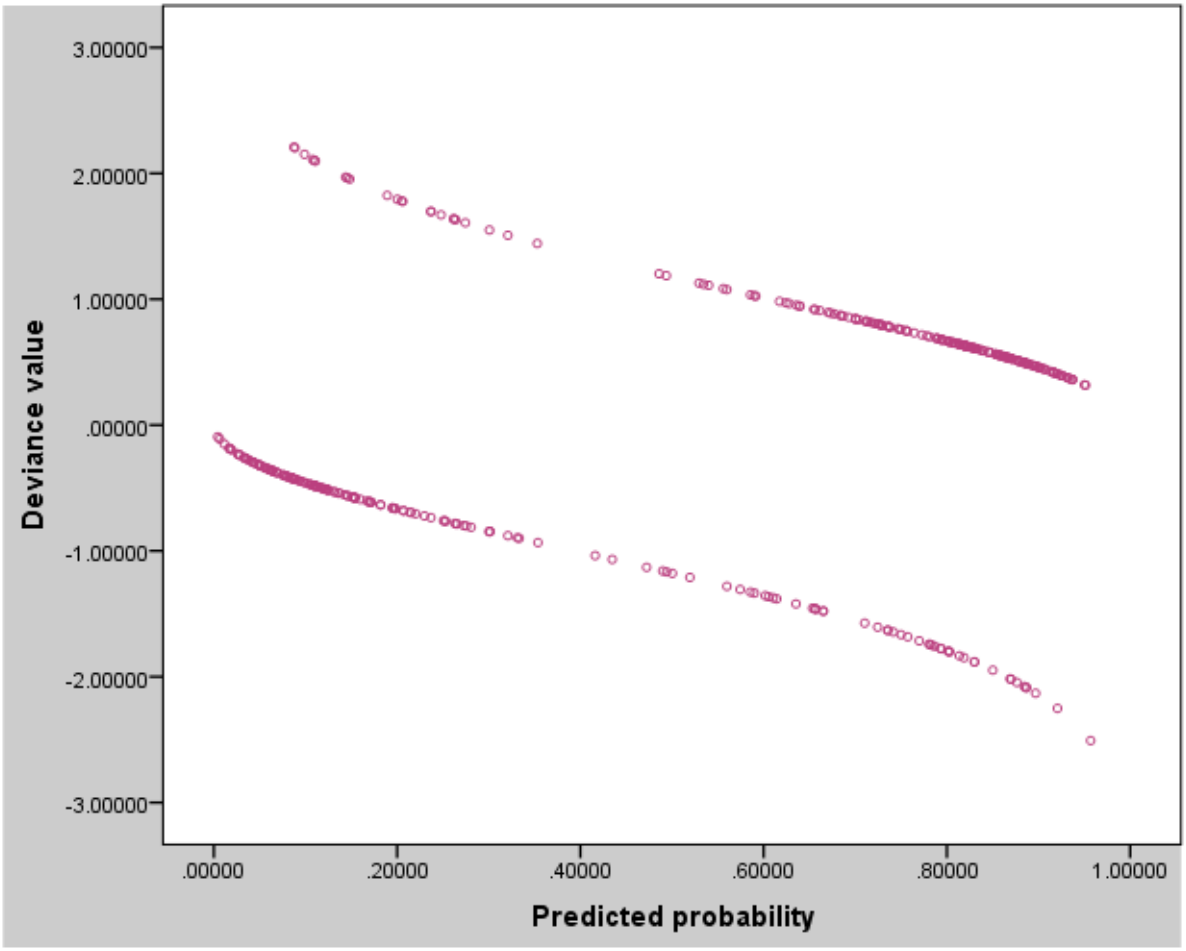
Annex

Descriptive Statistics

	N	Minimum	Maximum
DFBETA for constant	398	-.19535	.21311
DFBETA for Sex_HH_Head	398	-.08321	.06894
DFBETA for Maritial_Status_HH_Head	398	-.17581	.12076
DFBETA for Education_HH_Head	398	-.00708	.01680
DFBETA for Employent_Status_HH_Head	398	-.04260	.05477
DFBETA for Unemployed_HHMem_Aged (0-14)	398	-.06501	.06442
DFBETA for Access_Loan	398	-.23421	.43090
DFBETA for Home_Ownership	398	-.44781	.25109
Valid N (listwise)	398		

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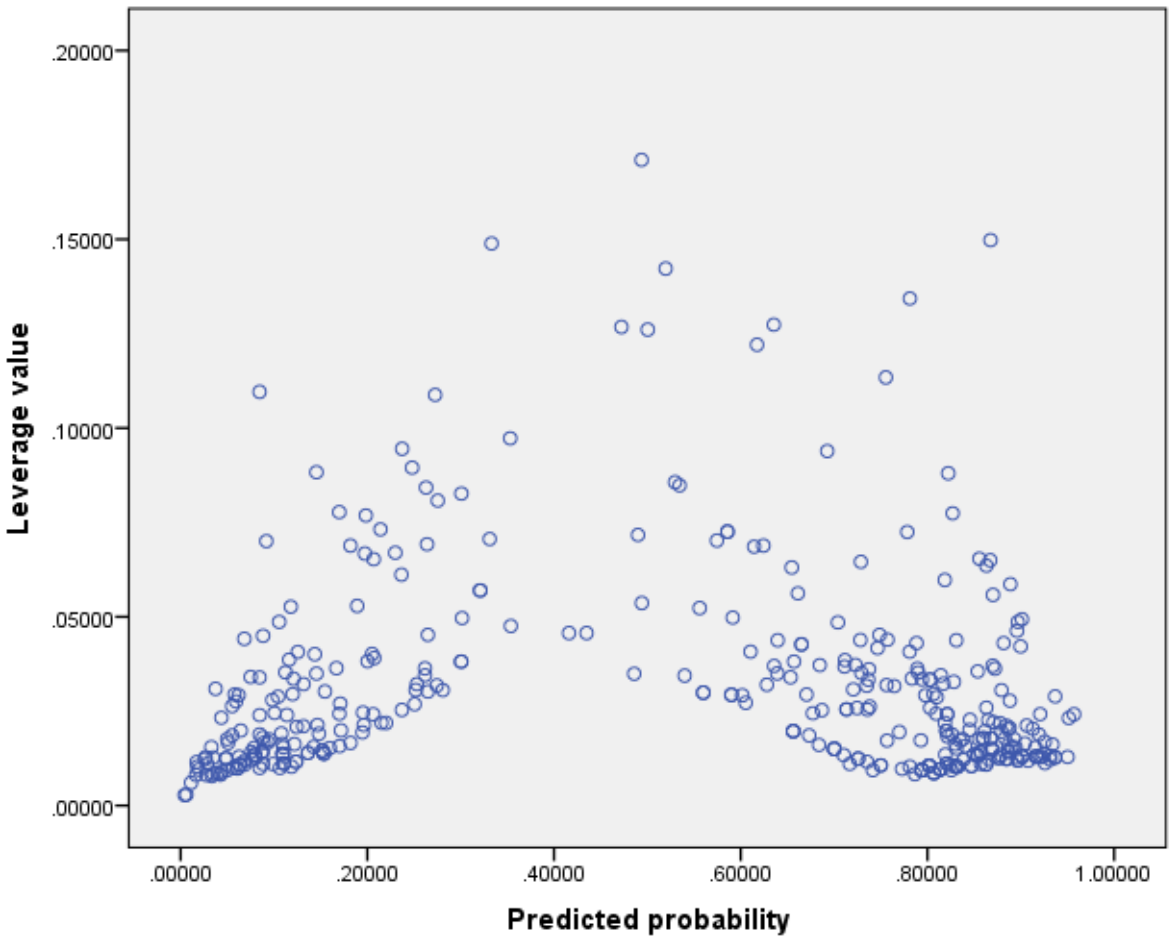
Predicted probability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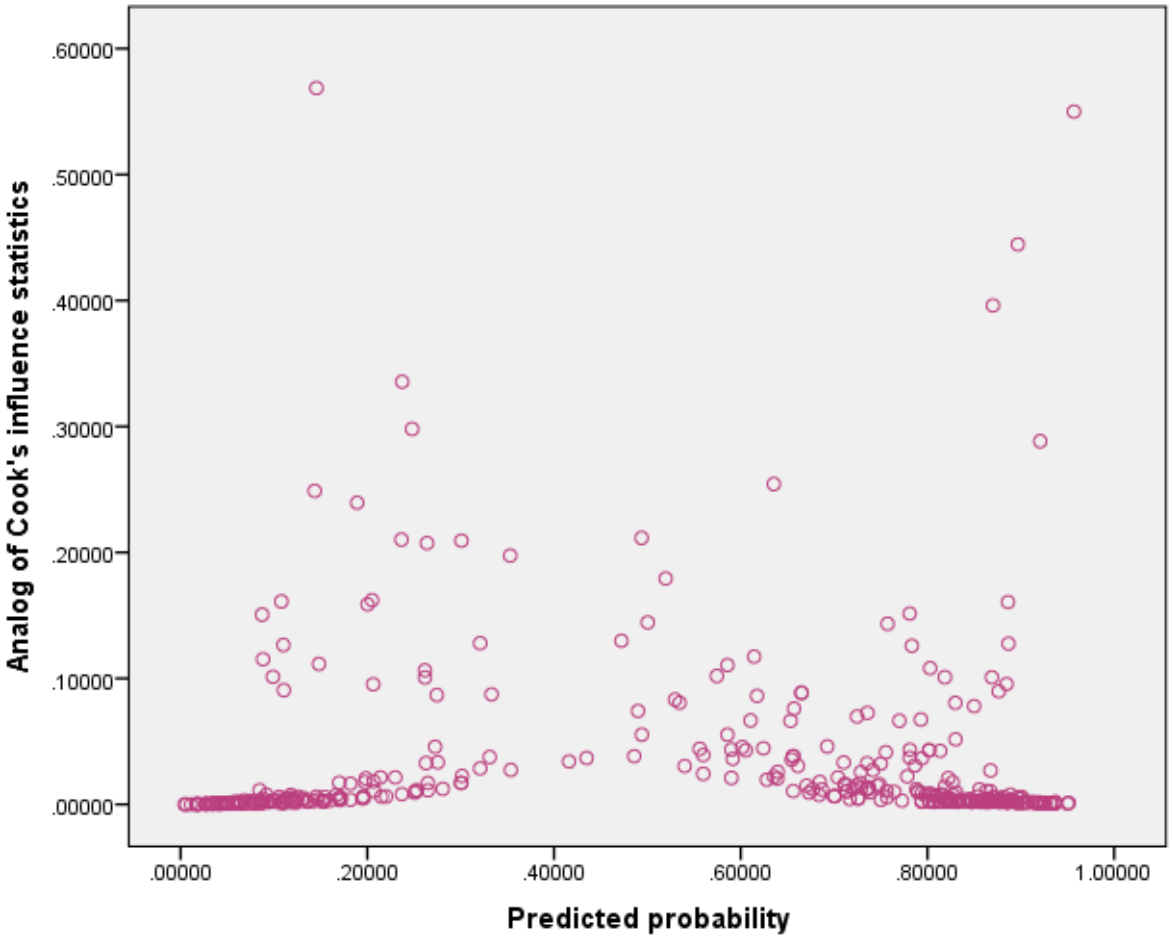
Predicted probability


Analog of Cook's influence statistics
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Predicted probability

Dear Respondent

This questionnaire was designed to collect information from households reside in Kolfe Sub City of Addis Ababa City Administration and aimed to analyse**"Determinant of Poverty in Addis Ababa: A Household Level Analysis: In the Case of Kolfe KeraniyoSub City"** as a research subject for the partial fulfilment of the requirements of Master of Art in Regional and Local Development studies). ***Your response would have been used only for academic purpose and kept confidential.***

Thank you in advance for your co-operation.

Netsanet Ayalew
MA in Regional and Local Development Studies Students
Email:netsiayalew30@gmail.com
Tell_0911268770
Addis Ababa University
Addis Ababa, Ethiopia

General Directions:

i. You are kindly requested to give genuine responses.
ii. You don ‘t need to write your identification
iii. Please put a tick (√) in the appropriate box.
iv. Put the numbers you agree with to those questions which are not multiple choices.

Part-One : Question Related to Household Head

A. Personal Characteristics of the Household Head

1. Sex of Household Head

   Female☐ Male ☐

2. Age of Household Head _____

3. Marital Status household head

   Single ☐ Married ☐

4. Year of Education_____

B. Employment /Occupation

5. Employment Status of Household Head

Employed ☐ Unemployed ☐ Pensioner ☐

6. If your response is employed to Question 5 what is your main occupation?

Self-employed ☐ Government employee ☐ Private Employee ☐ NGO employee ☐ Daily Labourer☐

7. If your response is Self-employed to Question 6, which type of self-employed you are engaged in?

Petty-trade/Gulit ☐ Trade☐ Metal /Wood Work ☐

Hotel and restaurant ☐ Investor ☐ Consultant☐

Contractor ☐ Other Specify_____

Part -Two: Question Related to Household

C. Household Characteristics

8. Household Size _____
9. Number of household members aged between 0-14 years _____
10. Number of household Members aged between 15-64 years_____
11. Number of household Members aged 65 years and above_____
12. Number of unemployed household member aged 14 and above_____

D. Income of Household

13. What is your household's monthly income (in Birr)? _____
14. How much is your household's monthly expenditure (in Birr)? ____ _____
15. How much is your household's monthly saving (in Birr)? _____
16. Household member has obtained loan or credit?

Yes ☐ No☐

17. If "yes" to Q. 15 inquire, why you need loan or credit.

Start-up business ☐ Housing☐ rent☐ Food☐ Medical Purpose ☐

Education fee☐ Ceremony ☐ Other☐

18. Household own the house

Yes ☐ No☐

19. How many rooms are there in your house? _____

Part -Three: Question Related to Multidimensional Poverty Indicators

E. Health Dimension (Child mortality and Nutrition)

20. Any person under 70 years of age for whom there is nutritional information is undernourished?

Yes ☐ No ☐

21. A child under 18 has died in the household in the five-year period preceding the survey?

Yes ☐ No ☐

F. Education Dimension (year of schooling and school attendance)

22. No eligible household member has completed six years of schooling?

Yes ☐ No ☐

22. Any school-aged child is not attending school up to the age at which he/she would complete class 8?

Yes ☐No ☐

G. Living Standard

23. The household cooks with dung, wood, charcoal or coal?

Yes ☐ No ☐

24. The household's sanitation facility is not improved (according to SDG guidelines i.e if it has no some type of flush toilet or latrine, or ventilated improved pit or composting toilet) or it is improved but shared with other households

Yes ☐ No ☐

25. The household does not have access to improved drinking water (according to SDG guidelines i.e. if it isn't piped water, public tap, borehole or pump, protected well, protected spring or rainwater) or safe drinking water but at a 30-minute walk from home, round trip

Yes ☐ No ☐

26. The household has no electricity

Yes ☐ No ☐

27. At least one of the three housing materials for roof, walls and floor are inadequate: i.e. if floor is made of mud/clay/earth, sand or dung; or if dwelling has no roof or walls or if either the roof or walls are constructed using natural materials such as cane, palm/trunks, sod/mud, dirt, grass/reeds, thatch, bamboo, sticks or rudimentary materials such as carton, plastic/ polythene sheeting, bamboo with mud/stone with mud, loosely packed stones, uncovered adobe, raw/reused wood, plywood, cardboard, un burnt brick or canvas/tent

Yes ☐ No ☐

28. The household does not own more than one of these assets: radio, TV, telephone, computer, animal cart, bicycle, motorbike or refrigerator, and does not own a car or truck.

Yes ☐ No ☐

ውድ መልስ ሰጪ

ይህ መጠየቅ የተዘጋጀው በሪጅናል ኤንድ ሎካል ድቨሎፕመንት ስተዲስ የማስትሬት ዲግሪከፊል ማሚያመመሪቂያ ጽሑፍ ሆኖ በ"የአዲስ አበባ ከተማ የድህንት መለኪያዎች ርዕስ በመኖሪያ ቤት ደረጃ የተደረገ በአዲስ አበባ ከተማ አስተዳደር የኮልፌ ቀራኒዮ ክፍለ ከተማ ላይ ያተኮረ ጥናት" በኮልፌ ክፍለ ከተማ ውስጥ ከሚገኙ ነዋሪዎች መረጃን ለመሰብሰብ ነው። ምላሾችዎ ለትምህርት አላማ ብቻ የሚውሉ እና ሚስጥራዊነታቸው የተጠቀበ ነው።

ለትብብራችሁ በቅድሚያ እናመሰግናለን።

ነፃነት አያሌው

በሪጅናል ኤንድ ሎካል ድቨሎፕመንት ስተዲስ ተማሪ

Email:netsiayalew30@gmail.com

ስልክ_0911268770

አዲስ አበባ፣ ዩኒቨርስቲ

አዲስ አበባ፣ ኢትዮጵያ

ጠቅላላ መመሪያዎች

i. እውነተኛ ምላሾችዎን እንዲመልሱልን በትህትና እንጠይቃን
ii. ማንነትዎን እንዲፅፉ አልፈልግም
iii. በተገቢው የመልስ ሳጥን ውስጥ (√) ያስቀምጡ
iv. ምንም የምርጫ ጥያቄዎች ላልሆኑት የሚስማሙበትን መጠን በቁጥረ መልስ ይስጡ

<u>ክፍል አንድ፡- ከቤተሰብ ሃላፊ ጋር ተያያዥ የሆኑ ጥያቄዎች</u>

ሀ. የቤተሰብ አስተዳዳሪ ግላዊ ባህሪያት

1. የቤተሰብ አስተዳዳሪ ፆታ

ሴት ☐ ወንድ ☐

2. የቤተሰብ አስተዳዳሪ እድሜ_____
3. የቤተሰብ አስተዳዳሪ የጋብቻ ሁኔታ

ያላገባ ☐ ያገባ ☐

4. የትምህርት ደረጃ _____

ለ. ስራ ቅጥር/ሙያ

5. የቤተሰብ አስተዳዳሪ የስራ ቅጥር ሁኔታ

ተቀጣሪ ☐ ስራ አጥ ☐ ጡረተኛ ☐

6. ለጥያቄ ቁጥር 5 መልስዎ ተቀጣሪ ከሆነ ዋናው ሙያ ምንድን ነው?

በግል የሚሰራ ☐ የመንግስት ሰራተኛ ☐ የግል ድርጅት ሰራተኛ ☐

መንግስታዊ ያልሆነ ድርጅት ሰራተኛ ☐ የቀን ሰራተኛ ☐

7. ለጥያቄ ቁጥር 6 መልስዎ በግል የሚሰራ ከሆነ የትኛው አይነት በግል የሚሰራ ስራ ላይ የተሰማሩ ናቸው ?

የጉሊት ንግድ ☐ ንግድ☐ እንጨት/ብረት ስራ ☐

ሆቴል እና ሬስቶራንት ☐ ባለሃብት ☐ አማካሪ ☐

ተቋራጭ ☐ ሌላ ካለ ይግለጹ_____

<u>ክፍል ሁለት፡- ከቤተሰብ ጋር ተያያዥ ጥያቄዎች</u>

<u>ሐ. የቤተሰብ ባህሪያት</u>

8. የቤተሰብ ብዛት _____

9. ከ0-14 አመት እድሜ የቤተሰብ አባልት ብዛት _____

10.ከ15-64 አመት እድሜ የቤተሰብ አባልት ብዛት _____

11.65 አመት እድሜ እና ከዚያ በላይ የቤተሰብ አባላት ብዛት _____

12.ከ14 አመት እና ከዚያ በላይ ስራ አጥ የቤተሰብ አባላት ብዛት _____

<u>መ. የቤተሰብ ገቢ</u>

13.ወርሃዊ የቤተሰብ በወር ገቢ ምን ያህል ነው (በብር)? _____

14.ቤተሰቦዎ በወር ምን ያህል ወጪ ያወጣል (በብር)? _____

15.ቤተሰበዎ ወርሃዊ የቁጠባ መጠን ምን ያህል ነው (በብር)? _____

16. ከቤተሰብ አባል ብድር የወሰደ ሰው አለ?

አለ ☐ የለም☐

17. ለጥያቄ ቁጥር 16 መልስዎ አዎ ከሆነ ብድሩን ለምን አላማ ፈለጉት ንግድ ስራ ለመጀመር ☐ ለቤት ግንባታ☐ ለኪራይ ☐ ለምግብ☐ ለህክምና ☐

ለትምህርት ወጪ ☐ ለክብረበዓል ዝግጅት ☐ ሌላ ☐

18.የቤተሰብዎ ቤት የግል ነው

አዎ ☐ አይደለም☐

19. በቤት ውስጥ ምን ያህል ክፍሎች አሉ? _____

<u>ክፍል ሶስት፡- ፈርጀ ብዙ የድህንት ጠቋሚዎች ጋር ተያያዥ ጥያቄዎች</u>

ሠ. ከጤና አኳያ (የህፃናት ሞት እና የአመጋገብ ሁኔታ)

20.ማንኛውም ከ70 አመት በታች እድሜ የሆነው ግለሰብ ሆኖ የአመጋገብ ሁኔታ መረጃ አስፈላጊውን መጠን በታች የተጓደለው አለ?

አለ ☐ የለም ☐

21.ከዚህ ጥናት በፊት ባሉት 5 አመታት ውስጥ በቤተሰብ ውስጥ ከ18 አመት በታች እና በሞት የተለየ ህጻን ነበር?

አለ ☐ የለም ☐

ረ. ከትምህርት አኳያ (የትምህርት አመታት እና ትህምርት ስለመከታተል)

22.እድሜው ለትምህርት የደረሰ የቤተ-ብ አባል ሆኖ 6 አመት የትምህርት ጊዜ ያላጠናቀቀ አለ?

አለ ☐ የለም☐

23. ማንኛውም እድሜው ለትምህርት የደረሰ ህጻን ሆኖ ነገር ግን 8 ክፍል ማጠናቀቀ እያለበት ትምህርት ቤት ያልገባ?

አለ ☐ የለም ☐

ሸ. የኑሮ ደረጃ

24.ቤተሰቡ ምግብ የሚያበስለው ኩበት፣ እንጨት፣ ከሰል በመጠቀም ነው?

አዎ☐ አይደለም ☐

27. የቤተሰቡ የጽዳት መገልገያ ያልተሻሻለ (በንጽህና መመሪያዎች መሰረት ማለትም የውሃ ማውረጃ ያለው መጸዳጃ ቤት ወይም ባለ ጉድጓድ መጸዳጃ ቤት ወይም አየር ማስወጫ ማስገቢያ ክፍተት ወይም በመቅበሪያ ጉድጓድ የሌለው አይነት መጸዳጃ ወይም የተሻሻለ ሆኖ ከሌሎች ቤተሰቦች ጋር በጋር የሚጠቀሙበት)

አዎ☐ አይደለም ☐

28. ቤተሰቡ ንጽህና የተጠበቀ የመጠጥ ውሃ አያገኝም (በኤስጂጂ መመሪያዎች መሰረት ማለትም የቧንቧ ውሃ ያልሆነ የመንግስት የቧንቧ መስመር የጉድጓድ ውሃ ወይም በፓምፕ ውሃ መሳቢያ የሚቀርቡ ውሃ፣ ንጽህናው የተጠቀበ የውሃ ጉድጓድ፣ ንጽህናው የተጠበቀ የምንጭ ወይም ዝናብ ውሃ ያልሆነ) ወይም ደህንነቱ የተጠበቀ የመጠጥ ውሃ ሆኖ ነገር ግን ከቤት ለደርሶ መልስ 30 ደቂቃ በእግር የሚያስኬድ እርቀት ላይ የሚገኝ

ነው ☐ አይደለም ☐

29. ቤተሰቡ የኤሌክትሪክ አቅርቦት አያገኝም

አዎ ☐ ያገኛል ☐

27. ቢያንስ ለጣሪያ ፣ ግድግዳ እና ወለል መስሪያ ከተጠቀሙት ሶስት የቤት መስሪያ ቁሳቁስ በቂ አይደሉም። ማለትም ወለሉ ከጭቃ/ሸክላ አፈር/ አሸዋ ወይም ከእበት የተሰራ ወይም የመኖሪያ ቤቱ ወይም ጣሪያ ግድግዳ ከእነዚህ አንዳቸው የተፈጥሯዊ የሆኑ እንደ አገዳ፣ ሸንበቆ፣ ያልተጠረበ እንጨት፣ የጭቃ ምርጊት፣ ሳር፣ ጨርቅ፣ ቀርክሃ፣ ጭራሮ ወይም ተራ እንደ ለካርቶን፣ ፕላስቲክ፣ ፖሊቲን ፕላስቲክ ጭቃ እና እንጨት የመሳሰሉት ቁሳቁሶችን በመጠቀም የተገነባ የወዳደቀ ያልተሸፈነ ክፍተት ያለው በድጋሚ እንጨት፣ ጣውላን በመጠቀም ወይም በእሳት በደረቀ ጡብ ወይም ተራ እንደ ድንኳን ባለ ቁሳቁስ የተገነባ ነው።

አዎ ☐ ኤደለም ☐

29. ቤተሰቡ ከእነዚህ ሃብቶች አንዱ ወይም ብዙዎቹ የሉትም ሬዲዮ፣ ቴሌቪዥን፣ ስልክ፣ ኮፒዩተር፣ የእንሰሳት ጋሪ፣ ባይስክል፣ ሞተር ሳይክል፣ ወይም ፍሪዝ እና ተሸከርካሪ ወይም ከባድ መኪና የለውም

አዎ ☐ አለው ☐