DETERMINANTS OF MULTIDIMENSIONAL POVERTY AMONG FEMALE HEADED HOUSEHOLDS IN KIRKOS SUB-CITY OF ADDIS ABABA, ETHIOPIA

BETHELHEM MESFIN

JUNE, 2023

ADDIS ABABA, ETHIOPIA

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BETHELHEM MESFIN

A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY FOR PARTIAL FULFILLMENT OF MASTERS OF ART DEGREE IN DEVELOPMENT ECONOMICS

ADVISOR: SISAY DEBEBE (PhD)

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DECLARATION

I, the signatories, declare that this study entitled *"**Determinants of Multidimensional Poverty Among Female Headed Households in Kirkos Sub-City of Addis Ababa, Ethiopia**"* is my own work. I have undertaken the research work independently with the guidance and support of the research advisor. This study has not been submitted for any degree or diploma program in this or any other institutions and that all sources of materials used for the thesis have been duly acknowledged.

Declared by

Name: Bethelhem Mesfin

Signature: 

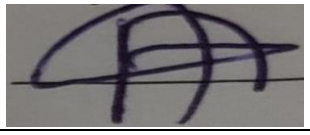
Date: June, 2023

Place: Addis Ababa, Ethiopia

Endorsement

This is to certify that Bethelhem Mesfin has done the study on the topic *"**Determinants of Multidimensional Poverty Among Female Headed Households in Kirkos Sub-City of Addis Ababa, Ethiopia**"* This study is authentic and has not been done before by any other researcher.

Advisor: Sisay Debebe (PhD)

Signature: 

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ST. MARY'S UNIVERSITY COLLEGE

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INSTITUTE OF AGRICULTURE AND DEVELOPMENT STUDIES

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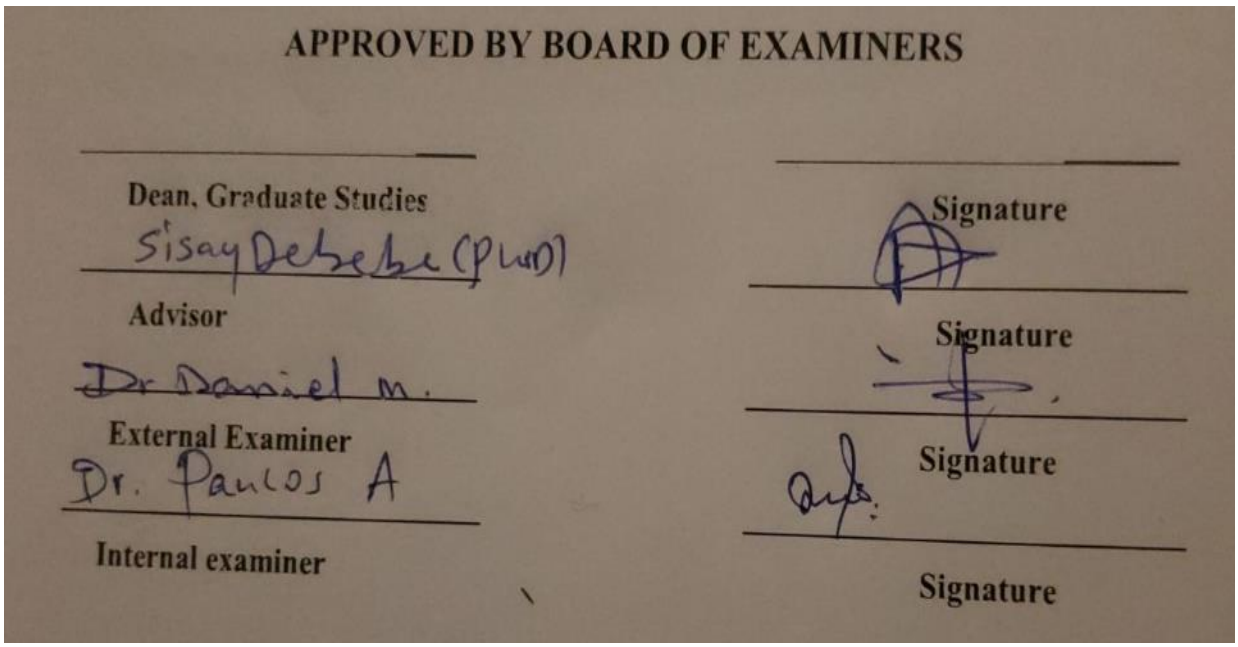

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ACRONYMS AND ABREVATIONS

MPI	Multidimensional Poverty Index
MDPS	Multidimensional Poverty Status
OPHI	The Oxford Poverty and Human Development Initiative
HDRO	Human Development Report Office
HDP	Human Development Program
MDPS	Multidimensional Poverty Status
UN	United Nations
UNDP	United Nations Development Program
ILO	International Labor Organization
GDP	Gross Domestic Product
BMI	Body Mass Index
FGD	Focus Group Discussion
WB	World Bank
CSA	Central Statistical Agency

ABSTRACT

The burden of poverty falls disproportionately on female and more on female headed households. The study aims to assess determinants of multidimensional poverty status of female headed households in Addis Ababa. The data for the study is taken from 138 sampled households residing in Kirkos sub-city of Addis Ababa, Ethiopia. Both descriptive and ordered logistic regression model analysis are employed. According to the descriptive analysis of estimation of MPI, 72% of the households in the sample are multidimensional poor. The intensity of poverty is 44% and the adjusted headcount ratio or MPI is found to be 32%. Based on the result of ordered logistic regression model, level of education of female household head, health status of female household head, employment of female household head, saving status of female household head, monthly household consumption, and Household own the house are found to be significant and negatively associated with multidimensional poverty status of household at 5% level of significance. Moreover, household size and dependency ratio are significant and positively associated with multidimensional poverty status of household at 5% level of significance. Besides, reducing unemployment through job creation, concerned government actors shall provide technical assistance for self-employed opportunity to female household heads and to other members in the household. 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.

Keywords: *Female Headed Households, Multidimensional Poverty, Ordered Logistic Regression Model, Kirkos Sub-City, Addis Ababa*

CHAPTER ONE: INTRODUCTION OF THE STUDY

1.1 Background of the Study

Poverty, in the simplest sense of the word, is a state where one lacks access to basic needs such as food, clothing and shelter. Poverty is also used to describe a person whose living conditions prevent them from being able to acquire education, seek medical help, secure a stable job, and participate in recreational activities due to a lack of money. Poverty is defined to include access to services and security critical to well-being and not just income and consumption (WorldVision, 2022).

The poverty gap reflects the intensity of poverty in a nation, showing the average shortfall of the total population from the poverty line. The official level of poverty in Ethiopia is based on Br.3,781 per year per adult equivalent. This is equivalent to Br.10.50 per day, per adult equivalent (about $0. 50), with the food poverty line being Br.5 (AlemayehuGeda(Prof.), 2023). Our understanding of the extent of poverty and how it is changing depends on which definition we have in mind. In particular, richer and poorer countries set very different poverty lines in order to measure poverty in a way that is informative and relevant to the level of incomes of their citizens. For instance, while in the United States a person is counted as being in poverty if they live on less than roughly $24.55 per day, in Ethiopia the poverty line is set more than 10 times lower – at $2.04 per day whereas the international poverty line is $2.15 per day (Hasell, 2022). But it tells only about monetary poverty. The poverty and shared prosperity 2022 report (WorldBank, Annual Report, 2022) shows that almost 4 out of 10 multidimensional poor individuals (39 percent) are not captured by monetary poverty.

The multidimensional poverty index is an index that is developed by UNDP and Oxford University that captures the percentage of households in a country deprived along three dimensions of well-being monetary poverty, education, and basic infrastructure services to provide a more complete picture of poverty and a means to capture the complexity of poverty that considers multiple dimensions of well-being beyond just monetary poverty. The burden of poverty falls disproportionately on female and more on female headed

households (Grieve, 2021). In Ethiopia, it is mainly a result of the gender based division of labor and lack of access and control over resources prescribed not only by tradition and culture but also reiterated in the law.

Sima Bahous, UN Women Executive Director, said: "*This is a tipping point for women's rights and gender equality as we approach the half-way mark to 2030. It is critical that we rally now to invest in women and girls to reclaim and accelerate progress. The data show undeniable regressions in their lives made worse by the global crises – in incomes, safety, education and health. The longer we take to reverse this trend, the more it costs us all".* By the end of 2022, around 383 million women and girls live in extreme poverty (on less than 1.90 a day) compared to 368 million men and boys. Many of them have insufficient income to meet basic needs such as food, clothing and adequate shelter in most parts of the world. If current trends continue, in sub-Saharan Africa, more women and girls live in extreme poverty by 2030 than today (UN, The 2030 Agenda for Sustainable Development, 2022). The restraining social norms often cause women relegated to informal, vulnerable, and low-wage employment. Women in developing African countries, and in Ethiopia, in particular, are often in more desperate economic situations than are men.

To empower women economically, is not only a "women's issue" but it affects everyone. If women are excluded from the formal economies of developing countries like Ethiopia, rates of poverty reduction and economic growth suffer. This study aims to analyze the extent of poverty using some determinants of poverty and using multidimensional poverty index on women headed households in kirkos sub - city of the capital of Ethiopia. The study is important in a way that to provide some essential inputs for the government, women associations and other concerned organizations on the reduction of women poverty.

1.2 Statement of the Problem

Poverty as a multidimensional phenomenon attracted the attention of policy makers, development agents and development economics researchers (Foster, 2011) and it is one of the most critical economic and social problems of this century. Despite progress toward eliminating extreme poverty, Ethiopia remains one of the poorest countries in the world. About 68.7 percent of the population in Ethiopia is multidimensionally poor while an

additional 18.4 percent is classified as vulnerable to multidimensional poverty (UNDP, 2022).Women make up the mass of the poor in both developed and developing countries, accounting for up to 70% of the world have impoverished. Although men, women, and children are all affected by poverty, there appears to be a stronger link between women and poverty.

Out of around five million residents, about 26.1% of the residents face food poverty and women, more than men, are affected by poverty in Addis Ababa which is the capital city of Ethiopia, Africa. Though Addis Ababa is the seat of major commercial operations, 30% of its population is under the poverty line, which is slightly higher than the national average (Moges, 2021). Poverty entails more than the lack of income and productive resources to ensure sustainable livelihoods. Poverty has consequences such as hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion as well as the lack of participation in decision-making.

Furthermore, In Addis Ababa there are only 44% of the population have access to clean water, and less than 30% have access to sewerage services. Flooding, landslides and fire hazards affect many due to informal housing construction in risk-prone areas, congested settlement patterns, and poor housing quality and the city is challenged by youth unemployment. About a quarter of Addis Ababa's young population (aged 15-29) are unemployed. This is mainly due to the mismatch between the new jobs the economy creates and the increasing number of youth joining the labor market (Weldeghebrael, 2022).

Since eighty percent of Ethiopian population inhabited outside urban areas (UN, World Urbanization Prospects, 2018) where poverty is generally high and their means of living is dependent on agriculture (Dejene, 2016) most researches on poverty are in rural areas that target both male and female headed households furthermore the objective is on food security and agricultural activities. Rather than one-dimensional poverty, this study provides the quantified impact of determinants of multidimensional poverty in the capital city of Ethiopia targeting women headed households. The method of analysis is ordered logistic regression model. To the best of my knowledge, this method of analysis is not used for the analysis of multidimensional household poverty. This study uses global

multidimensional poverty index which is mostly having three dimensions that is health, education and standard of living. Moreover, in this study some variables that can determine poverty is included. For example, number of children is used in this research as one of the determinants in addition to household size which is used in different literatures.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study is to assess the status of multidimensional poverty and its determinants among female headed households in Kirkos sub-city of Addis Ababa Ethiopia.

1.3.2 Specific Objectives

- To estimate the multidimensional poverty index (MPI) of female headed households in Kirkos sub-city.
- To describe the relationship between some indicators of socioeconomic status of female household heads and multidimensional poverty status of those households.
- To examine the determinants of multidimensional poverty status of female headed households.

1.4 Research Questions

1. What is the multidimensional poverty index of female headed households in Kirkos sub-city?
2. Is there an association between some indicators of socioeconomic status of female household heads and multidimensional poverty status of female headed households?
3. Which determinants have significant impact on multidimensional poverty status of female headed households?

1.5 Significance of the Study

Because poverty has deleterious impacts on human well-being, its eradication has been identified as an ethical, social, political and economic imperative of humankind (Ayoo, 2022).There are some studies in Ethiopia to investigate the factors 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 on female headed households. The goal of this study is to determine the most relevant factors associated with urban multidimensional poverty and to investigate the impact of these factors on multidimensional poverty among female headed households in Addis Ababa's Kirkos Sub-city. This finding is helpful for better understanding of the determinant factors associated with urban multidimensional poverty in Addis Ababa as general and in Kirkos sub-city in particular.

1.6 Scope and Limitations of the Study

1.6.1 Scope of the Study

Urban multidimensional poverty is a critical issue in developing countries like Ethiopia. Furthermore the multidimensional poverty is more among women. Even though multidimensional women poverty is a concern in many cities in Ethiopia, the scope of the study is confined to the level of Addis Ababa city which is the largest and capital city of Ethiopia. The study is particularly on women headed households in the case of Kirkos Sub-city. Kirkos sub-city has a population of 311, 765 with 11 Woredas. The sample was collected from households in the selected weredas (districts). The study examines the some socioeconomic and demographic features of the households and the heads of the families. Moreover, this study focuses on identifying the main causes that led to female heads to multidimensional poverty in urban households.

1.6.2 Limitations of the Study

This study have some limitations. The study uses a primary data and collect the data mainly using survey questionnaire from the selected women headed households. Some respondents are not respond the questions properly due to lack of knowledge or lack of understanding the importance of their response for the result of the study and furthermore there are some incorrect and unrealistic responses for some sensitive questions in the questionnaire. So that, the researcher plan to have some solutions for these limitations. For instance, the researcher uses own observation and brief each and every questions to the

respondents if it is necessary. Furthermore, Focus Group Discussion (FGD), Key Informant Interviews and personal observation is used as a solution to the limitation.

1.7 Organization of the Thesis

Chapter one is an introductory part of the paper. 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 of the results those are conclusions and recommendations of the study is presented in chapter five.

CHAPTER TWO: LITERATURE REVIEW

2.1 Theoretical Literature Review

In this chapter, both theoretical and empirical literatures on poverty and determinants of multidimensional poverty have been reviewed.

2.1.1 Concepts and Definitions: Poverty Versus Multidimensional Poverty

The World Bank Organization describes poverty as:

> *"Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time.*

Poverty has many faces, changing from place to place and across time, and has been described in many ways. Most often, poverty is a situation people want to escape. So poverty is a call to action -- for the poor and the wealthy alike -- a call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities." The term poverty refers to the state or condition in which people or communities lack the financial resources and essentials for a minimum standard of living (Chen, 2022).

Absolute and relative Poverty have been the two concepts of poverty. Absolute poverty measures poverty only in relation to the amount of money necessary to meet basic needs such as food, clothing, shelter, safe drinking water, education, healthcare, etc (Habitatforhumanity, 2018). In this type of poverty, people who have been living below the aforementioned poverty threshold was affected even if the country they live in is economically thriving. Absolute poverty did not include a broader quality of life issues or the overall level of inequality in society. What the concept failed to recognize is that individuals also had important social and cultural needs.

Absolute poverty has been when people lack basic necessities for survival. It quantified the number of people below the poverty line and was independent of place and time whereas, relative poverty has been when people's way of life and income was much worse than the general standard of living. It classified people as poor not by comparing them with a fixed poverty line, but by comparing them with others in the population under consideration.

Poverty has been complex societal issue and it can be agreed that it has been an issue that required each and everyone's attention.

Considering income as the main criteria to be poor or not poor using poverty line may constrain an individual to identify the difference between wants and needs for well-being. For instance, a household head could earned income above the poverty line but the individual could expense the money on tobacco and alcohols not on the benefits for the household and on the requirements for the children. That has been one of the main reasons for the concept of multidimensional poverty. The concept and measurement of poverty has been significantly improved from the traditional one-dimensional analysis that was income or consumption approach to the multidimensional concept of poverty and well-being. Multidimensional poverty embraced a diverse range of characteristics such as limited financial resources, material deprivation, social isolation, exclusion and powerlessness, and physical and psychological ill-being (Thorbecke, 2005).

2.1.2 Female head of households and Poverty

According to International Labor Organization (ILO), women headed household is a household either where no adult males are present, owing to divorce, separation, migration, non-marriage or widowhood, or where men, although present, do not contribute to the household income (Retta, 2015)

In the 1980s, a group of third-world feminists started to analyze the phenomenon of poverty from a gender perspective. They identified a series of phenomena within poverty that specifically affected women and showed that poor women outnumbered poor men, that women suffered more severe poverty than men and that female poverty displayed a more marked tendency to increase, largely because of the rise in the number of female -headed households. This set of phenomena came to be termed the "feminization of poverty" (Godoy, 2004).

Furthermore, the interest in analyzed the phenomenon of poverty from a gender perspective was based on the need to recognize that poverty has affected men and women in a different way. Men's economic inactivity was a major route into poverty. This has been also true for

women, but women face additional poverty risks as a result of their lower earning power, caring responsibilities and changing family structure. There is clearly a tradeoff between gender inequality in household work and women's economic viability. Across nations, in countries where women have done more of the housework, they have been less likely to work; their countries' GDP per capita suffered, as did their families' livelihoods (USAID, 2021).

2.1.3 Theories of Poverty

Theories of poverty based on the causes of poverty have been classified into cultural and structural theories (Sanchez-Martinez, 2015).The theory of culture of poverty was built on the assumption that both the poor and the rich have different pattern of values and behavioral norms. This theory argued that the poor became poor because they learned certain psychological behaviors associated with poverty. Cultural theories stated that the valuational, attitudinal, and behavioral patterns of the poor which prevented them from being socially mobile. Moreover, the theory has explained that people in poverty have developed certain habits that cause their families to remain in poverty over generations. So that, the theory suggested people in poverty tend to focus on their current troubles, which caused attitudes of dependency.

In contrast, structural theories explain poverty in terms of the conditions under which the poor live: unemployment, underemployment, poor education, and poor health. Structural theories emphasized the demographic and labor market context, which caused both behavior and poverty. The theory explained that, it was the macro structure of society that produces inequality and consequently poverty. The structure of global capitalism, for example, gave rise to inequality and large-scale poverty all over the world especially in sub Saharan countries. Capitalism created conditions that promoted poverty irrespective of individuals' effort, hard work, skills and competencies. The identities of the poor based on age, sex, ethnicity and disability are socially constructed so that, certain groups within society became vulnerable to poverty because of discrimination.

2.1.4 Global Multidimensional Poverty Index 2022

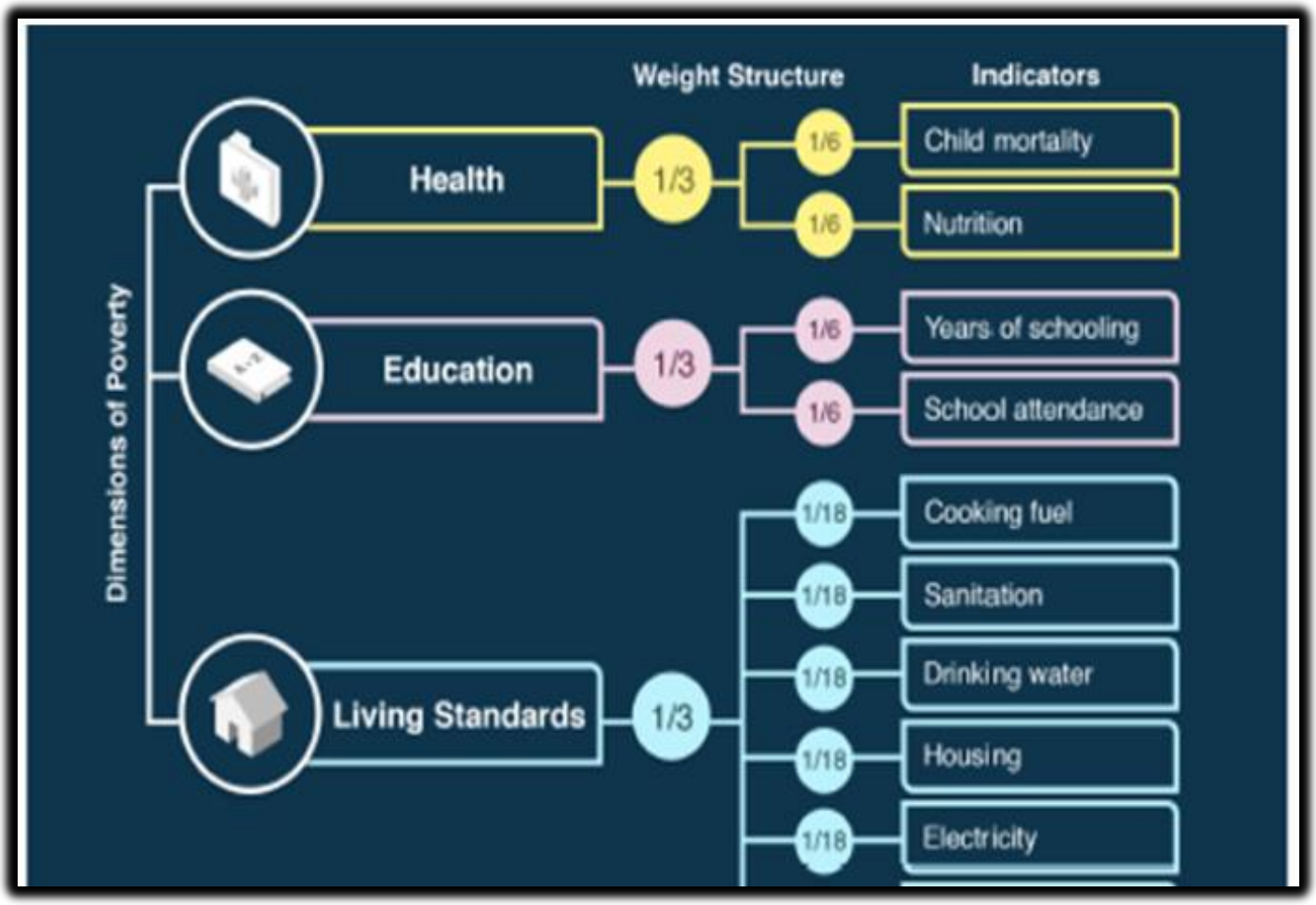
There have been four dimensions in this study, consumption and the three dimensions of global MPI (Health, Education and Standard of Living). According to the United Nations Development Program and Oxford Poverty and Human Development Initiative in 2022, the global Multidimensional Poverty Index (MPI) had a key international resource that measures acute multidimensional poverty across more than 100 developing countries. First launched in 2010 by the Oxford Poverty and Human Development Initiative at the University of Oxford and the Human Development Report Office of the United Nations Development Program, the global MPI advances Sustainable Development Goal 1, holding the world accountable to its resolution to end poverty in all its forms everywhere.

The global MPI began by constructing a deprivation profile for each household and person in it that monitors deprivations in 10 indicators spanning health, education and standard of living. For example, a household and all people living in it have deprived if any child is stunted or any child or adult for whom data are available is underweight; if at least one child died in the past five years; if any school-aged child is not attending school up to the age at which he or she would complete class 8 or no household member has completed six years of schooling; or if the household lacks access to electricity, an improved source of drinking water within a 30 minute walk round trip,1 an improved sanitation facility that is not shared,2 nonsolid cooking fuel, durable housing materials, and basic assets such as a radio, animal cart, phone, television or bicycle. A person's deprivation score has been the sum of the weighted deprivations she or he experiences. All indicators are equally weighted within each dimension, so the health and education indicators are weighted 1/6 each, and the standard of living indicators have weighted 1/18 each. The global MPI identifies people as multidimensionally poor if their deprivation score has been 1/3 or higher.

MPI values are the product of the incidence of poverty (proportion of people who live in multidimensional poverty) and the intensity of poverty (average deprivation score among multidimensionally poor people). The MPI is therefore sensitive to changes in both components.

The MPI ranges from 0 to 1, and higher values imply higher poverty.

Fig.2.1 Dimensions of poverty with its indicators



Source: OPHI and HDRO (2022)

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. 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. 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.

Education

The MPI has used 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 been imperfect proxies. They did not capture the quality of schooling, the level of knowledge attained or skills. Yet both have been robust indicators, widely available, and provided the closest feasible approximation to levels of education for household members. In the MPI, each household member has considered to be deprived if no eligible household member has completed six years of schooling and/or school aged child has been not attending school up to the age at which he/she would complete class 8.

Living standards

The MPI considers six indicators for standards of living. It includes cooking fuel, sanitation, drinking water, electricity, housing, and assets. 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 has 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.

Table 2.1: Global MPI Dimensions, Indicators, deprivation cutoffs and weights

Dimensions of poverty	Indicator	Deprived if...	Weight
Health	Nutrition	Any person under 70 years of age for whom there is nutritional information is **undernourished**.1	1/6
	Child mortality	A child **under 18** has **died** in the household in the five-year period preceding the survey.2	1/6
Education	Years of schooling	**No** eligible household member has completed **six years** of **schooling**.3	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	1/6
Living Standards	Cooking fuel	A household cooks using **solid fuel**, such as dung, agricultural crop, shrubs, wood, charcoal, or coal.5	1/18
	Sanitation	The household has **unimproved** or **no** sanitation **facility** or it is improved but **shared** with other households.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	1/18
	Electricity	The household has **no electricity**.8	1/18
	Housing	The household has **inadequate** housing materials in **any** of the three components: **floor**, **roof**, or **walls**.9	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: United Nations Development Program (2022)

2.1.5 Determinants of Multidimensional Poverty

Age of household head, marital status of household head, year of education of household head and employment status are significant explanatory variables on multidimensional poverty and also age of the household head has been a negative relationship with multidimensional poverty (BELETE, 2021).Level of education and the number of working age family members reduce multidimensional poverty but the number of children under 5-years and dependent family members (dependency ratio) have been increase Ethiopian households' multidimensional poverty (Tigre, 2018). Gender of the household, marital status, household family size, education, employment status and house ownership have been significant determinants of household poverty (Abebaw, 2020).

Here, the researcher needs to differentiate household size and number of children which are among the explanatory variables in this study.

- Household size is the number of persons in a given household including the head.
- Number of children refers to the number of children who are living at a household and outside the household that have the status of a child.
- A household includes the related family members and all the unrelated people, if any, such as lodgers, foster children, wards or employees who share the housing unit.
- Female headed household is a household where either no adult males are present, owing to divorce, separation, mitigation, non-marriage or widowhood, or where men, although present, do not contribute to the household income.

2.2 Empirical Literature Review

Empirical literatures and statistics have showed that the distribution of poverty has been not specific to a given region or country. The Sub-Saharan African scenario has been severe compared to other parts of the world. Ethiopia, as part of Sub-Saharan Africa, has been one of the world's poorest countries by any standard and Poverty remained widespread in Ethiopia.Besides its recent decline, poverty continues to be a problem in Ethiopia's urban areas.

The recent Household Income Consumption and expenditure survey of central statistical authority revealed the proportion of urban population below the total poverty line in Ethiopia has been 14.85% where the poverty depth (poverty gap index) and poverty severity index are found 3.6% and 1.4% respectively (Takele, 2021). Even though there have been improvements in living standards, subjective poverty measures indicate that poverty remained high in Ethiopia. The United Nations 'HDI ranked Ethiopia 174 out of 187 countries where average per capital income was less than half of the sub-Saharan average (WorldBank, Annual report, 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 significant reduction in the poverty gap and the depth of poverty was observed in the country in general and in rural Ethiopia in particular. Stifel and Woldehanna (2016) state that despite a nominal increase in income in Ethiopia the poorest urban population experienced no real change in their consumption levels.

Women constitute a substantial majority of urban centers poor. Across Ethiopia, women and children have experienced the harshest deprivation. They are malnourished, received less medical services, clean water and sanitation, lower earning capacity, less access to education, formal sector employment, social security and government employment programs. Because of those factors financial resources of poor women was meager and unstable relative to men's. Women have paid less for performing similar task. In urban areas, women have been much less likely to obtain formal employment in private companies or public agencies and have been generally limited to low productivity jobs (Mathewos, 2019)

Men and women experienced poverty in different ways and used different mechanisms to overcome it. This is mainly because of the different roles they plaid in their community, which exposed them to different constraints, opportunities and needs. Therefore, their priorities regarding poverty measure/response differed. Women have constrained by socio-culturally imposed limitations, which denied them the right to had access and control over productive resources, such as land and other fixed capital. Added to unequal access to services that can promote their productive and income generating capacities, unequal access to social services, lack of decision-making power and their invisibility which have

excluded them from the social, economic and political processes that affect their lives (Kitesa, 2014). Lack of access to productive resources such as land; lack of access to education, employment opportunities, basic health services, and protection of basic human rights; low decision making; violence and harmful traditional practices have been some of the indicators of the socioeconomic marginalization of women in the country.

Poverty has been widespread in urban areas of Ethiopia with a significant proportion of the population lacking the basic necessities of life, such as lack of food, decent clothing, and shelter. In addition, lack of access to education and medical care, widespread unemployment and lack of income also exacerbated the magnitude and severity of poverty in the country. of the basic facilities in and around the house. Lack of adequate shelter, poor sanitation, lack of access to safe drinking water, and absence of proper toilet facilities have been characteristics of urban poverty (Berhanu&Debalke, 2019). Urban areas in Ethiopia are in a state of expansion without the necessary preconditions and this is paving the way for visible urban poverty. There is indeed sample evidence that urban areas are unable to cope with the increasing population, and delivery of services has deteriorated markedly over the years. Access to housing, health, and education services continues to be seriously limited. Basic sanitary conditions are atrocious by any standard. Transportation facility, energy availability and access to job, labor market, skill reproduction work, entitlements and finance are also at their lowest level (HULALA, 2020).

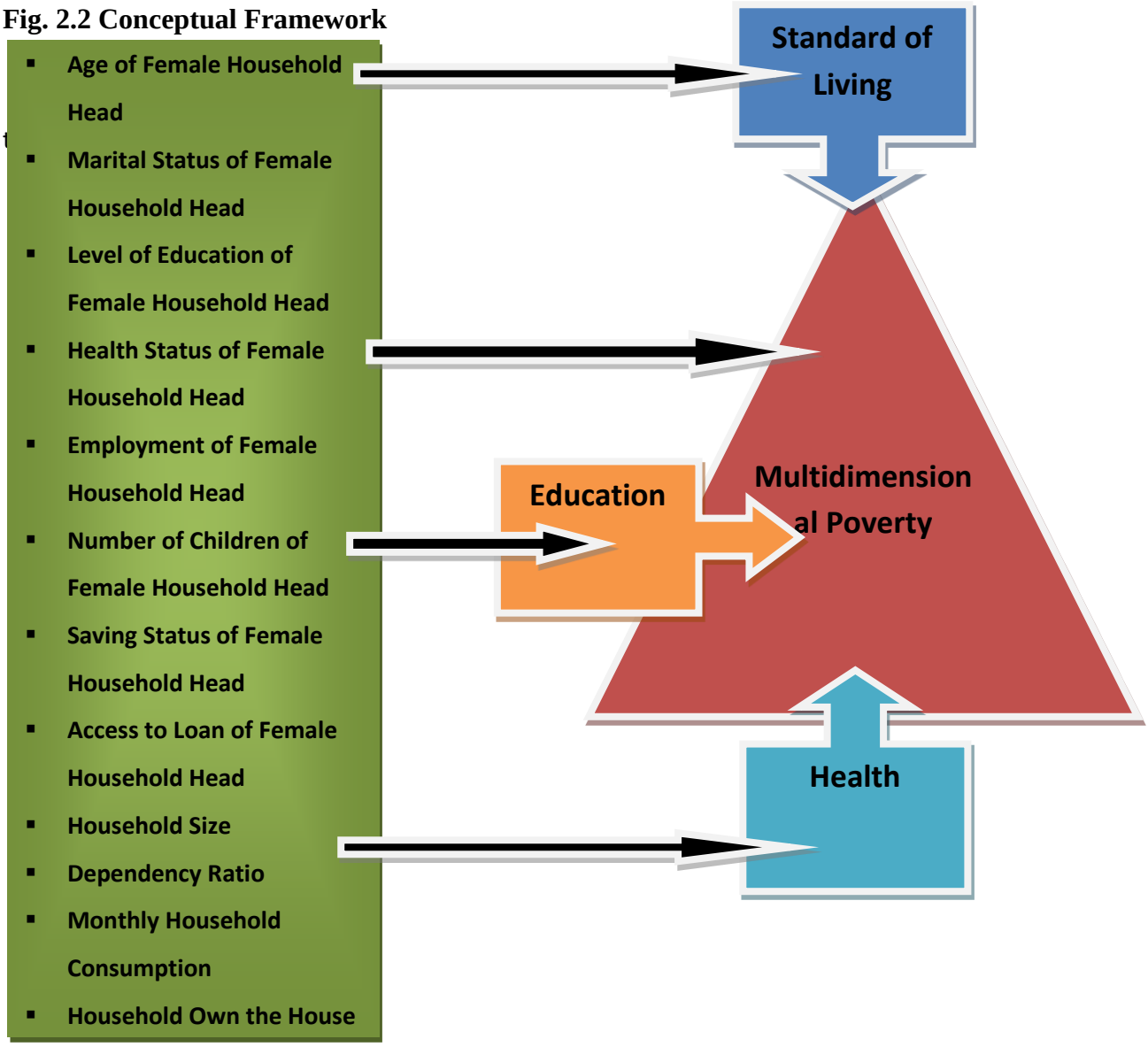
2.3 Conceptual Framework of the Study

In general, the reviewed literatures on multidimensional poverty are on both households headed by male and female but in this study, only female headed households are targeted. Furthermore, these literatures are rural multidimensional poverty analysis associated with food security of the household whereas this paper attempts to analyze multidimensional poverty status of households in urban areas particularly in Addis Ababa. Moreover, there are few literatures on urban multidimensional poverty but the econometric model for analysis is not ordered logistic model.

The researcher has developed a conceptual framework based on the reviewed literatures to analyze the determinants of multidimensional poverty. Four dimensions that is health

dimension, education dimension and standard of living dimension is aggregated to the multidimensional poverty index of the household.

Fig. 2.2 Conceptual Framework



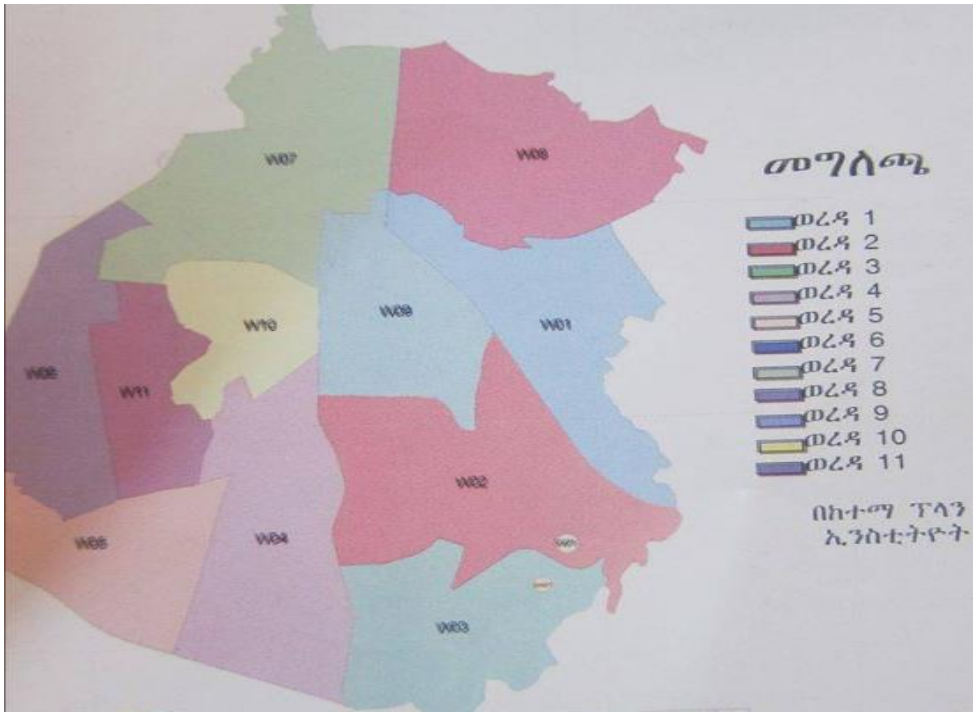
Source: (Yimer, 2011; Emran & Atta, 2012; Adane, 2017; Tigre, 2018; Hulala, 2020; Chomen, 2021; Ayalew, 2021; Belete, 2021; Kassa et al., 2021; Eshetu, 2022; Alemu, 2022; Modi, 2022; Sultan & Gemechu, 2023)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1Description of the study Area

This study is done in Kirkos sub-city which is one of the eleven sub-cities of Addis Ababa, Ethiopia. As shown below in Fig. 2, Kirkos sub-city is located at the center of Addis Ababa. National sport and cultural facilities such as Addis Ababa stadium and Meskel square are located in this sub-city. The sub-city hosts international offices such as the office for Organization for African Union (OAU) and the United Nations Economic Commission for Africa (ECA).Kirkos sub-city is located in the city center, and borders with the districts of Lideta, Arada, Yeka, Bole and Nifas silk. Kirkossub-city is one of the denselypopulated sub-cities in Addis Ababa with a population density of 150 persons per hectare (Elsa Sereke, 2010).The sub-city covers a surface area of 1,472 hectar and superficial observations of Kirkos's residential areas suggest that it is inhabited by residents with high difference in income (SHERIF, DETERMINANTS OF URBAN HOUSEHOLD POVERTY IN KIRKOS SUB -CITY, 2020).

Fig. 3.1 Addis Ababa Kirkos sub-city with 11 woredas



Source: Kirkos sub-city communication affairs office (2022).

3.2Research Design

Since this study used econometric model, explanatory research design is applied. Written questionnaire is used to collect data from the sample households. And also, the study uses qualitative dependent variable and both qualitative and quantitative independent variables.

3.3Sampling Design

The study uses all female headed households in Kirkos sub-city as a population. According to the 2016 Demographic and Health Survey implemented by the Central Statistical Agency (CSA), one-quarter of households have been female headed households. Most studies are based on a sample because of lack of resources. Likewise, in this study, the entire members of the population which are all female headed households are not be addressed due to limited resources. So that, the sample is selected using an appropriate sampling method.

3.4Sampling Methods

To draw valid conclusions from the results, it is critical to carefully decide how a sample is selected and which is a representative of the whole population (McCombes, 2022). So that, the researcher uses stratified random sampling that is one of the probability sampling methods. There are 11 woredas in Kirkos sub-city. Woreda is the third-level administrative divisions in Ethiopia. In this study, four woredas (2, 9, 10 and 11) are selected at first stage sampling and former kebeles or sub-woredas from each woredas is selected at second stage sampling and finally, the female headed households in all selected former kebeles are taken as a sample at the final stage. So that, the study uses a three stage stratified random sampling method.

3.4.1 Pilot Survey for the Study

When researchers want to target a specific population for a research study, the researchers might conduct a pilot study. This allows the researchers to learn whether they can effectively target the right population in a large-scale study and whether it's feasible to

conduct the large-scale study. Furthermore, a pilot study provides valuable information, not only for the researcher's main study, but also for other similar studies; therefore, it is crucial to include complete information on the feasibility of the study (JunyongIn, 2017).

The researcher used a pilot survey mainly to calculate p which is the estimated proportion of the population which has the attribute in question to determine the sample size for the study. A common rule of thumb is to use a sample size of 10 to 20% of your full-scale survey sample size, or at least 30 to 50 respondents in the pilot survey (ResearchSurvey, 2023), so that the researcher used 50 households to respond a written questionnaire for the study targeting to calculate multidimensional poverty status of the households. As a result, 90% of the households are multidimensional poor or sever or had the sum of deprived weights 0.33 and above.

3.4.2 Sample Size Determination

The Cochran (1963) formula is used to determine how many female headed households in the sample and the formula is (Divakar, 2021):

$$\boldsymbol{n = \frac{Z^2 pq}{e^2}}$$

Where:

- n is the number of female headed households in a sample for this study,
- e is the desired level of precision (i.e. the margin of error),
- p is the (estimated) proportion of the population which has the attribute in question,
- q is 1 – p.

The study uses 5% which is 0.05 margin of error, 0.9 as the estimated proportion of female headed households with the sum of deprived weights 0.33 and above from own pilot survey, 0.1 as q because q is 1 – p (q is the estimated proportion of female headed households with the sum of deprived weights below 0.33) and also the value of Z for 95% confidence interval from Z table equals 1.96. Thus the sample size for this study is:

$$n = \frac{Z^2 pq}{e^2} \quad \Rightarrow \quad \mathbf{n} = \frac{\mathbf{1.96^2 * 0.9 * 0.1}}{\mathbf{0.05^2}} = \mathbf{138}$$

So that, the study uses 138 female headed households as a sample from all female headed households in Kirkos sub-city of Addis Ababa. The sampled female headed households is taken from former kebeles or sub-woredas using proportional allocation.

Table: 3.1 The Number of Female Headed Households in a Sample From Each Selected Woredas and Former Kebeles using Equal Allocation.

Selected Woredas	No of Former Kebeles	No of Sampled households
W2	4	36
W9	3	28
W10	3	28
W11	5	46
Total	**15**	**138**

Source: Kirkos sub-city administration (2023)

3.5 Data Collection Instruments

Primary data is gathered from female headed household using structured questionnaire. The primary data constitute patient information related to the multidimensional poverty. The secondary data is also collected from relevant government offices such as Kirkos sub-city administration and each woreda offices within the sub-city. In addition, Focus Group Discussion (FGD), Key Informant Interviews and personal observation are also used to collect supplement the limitation of quantitative data.

3.6 Study Variables

3.6.1 Model Specification

Ordered logistic regression model is used in the study to analyze the collected data. The model enables the researcher to examine which determinants have statistically significant effect on a dependent variable multidimensional poverty status of household with ordinal scale.

Dependent variables which are analyzed in the majority of researches and applied studies are generally in categorical and ordinal structure. Ordinal logistic models that consider the ordinal structure of the dependent variable are used in case where the dependent variable should has at least 3 categories in which these categories are ordered arranged, i.e. the dependent variable in the study, multidimensional poverty status of the household has four categories or orders (not poor, vulnerable, poor, sever) and independent variables of different type of measurement scale. The independent variables in the study are variables with continuous, discrete, categorical or nominal and ordinal variables.

3.6.2 Dependent 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 (wd) is compared with the multidimensional poverty cut-offs. 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&Santos, 2013). Following this the researcher uses 0.33 cut off point for the study. This is represented by the ordinal variable that takes the value 0, 1, 2 or 3, as:

$$\text{mdps}\begin{cases} = 0(\text{not poor}), \text{if wd} < 0.2 \\ = 1(\text{vulnerable}), \text{if } 0.2 \leq \text{wd} < 0.33 \\ = 2(\text{poor}), \text{if } 0.33 \leq \text{wd} < 0.5 \\ = 3(\text{sever}), \text{if wd} \geq 0.5 \end{cases}$$

3.6.3 Independent Variables

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

Table 3.2: Description and Measurement Types of Independent Variables

No	Independent Variables	Measurement Type	Expected Sign
1	Age of Female Household Head	Categorical(0= 18-28 years, 1= 29-39 years, 2 = 40-50 years, 3 = 51-61 years, 4 = above 61)	+/-
2	Marital Status of Female Household Head	Categorical(0=unmarried, 1=married, 2=divorced, 3=widowed)	+/-
3	Level of Education of Female Household Head	Ordinal(0=illiterate, 1=primary, 2=secondary, 3=higher)	_
4	Health Status of Female Household Head	Ordinal(0=very poor, 1=poor, 2=good, 3=very good)	+/-
5	Employment of Female Household Head	Categorical(0=unemployed, 1=employed, 2=pensioner)	_
6	Number of Children of Female Household Head	Discrete	+/-
7	Saving Status of Female Household Head	Dummy(0 = No , 1=Yes)	+/-
8	Access to Loan for Female Household Head	Dummy(0 = No , 1=Yes)	+/-
9	Household Size	Discrete	+
10	Dependency Ratio	Continuous	+/-
11	Monthly Household Consumption	Continuous	+/-
12	Household Own the House	Dummy(0 = No , 1=Yes)	_

Source: (Yimer, 2011; Emran & Atta, 2012; Adane, 2017; Tigre, 2018; Hulala, 2020; Chomen, 2021; Ayalew, 2021; Belete, 2021; Kassa et al., 2021; Eshetu, 2022; Alemu, 2022; Modi, 2022; Sultan & Gemechu, 2023)

3.7Data Analysis

3.7.1 Descriptive Analysis

The study starts with an exploratory data analysis to gain insight into the dataset. Descriptive statistics is used to observe independent and dependent variables assessed using frequency tables, mean and standard deviation and also the variables are assessed with the use of bar and pie charts.

3.7.2 Method of Estimation of Multidimensional Poverty Index (MPI)

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 $Y = |Yij|$ denote the $n \times d$ matrix of achievements, where the typical entry $Yij \geq 0$ is the achievement of household=1, 2,…, n in wellbeing indicator j=1,2, …,d. $|Zj| > 0$ is the indicators cutoff below which a person is considered to be deprived in indicator j. 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. It has 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 used 1/3 as cutoff and 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&Foster, 2015). 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. The second one is the intensity or width of poverty (A) is the average deprivation score of those poor segments

of the population, written $\sum wd/_n$ where wd is weight of deprived indicators and n is number of household that have 0.33 and above total weights of deprivations. Therefore, multidimensional poverty is the product of the above two terms.

According to Alkire and Foster, the following Steps are used in the study to calculate multidimensional poverty index, those are:-

i. Select dimension: - health, education and living standard dimension are used.
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 0.33 and for each dimension equally distributes the weight among indicator.

v. Use second cutoff to determine poor household, since we have ten indicators, household that do not have 1/3 of the total 10 indicators considered as poor, So household that 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 households and the other one is the intensity of poverty (A) is the average deprivation score of those poor households i.e ∑wd/n.

vi. Last calculate multidimensional poverty index MPI = H×A.

3.7.3 Correlation Analysis

The correlation between variables can be measured with the use of different indices. The three most popular are Pearson‘s coefficient (r), Spearman‘s rank coefficient (rs), and Kendall‘s tau coefficient (τ). Spearman‘s rank coefficient is used when linearity and normality assumptions not meet (Izvorni, 2015). In this study, because of the data is ordinal, the researcher perform Spearman‘s correlation analysis to identify the association between variables and to test multicollinearity between independent variables.

3.7.4 Ordered Logistic Regression Analysis

The ordered logistic model is a regression model for an ordinal dependent variable. The model is based on the cumulative probabilities of the response variable: in particular, the logistic of each cumulative probability is assumed to be a linear function of the covariates with regression coefficients constant across independent categories (Grilli, 2021).

Ordinal logistics regression model assumes that there is ordinal dependent variable and any type of measurement of independent variables. The model also assumes there is no multicollinearity between independent variables that is no correlation coefficient between any of two independent variables greater than or equal to 0.75 (Lee, 2019).

Logistic models are used to solve regressions with a single dependent variable and various independent variables. In logistic models the natural logarithm of odds which belongs to ordinal dependent variable is expressed as a linear function of the independent variables, therefore logistic model is a member of "generalized linear models" family and logistic transformation (the natural logarithm of the independent variable's odds) is used as a link function (ARI&Zeki, 2014). Let Yi be an ordinal dependent variable with C categories for the i^{th} subject, alongside with a vector of covariates xi. A regression model establishes a relationship between the covariates and the set of probabilities of the categories pci=Pr(Yi =yc| xi), c=1,…,C. Usually, regression models for ordinal dependents are not expressed in terms of probabilities of the categories, but they refer to convenient one-to-one transformations, such as the cumulative probabilities gci=Pr(Yi ≤yc| xi), c=1,…,C. Note that the last cumulative probability is necessarily equal to 1, so the model specifies only C−1 cumulative probabilities.

The parameters αc, called thresholds or cut points, are in increasing order (α1 < α2 < … < αC-1). It is not possible to simultaneously estimate the overall intercept β0 and all the C−1 thresholds: in fact, adding an arbitrary constant to the overall intercept β0 can be counteracted by adding the same constant to each threshold αc. This identification problem is usually solved by either omitting the overall constant from the linear predictor (i.e. β0 = 0) or fixing the first threshold to zero (i.e. α1= 0).

3.8 Ethical Consideration

The researcher asks genuinely and collect the data that is used in to this research paper from Addis Ababa female headed households in Kirkos sub-city by using structured questionnaires. Accordingly, all conclusions and recommendations is made honestly based on the analysis. Moreover, the data collection is only for the intended purpose and the researcher keep the confidentiality.

CHAPTER FOUR: RESULT AND DISCUSSION

Analysis and interpretation of the data received from 138 female headed households via a standardized questionnaire was presented in this chapter. The purpose of this research was to examine the determinants that affect multidimensional poverty status of female headed households in the Kirkos sub-city. Both descriptive statistics and econometric models (chi-square and ordered logistic regression) were used to describe and analyze the collected data.

4.1 Descriptive Statistics

Data was summarized and presented using tables, graphs and charts that is obtained from 138 female headed households in Kirkos sub-city.

Table 4.1: Descriptive statistics of continues and discrete independent variables

Variable	Mean	Std. Dev	Min	Max
No of children of female household head	3	2	0	10
Household size	4	2	1	12
Dependency ratio	0.58	0.5	0	2
Household consumption	5442.03	4422.52	1500	20000

Sources: Own survey result

The summary statistics of continues and discrete variables from the survey result on the above table can be discussed as follows:

On average, the female household head had 3 children with Std. Dev of 2. The minimum number of children is 0 that is for female household head with no children and the maximum number of children is 10. On average, there are 4 family members in a household with Std. Dev of 2. The minimum and the maximum household size are 1 and 12 respectively. The average dependency ratio is 0.58 with of Std. Dev 0.5. The minimum and maximum dependency ratios are 0 and 2 respectively. The average consumption of a household is 5,442.03Br. with Std. Dev of 4,422.52Br. and the minimum and the maximum consumption of the household are 1,500Br. and 20,000Br. respectively.

Table 4.2: Descriptive statistics of Categorical independent variables

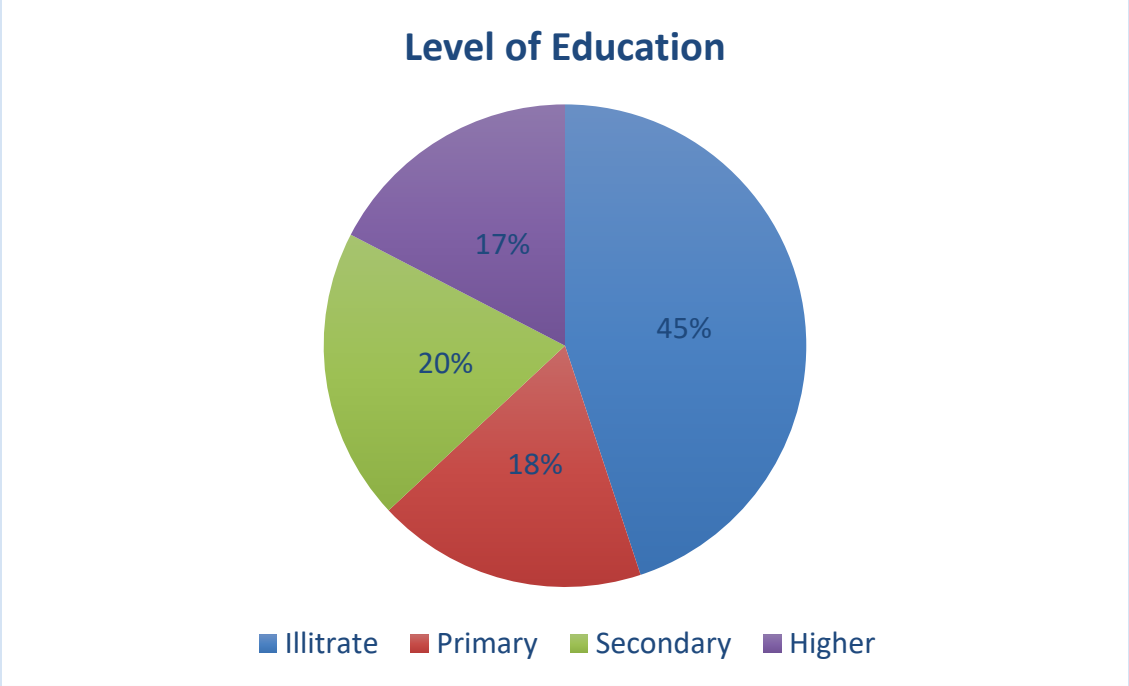
Variable	Category	Frequency	Percent
Age of female household head	18-28	0	0
	29-39	16	11.59
	40-50	42	30.43
	51-61	37	26.81
	Above 61	43	31.16
	Total	138	100.00
Marital status of female household head	Single	22	15.94
	Married	11	7.97
	Divorced	37	26.81
	Widowed	68	49.28
	Total	138	100.00
Educational status of female household head	Illiterate	62	44.93
	Primary Education	25	18.12
	Secondary Education	27	19.57
	Higher Education	24	17.39
	Total	138	100.00
Health status of female household head	Very poor	37	26.81
	Poor	40	28.99
	Good	51	36.96
	Very good	10	7.25
	Total	138	100.00
Employment of female household head	Unemployed	53	47.83
	Employed	66	38.40
	Pensioner	19	13.77
	Total	138	100.00
Saving status of female household head	No	113	18.12
	Yes	25	81.88
	Total	138	100.00
Access to loan for female household head	No	131	5.07
	Yes	7	94.93
	Total	138	100.00
Household own the house	No	102	26.09
	Yes	36	73.91
	Total	138	100.00

Sources: Own survey result

The descriptive statistics of categorical variables on the above table from the survey result can be discussed as follows:

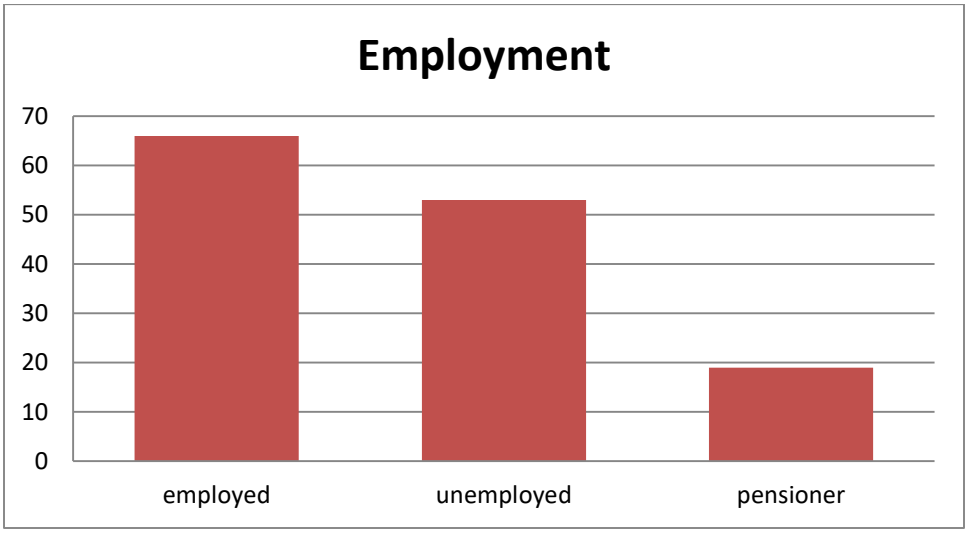
From the total female household head respondents, 11.59% aged from 29-39years and 31.16% aged above 61years that is more respondents have an age above 61years relative to other respondents. A very small proportion of female household heads that is 7.97% were married while a large proportion of the respondents that is 49.28% were widowed. From the total female household heads, only 17.39% had higher education whereas a large proportion of the respondents that is about 44.93% were illiterate. Only 7.25% of female household heads had a very good health status while about 26.81% of those respondents had a very poor health status. Out of the total female household head, 47.83% were employed and 38.40% were unemployed and the remaining 13.77% were pensioner. About 18.12% of female household heads were having saving status whereas 81.88% of those respondents were not having saving status. About 73.91% of the households not own the house while the remaining 26.09% households own the house

Fig 4.1: The educational status of female household heads



The educational status presented in the above pie-chart can be perfectly visualized or presented than the previous table. The chart clearly showed that more female headed households were illiterate.

Fig 4.2: The employment of female household heads



The above bar chart showed that, there were more employed and less pensioner female household heads.

4.2 Estimation of Multidimensional Poverty Index

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

Table 4.3: Number of deprived households in each indicator

Dimensions of MPI	Indicators of each dimension	Global MPI Deprived if	No of deprived households & (%)	Weight
Health	Nutrition	Any person under 70 years of age for whom there is nutritional information is undernourished.	4 (2.9%)	$1/6$
	Child mortality	A child under 18 has died in the household in the five-year period preceding the survey.	0	$1/6$
Education	Years of schooling	No eligible household member has completed six years of schooling.	72 (52.17%)	$1/6$
	School attendance	Any school-aged child is not attending school up to the age at which he/she would complete class 8.	3 (2.17%)	$1/6$
Living Standard	Cooking fuel	A household cooks using solid fuel, such as dung, agricultural crop, shrubs, wood, charcoal, or coal.	10 (7.25%)	$1/18$
	Sanitation	The household has unimproved or no sanitation facility or it is improved but shared with other households.	96 (69.57%)	$1/18$
	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.	0	$1/18$
	Electricity	The household has no electricity.	0	$1/18$
	Housing	The household has inadequate housing materials in any of the three components: floor, roof, or walls.	20 (14.49%)	$1/18$
	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.	128 (92.75%)	$1/18$

Source: Own computation

Table 4.3 showed that very large number of female headed households that is 128 out of 138 (92.75%) households deprived in assets. Furthermore, the deprived households in sanitation and years of schooling had a large proportion that is 69.57% and 52.17% respectively. There is no households deprived in child mortality, drinking water and electricity from the sampled households in this study. Considering the dimensions, a large number of households deprived in standard of living while only 4 households deprived in health dimension through nutrition.

Table 4.4: The identification of multidimensional poverty status for each households.

The summation of weight of deprived indicators(W)	**multidimensional poverty status**
$W < 0.2$	Not poor
$0.2 \leq W < 0.33$	Vulnerable
$0.33 \leq W < 0.5$	Poor
$W \geq 0.5$	Sever

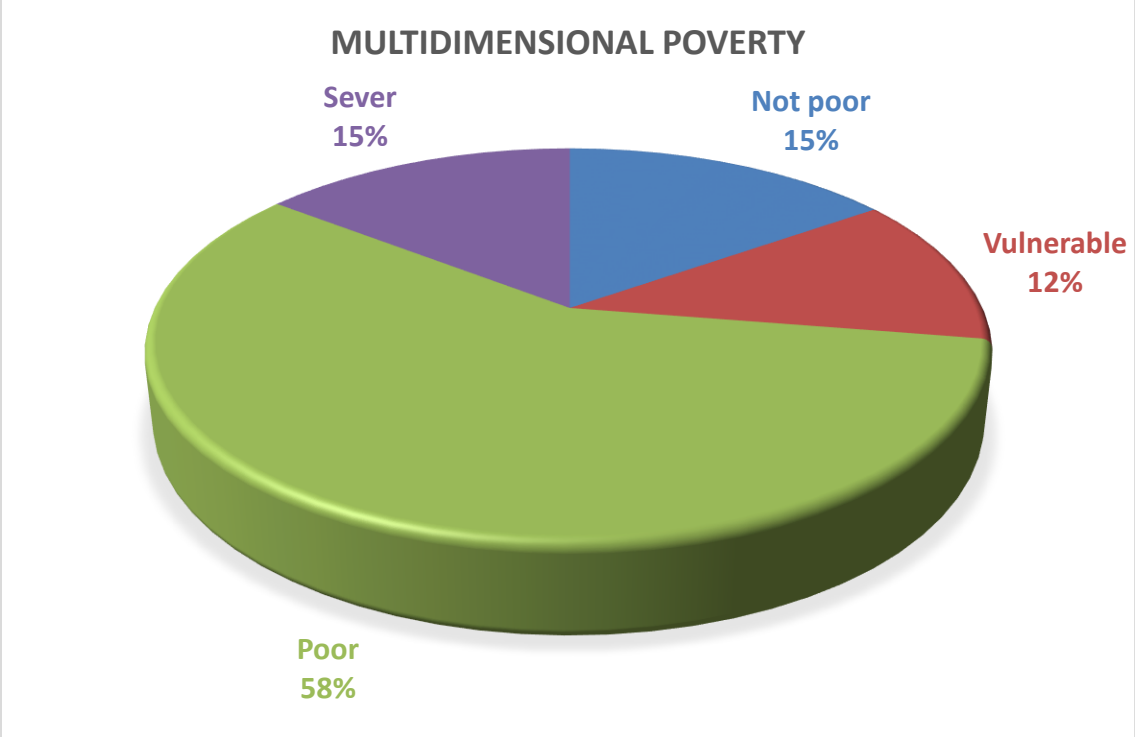
Source: United Nations Development Program (2022)

Table 4.5: Summary statistics of multidimensional poverty status (dependent variable)

Multidimensional poverty status	**No of households**	**Percent**	**Cumulative percent**
Not poor	21	15.22%	15.22%
Vulnerable	17	12.32%	27.54%
Poor	80	57.97%	85.51%
Sever	20	14.49%	100.00
Total	138	100.00	

Source: Own computation

Fig 4.3: Multidimensional poverty status of female headed household



As like that of table 4.5, the above pie chart showed that about 58% of female headed households had poor multidimensional poverty status. About 12% of female headed households had vulnerable multidimensional poverty status that were at risk of being multidimensionally poor.

4.3 Summary of Some Socio Economic Indicators and Multidimensional Poverty Status

In this study, level of education of female household head, health status of female household head and employment of female household head were used as socio economic indicators that are summarized in terms of multidimensional poverty status.

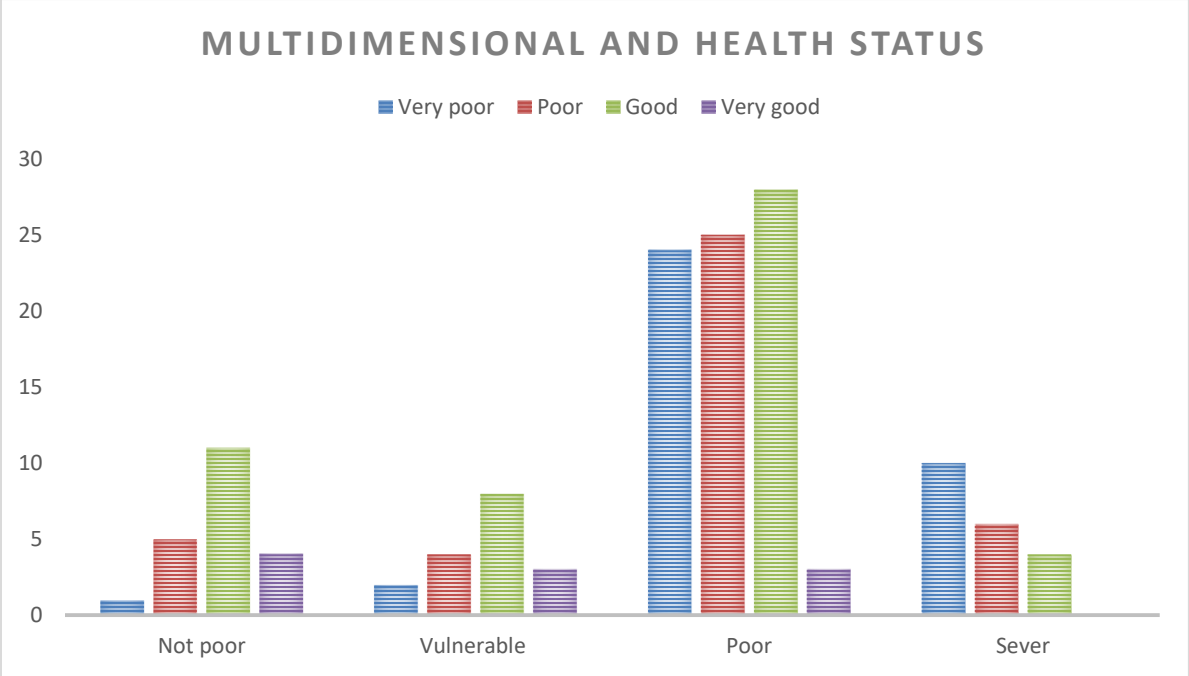
Table 4.6: Summary of level of education of female household head and multidimensional poverty status

	Level of education				
Multidimensional poverty status	Illiterate	Primary	Secondary	Higher	**Total**
Not poor	5	0	8	8	**21**
Vulnerable	4	2	4	7	**17**
Poor	37	19	15	9	**80**
Sever	16	4	0	0	**20**
Total	**62**	**25**	**27**	**24**	**138**

Source: Own survey result

As observed from the table above, there were a large number of illiterate female household head with poor multidimensional poverty status of the household that is out of 62 illiterates there were 37 female household heads with multidimensional poverty status of the household. Furthermore, there were not respondents with primary level of education having not poor multidimensional status and also respondents with secondary or higher level of education having sever multidimensional poverty status. This table could enable the researcher to expect the negative relationship between level of education and multidimensional poverty status from the ordered logistic regression analysis.

Fig.4.4: Multidimensional Poverty Status of Household with Health Status of Female Household Head



The bar chart showed that a small number of female household head with very poor health status had multidimensional poverty status of the household not poor. Furthermore, among sever multidimensional poverty status households there were a large number of female household head that had very poor health status. And also, among poor poverty status households there were large number of female household head with very poor health status.

Table 4.7: Summary of employment of female household head and multidimensional poverty status

	Employment			
Multidimensional poverty status	Unemployed	Employed	Pensioner	**Total**
Not poor	14	7	0	**21**
Vulnerable	12	2	3	**17**
Poor	41	24	15	**80**
Sever	6	13	1	**20**
Total	**73**	**46**	**19**	**138**

Source: Own survey result

Table 4.7 showed that a large number of unemployed female household head had households with poor multidimensional poverty status. Out of 19 pensioner female household heads, there were 15 pensioner female household heads that had households with poor multidimensional poverty status.

Table 4.8: Estimation of MPI

Multidimensional poverty cutoffs	**H(incidence)**	**A(intensity)**	MPI
$W \geq 0.33$	0.72	0.44	0.32

Source: Own computation

As can be seen in the above table 4.6, the poverty headcount H was 0.72 indicating that around 72% of the female headed households were multidimensionally poor or sever. The intensity (A) which is the average weight of deprived indicators is 0.44. Once this adjusted for the number of deprivations suffered, the MPI was computed as A * H equals 0.32. The MPI value summarizes information on multiple deprivations into a single number. This indicates that 32% of the sampled female headed households had multiple deprivations at the same time. This result was close to the UNDP report in which the MPI value, which is the share of the population that is multidimensionally poor adjusted by the intensity of the deprivations, is 0.367 or 36.7% (UNDP, Unpacking deprivation bundles to reduce multidimensional poverty, 2022).

The variance and standard deviation of weight of deprived indicators were 0.00423 and 0.065 respectively. This implies that, the gap or deviation of weight of deprived indicators for a female headed households from the average weight of deprived indicators was 0.065.

4.3 Results of Spearman Correlation Analyses

Based on the result of the spearman correlation analysis (See Annex), multidimensional poverty status had a **negative** relationship between level of education of female household head, health status of female household head and female headed household consumption while multidimensional poverty status had a **positive** relationship between employment of

female household head, saving status of female household head, household size, dependency ratio and household ownership of the house at 5% level of significance.

Multidimensional poverty status had a **strong** relationship with saving status of female household head while it had a **weak** relationship with level of education of female household head, health status of female household head, employment of female household head, household size and dependency ratio. Furthermore, multidimensional poverty status had a **moderate** relationship with monthly household consumption and household ownership of the house.

4.5 Ordered Logistic Regression Analysis

Ordered logistic regression analysis was used to examine the effect of each independent variables on multidimensional poverty status of female headed households. Since the dependent variable multidimensional poor status was ordinal; it had an order of 0 for not poor, 1 for vulnerable, 2 for poor and 3 for sever.

4.5.1 Parameter Estimation

The parameter estimation analysis was done by using Stata software package. The resulting maximum likelihood estimate of model parameters were presented below in Table 4.9.

Table 4.9: Maximum Likelihood Estimates of Model Parameters

	Coef.	Std. Err.	P>|z|	Odds Ratio
Age of female household head				
40-50	3.72	2.09	0.076	41.3492
51-61	-0.62	2.13	0.771	0.5375
Above 61	0.93	2.36	0.692	2.5458
Marital status of female household head				
Married	2.64	1.803	0.144	13.9792
Divorced	-0.45	1.64	0.783	0.6372
Widowed	0.22	1.65	0.894	1.2454
Level of education of female household head				
Primary	-1.604	1.106	0.147	0.2011
Secondary	-6.47	2.56	0.012**	0.0015
Higher	-3.76	2.24	0.094	0.0233
Health status of female household head				
Poor	-0.709	0.99	0.475	0.4921
Good	-3.49	1.65	0.035**	0.0305
Very good	-12.93	3.97	0.001***	0.00146
Employment of female household head				
Employed	-0.997	1.16	0.390	0.3692
Pensioner	-3.21	1.22	0.008***	0.0402
Number of children of female household head	-0.13	0.16	0.433	0.87895
Saving status of female household head	-6.64	3.056	0.030**	0.0013
Access to loan for female household head	-4.55	3.01	0.130	0.01052
Household size	0.68	0.24	0.005***	1.9726
Dependency ratio	1.66	0.72	0.021**	5.2484
Monthly household consumption	-0.002	0.0004	0.000***	0.998
Household own the house	-11.66	2.97	0.000***	8.63e-06
Log likelihood = -32.7519 LR chi2(21) = 249.27 Prob > chi2 = 0.0000 Pseudo R2 = 0.7919				

Source: Own survey result

Note that in table 4.9 of the model result, P>|z|*** and P>|z|** are at 1% and 5% level of significance. Estimated ordered logistic regression model p = 0.0000 indicates that the overall model is significant and also Pseudo R^2 indicates that, the model explained 79.19% of change of multidimensional poverty status was due to all the independent variables in the model.

Level of education of female household head, health status of female household head, employment of female household head, saving status of female household head, household size, dependency ratio, household consumption and household own the house were statistically significant at 5% level of significance. Furthermore, the independent variables age of female household head, marital status of female household head, number of children of female household head and access to loan for female household head were not statistically significant at 5% level of significance.

The model result further revealed that from the significant independent variables household size and dependency ratio had odd ratios greater than one and its coefficients are positive, which means that these variables were positively correlated with multidimensional poverty status of the household. Moreover, the independent variables level of education of female household head, health status of female household head, employment of female household head, saving status of female household head, monthly household consumption and household own the house had odd ratios less than one and its coefficients are negative so that, these variables were negatively correlated with multidimensional poverty status of the household.

4.5.2 Model Diagnostics

In this study, the econometric model ordered logistic regression had a response or dependent variable that was ordinal and the independent variables were continuous, ordinal, discrete and categorical variables and this showed that the two of the assumptions of the model was satisfied.

Moreover, the Spearman rank correlation analysis showed (See Annex) that there was no strong correlation between any of the two independent variables (no correlation coefficient greater than 0.75) and this implies that multicollinearity assumption was also satisfied (Tariku Kassa, 2021).

4.6 Discussions of the Results

The level of education and multidimensional household poverty status had a negative relationship implies that if the level of education of female household head changed from

illiterate to secondary education, then the log of odds of multidimensional poverty status decreases by 0.15%, held other factors constant at 5% level of significance. There were literatures that support this result (Hulala, 2020) stated as the increment of year of schooling decreases household multidimensional poverty. Furthermore, other literature by Emran and Atta stated that education had a great role in the reduction of multidimensional poverty (Emran&Atta, 2012).

Health status of female household head and multidimensional poverty status of the household had a negative association so that, if health status of female household head changed from very poor to good, then the log of odds of multidimensional poverty status of the household decreased by 3.05%, held other factors constant at 5% level of significance. Moreover, if health status of female household head changed from very poor to very good, then the log of odds of multidimensional poverty status of the household decreased by 0.146%, held other factors constant at 1% level of significance. The previous studies showed this result as poor health could increase multidimensional poverty in a way that sickness could prevent people from working and the impact of caring responsibilities and also poor health status could increase healthcare expenditure (Modi, 2022).

Employment of female household head and multidimensional poverty status of the household was negatively related and based on the model result, the household with pensioner female household head had the log of odds of multidimensional poverty status 4.02% less than compared to unemployed female household head, held other factors constant at 1% level of significance. This result was in line with other literatures, for instant the research done by Kidane Alemu revealed that employment opportunities made the household to had income that led sustainable income there to reduce Multidimensional poverty (Kidane Alemu, 2022).

Saving status of female household head and multidimensional poverty status of the household were negatively associated so that, the log of odds of multidimensional poverty status decreased by 0.13% when saving status of female household head changed from not saving to saving, held other factors constant at 5% level of significance. Saving enabled

the household to have an ability to afford expenditure for health, education and other demands for the members in the household and this enabled the household to decrease multidimensional poverty. Previous literatures conformed that if households saving improved, so that the household could decrease multidimensional poverty (Chomen, 2021).

Household size and multidimensional poverty status had a positive relationship and this revealed that if one member increased in the household, then the log of odds of the household multidimensional poverty status was also increased by 97.26%, held other factors constant at 1% level of significance. According to (Sultan&Gemechu, 2023) increasing household size was associated with increasing the probability of the household being multidimensional poor. The reason for the positive association was the number of unemployed and dependent household members were increased and as a result, the household multidimensional poverty was also increased.

In the study, dependency ratio and multidimensional poverty status of the household had positive association that is, if the dependency ratio was increased by one, then the log of odds of multidimensional poverty status was also increased by 24.84%, held other factors constant at 5% level of significance. The study by (Tigre G. , Multidimensional Poverty and Its Dynamics in Ethiopia, 2018) conformed that multidimensional poverty increased while dependency ratio increased. Dependency ratio increased when the number of dependent members not in working age were greater than the number of members of working age in the household. The other study revealed that the household probability of being high in multidimensional poverty status increased if dependency ratio was increased (Eshetu, 2022).

Multidimensional poverty status had a positive association with household consumption. The log of odds of multidimensional poverty status was decreased by 99.8% as monthly household consumption increased by one thousand birr, held other factors constant at 1% level of significance. It was known that the major factor of consumption was income of the household and this study tried to estimate the income of the household indirectly through consumption (Yimer, 2011). This indicates that if the

household consumption was increased while the income of the household increased, then multidimensional poverty of the household was decreased.

Household own the house and multidimensional poverty status of the household had a negative relationship. The log of odds of multidimensional poverty status was decreased by 0.00086% for the household that own the house compared to the household that did not own the house, held other factors constant at 1% level of significance. If the household not own the house, then some of the indicators of living standard of the household may became deprived and this made the probability of the household to be multidimensional poor increased (Adane, 2017).

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

From 138 sampled female headed households in Kirkos sub-city of Addis Ababa, about 17.39% of female household heads had higher education whereas a large proportion of the respondents that is about 44.93% were illiterate. And also, only 7.25% of female household heads had a very good health status while about 26.81% of those respondents had a very poor health status. Out of the total female household head, 47.83% were employed and 38.40% were unemployed and the remaining 13.77% were pensioner. Moreover, about 18.12% of female household heads were having saving status whereas 81.88% of those respondents were not having saving status. Furthermore, about 73.91% of the households not own the house while the remaining 26.09% households own the house.

A very large number of female headed households that is 92.75% of households deprived in assets and 69.57% and 52.17% of the households deprived in sanitation and years of schooling respectively. There is no household deprived in child mortality, drinking water and electricity from the sampled households in this study. Considering the dimensions, a large number of households deprived in standard of living while only 4 households deprived in health dimension through nutrition.

The model result revealed that level of education of female household head, health status of female household head, employment of female household head, saving status of female household head, household size, dependency ratio, monthly household consumption and household own the house were statistically significant at 5% level of significance. Furthermore, the independent variables age of female household head, marital status of female household head, number of children of female household head and access to loan for female household head were not statistically significant at 5% level of significance.

Furthermore, from the significant independent variables household size and dependency ratio had odd ratios greater than one and its coefficients are positive, which means that these variables were positively correlated with multidimensional poverty status of the household. Moreover, the independent variables level of education of female household head, health status of female household head, employment of female household head,

saving status of female household head, monthly household consumption and household own the house had odd ratios less than one and its coefficients are negative so that, these variables were negatively correlated with multidimensional poverty status of the household.

5.2 Conclusion

This paper attempted to identify and analyze the determinants of the multidimensional poverty of female headed households in Kirkos Sub-City of Addis Ababa city using ordered logistic regression model. A primary level data that were collected from 138 households were used for analysis. The study used health, education and living standards as dimensions to compute multidimensional poverty index of the household. The results of the MPI analysis showed that the incidence of multidimensional poverty status of the sample respondents is 72%, the intensity of poverty is 44% and the adjusted headcount ratio or MPI is 32% and this value could be used as an estimate for all female headed households in Kirkos sub-city of Addis Ababa. Furthermore, the large number of households were found to be deprived in living standard dimension as compare to health and education dimensions.

The result of the ordered logistic regression model captured independent variables that had significant effects on the multidimensional poverty status. The model fitted results indicated that level of education of female household head, health status of female household head, employment of female household head, saving status of female household head and dependency ratio were found to be statistically significant variables of multidimensional poverty status of female headed households at 5% level of significance. Furthermore, household size, monthly household consumption and household own the house were found to be statistically significant variables of multidimensional poverty status of female headed households at 1% level of significance.

Secondary level of education and good health status of female household head had a result to decrease multidimensional poverty status of the household. Moreover, small number of household size and dependency ratio could decrease multidimensional poverty status of the household.

On the other hand, if the household had lower monthly household consumption and if the female household head had no saving status, then multidimensional poverty status of the household is increased. Furthermore, multidimensional poverty status of the household is increased if the household did not own the house.

5.3 Recommendation

Based on the analysis made, results obtained, and conclusions drawn, the following recommendation were forwarded to the policy makers, concerned government actors and other stakeholders.

- About more than half of female household heads were deprived in year of schooling so that, the researcher recommended to stakeholders to take into account empowering women in education because education is a weapon one has to alleviate multidimensional poverty.
- Besides, reducing unemployment through job creation, concerned government actors could provide technical assistance for self-employed opportunity for female household head and for other household members. 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.
- As urban household do not participate in farming activities like rural households, the researcher highly recommended creating employment opportunities for the female household head and for other members with working age in the household, if the policy makers aimed to reduce urban multidimensional poverty.
- To minimize multidimensional poverty, policy implications need be in place that prioritize living standard components, followed by education and health. The policy makers shall take into account to provide access for house ownership to the household.
- Most of the deprivations were from indicators of living standard and to overcome this problem, policy makers and concerned government actors shall prepare and implement different strategies and economic policies for the supply of housing.
- As like that of other sub-cities of Addis Ababa, in Kirkos sub-city there were more ‘kebele’ houses and most of the houses had low standard for living and were slums,

so that the researcher recommended that to reduce multidimensional poverty of the households, upgrading slums played a great role.

- The stakeholders in financial institutions shall provide strategies to attract the female household heads for saving in order to have financial ability to fulfil the household consumption expenditure.
- Finally this study has used cross sectional data collected from 138 households dwell in Kirkos sub-city of Addis Ababa city administration and the outcomes may not be able to made generalization for other sub cities over a period of time. Therefore, the researcher recommended to other researchers conducting further studies to explore other factors affecting the multidimensional urban poverty of female headed households that were not covered in this study as well as investigating the dynamics of multidimensional poverty overtime.

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APPENDIX

Appendix I

Spearman Correlation Coefficient

	mdps	ageoffhh	msoffhh	esoffhh	hsoffhh	emptof~h	ncoffhh	ssoffhh	aloffhh	hhs	dr	hhc	hwofhh
mdps	1.0000												
ageoffhh	0.0345	1.0000											
msoffhh	0.2451	0.5358	1.0000										
esoffhh	-0.4493	-0.5488	-0.4832	1.0000									
hsoffhh	-0.3867	-0.6904	-0.5100	0.6353	1.0000								
emptoffhh	0.2064	0.6484	0.6145	-0.5118	-0.6725	1.0000							
ncoffhh	-0.0268	0.4555	0.4312	-0.2981	-0.2868	0.4711	1.0000						
ssoffhh	0.7236	-0.1243	0.0709	-0.3220	-0.2613	0.1593	-0.0190	1.0000					
aloffhh	0.0316	0.0816	0.1097	-0.0483	-0.0183	0.1545	-0.0518	-0.1087	1.0000				
hhs	0.0366	0.0284	0.1409	0.0089	0.0068	0.1218	0.5442	0.1048	-0.1667	1.0000			
dr	0.3218	-0.0843	0.1114	-0.0647	0.0425	0.0395	0.1783	0.3338	-0.0373	0.4080	1.0000		
hhc	-0.6985	0.0464	-0.0990	0.3674	0.2699	-0.0857	0.1924	-0.6216	0.0183	0.2456	-0.1715	1.0000	
hwofhh	0.6699	-0.1375	0.0611	-0.1868	-0.1443	0.0255	-0.1351	0.5775	0.0131	-0.0583	0.1637	-0.4597	1.0000

Appendix II

Ordered Logistic Regression Model Estimation Result

Ordered logistic regression

Number of obs	= 138
LR chi2(21)	= 249.27
Prob > chi2	= 0.0000
Log likelihood = -32.7519	Pseudo R2 = 0.7919

mdps	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ageoffhh						
2	41.34919	86.60151	1.78	0.076	.6818912	2507.372
3	.5375394	1.14569	-0.29	0.771	.0082451	35.04508
4	2.545849	6.013146	0.40	0.692	.024851	260.808
msoffhh						
1	13.97924	25.2082	1.46	0.144	.4078933	479.094
2	.6372048	1.043536	-0.28	0.783	.0257209	15.786
3	1.245439	2.05574	0.13	0.894	.0490137	31.64664
esoffhh						
1	.2010704	.2223897	-1.45	0.147	.0230088	1.757122
2	.0015468	.0039663	-2.52	0.012	.0000102	.2355791
3	.0233123	.0522789	-1.68	0.094	.0002876	1.889915
hsoffhh						
1	.4921297	.4887373	-0.71	0.475	.0702661	3.446779
2	.0305248	.0504815	-2.11	0.035	.0011939	.7804713
3	2.43e-06	9.63e-06	-3.26	0.001	1.01e-09	.0058215
emptoffhh						
1	2.708797	3.141245	0.86	0.390	.2790515	26.29473
2	.1089519	.1623134	-1.49	0.137	.0058768	2.0199
ncoffhh	.878951	.1446702	-0.78	0.433	.636593	1.213577
ssoffhh	765.1589	2338.143	2.17	0.030	1.917267	305365.9
aloffhh	95.07337	286.2304	1.51	0.130	.2602607	34730.35
hhs	1.972691	.482376	2.78	0.005	1.221567	3.185669
dr	5.248452	3.768334	2.31	0.021	1.284924	21.43804
hhc	.9980121	.0004386	-4.53	0.000	.9971528	.998872
hwofhh	115839.8	344570.1	3.92	0.000	340.35	3.94e+07

Appendix III

Dear Respondent

This questionnaire is designed to collect information from households reside in Kirkos Sub City of Addis Ababa City Administration and aimed to analyze **"Determinants of Multidimensional Poverty Among Female Headed Households in Kirkos Sub City of Addis Ababa City Administration, Ethiopia"** as a research subject for the partial fulfilment of the requirements of Master of Art in Development Economics. **Your response would have been used only for academic purpose and kept confidential.**

Thank you in advance for your co-operation.

Bethelhem Mesfin

Masters in Development Economics

St. Mary's University

Addis Ababa, Ethiopia

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 : Questions Related to Female Household Head

1. Age of Household Head

18 – 28 ☐ 29 – 39 ☐ 40 – 50 ☐ 51 – 61 ☐ above 61☐

2. Marital Status of household head

   Single ☐ Married ☐ Divorced ☐ Widowed ☐

3. Level of Education of household head

   Illiterate ☐ Primary Education ☐ Secondary education ☐ Higher Education ☐

4. Health Status of household head

   Very Poor ☐ Poor ☐ Good ☐ Very Good ☐

5. Employment /Occupation 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 Laborer ☐

7. Number of children of household head _____
8. Having trend for saving

   Yes ☐ No ☐

9. Having Access to Loan

   Yes ☐ No ☐

Part -Two: Questions Related to Household

10. Household Size _____
11. Number of household members aged between 0-14 years _____
12. Number of household members aged between 15-64 years _____
13. Number of household members aged 65 years and above_____
14. Household's monthly consumption expenditure(in Birr) _____
15. Household own the house

Yes ☐ No ☐

Part -Three: Questions Related to Multidimensional Poverty Indicators

A. Health Dimension (Child mortality and Nutrition)

16. Any person under 70 years of age for whom there is nutritional information is undernourished? Yes ☐ No ☐

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

Yes ☐ No ☐

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

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

Yes ☐ No ☐

19. Any school-aged child is not attending school up to the age at which he/she would complete class 8? Yes ☐ No ☐

C. Living Standard

20. The household cooks with dung, wood, charcoal or coal. Yes ☐

No ☐

21. 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 ☐

22. 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 ☐

23. The household has no electricity.

    Yes ☐ No ☐

24. 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 ☐

25. 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 ☐

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