COLLEGE OF DEVELOPMENT STUDIES

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FOOD POVERTY ANALYSIS AND COPING MECHANISM OF INTERNALLY DISPLACED PERSONS IN AWBARE TOWN OF SOMALI REGION, EASTERN ETHIOPIA

ABIYU TSEGAYE GEBRE (ID: GSE/8219/10)

A THESIS SUBMITTED TO CENTRE FOR FOOD SECURITY STUDIES, COLLEGE OF DEVELOPMENT STUDIES, ADDIS ABABA UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN FOOD SECURITY AND DEVELOPMENT

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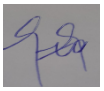
DECLARATION

I, the undersigned, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Declared By: Abiyu Tsegaye Gebre Signature:  _____ _____

Date:_____

Place: Addis Ababa University College of Development Studies, Center for Food Security Studies.

Supervisor's approval

This is to certify that the above declaration made by the candidate is correct to the best of my knowledge as an advisor.

Dr. Messay Mulugeta: _____ _____

(Thesis Advisor). Signature Date

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Thesis Approval

This is to certify that the thesis prepared by Abiyu Tsegaye Gebre entitled *Food Poverty Analysis and Coping Mechanism of Internally Displaced Persons in Awbare Town of Somali Region, Eastern Ethiopia* and submitted in partial fulfillment of the requirements for the Degree of Master of Science in Food Security and Development Studies complies with the regulations of Addis Ababa University and meets the accepted standards with respect to originality and quality.

Signed by examining committee:

External Examiner: _____Signature: _____Date: _____

Internal Examiner: _____Signature: _____ Date: _____

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Food Poverty Analysis and Coping Mechanism of Internally Displaced Persons in Awbare Town of Somali Regional State, Eastern Ethiopia

Abstract

The study was conducted to investigate three interrelated specific objectives of food poverty status, factors influencing food poverty and coping mechanism of IDPs in Awbare town of Somali regional state of Ethiopia. To do so, a household survey was undertaken to collect primary quantitative and qualitative data pertaining to demographic, socioeconomic and consumption patterns of 190 IDPs households using structured questionnaire, Key informant interviews and Focus group discussions. Secondary data was also collected from relevant governmental and non-governmental agencies. Descriptive statistics, FGT model, and econometric methods were employed for analysis purpose to meet the stated objectives. Households were classified into food poor and non-food poor groups based on the minimum recommended 2100 kcal consumption. FGT result revealed that the incidence, the gap, and the severity of household food poverty were 44.7%, 14.51%, and 28.48% respectively. The descriptive statistics revealed that there was a significant difference between the food poor and non-food poor households in terms of sex of household head, age of household head, family size, food aid received, livestock size, and dependency ratio. A logit regression model results revealed at 1% significance level; sex of household head and family size affected positively food poverty whereas age of household head, livestock size, access to employment affected food poverty negatively. Qualitative data analysis notably showed households followed atypical adaptation road path and used different coping strategies against food poverty including, reduced quality of food / eat less preferred diet (89.4%), relied on food assistance (75.3%), sold livestock or used other savings to buy food (64.7%), reduced portion of food (63.5%) and purchased food on credit from traders (57.6%). Finally, creating enablers for wage and self-employment, capacitating female IDPs, inclusive access to services and productive resources, and opportunities for IDPs in par with their host community, and promoting family planning services were recommended.

Key Words: food poverty, conflict IDPs, coping strategies, access, inclusion

ACKNOWLEDGEMENTS

First and foremost, I would like to thank my God, the almighty for his protection and blessings throughout my study and research work.

I would like to express my deep and sincere gratitude to my thesis advisor, Dr Messay Mulugeta for his invaluable guidance, mentorship, and patience in the entire research processes. He had taught me the methodology and the research approach tirelessly and helped me to carry out the research and present the research report as clearly as possible. It was a great privilege to work and study under his guidance. I am extremely grateful to my instructors at the College of Development Studies of the Addis Ababa University for their steady support, understanding and encouragement when I was travelling all the way from Jijiga to Addis to attend classes for the last three years. I am also thankful to my fellow classmates especially, Yodit Tadesse, Hiwot Duressa and Jemal Ahmed for encouraging me, tirelessly sharing course related information, and filling gaps that might have been created due to my long-distance travel to fulfill academic requirements at the CFS.

I am also indebted to the Awbare Woreda government officials, Jijiga IDP focal person Mrs. Nimeo Ahmed, and the respondents at Awbare IDP site for their contribution and valuable time to respond to my questions, provide secondary data, and offer their experience and knowledge on IDPs protection and assistance in their respective roles.

Last but not least, I would like also to thank my wife and children for their care, love and sacrifice and continued support to complete this research work.

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Acronyms and Abbreviations

AAU:	Addis Ababa University
ABE:	Alternative Basic Education
ADA:	American Dietetic Association
AE:	Adult Equivalent
CFN:	Cost of Food Need
CID:	Conflict Induced Displacement
CSA:	Central Statistics Agency
DAC:	Development Assistance Committee
DCI:	Direct Calorie Intake
DRRMB:	Disaster Risk Reduction and Management Bureau
ECA:	Economic Commission for Africa
EHNRI:	Ethiopian Health and Nutrition Research Institute
FAO:	Food and Agriculture Organization
FEI:	Food Energy Intake
FGD:	Focus Group Discussion
FTC:	Framers Training center
GHI:	Global Hunger Index
HDI:	Human Development Index
HFIAS:	Household Food Insecurity Access Scale
HICES:	Household Income Consumption Expenditure Survey
HPRA:	Health Policy Research Associates, Sri Lank
IDDS:	Individual Dietary Diversity Score
IDMC:	Internal Displacement Monitoring Center
IDP:	Internally Displaced Persons
IFPRI:	International Food Policy Research Institute
IOM:	International Organization for Migration
KII:	Key Informant Interview
LIFDCs:	Low-Income Food Deficit Countries
MPI:	Multidimensional Poverty Indicator
MSF:	Doctors without Borders (Spanish)
NGOs:	Non-Governmental Organizations

NPC:	National planning Commission
OPHI:	Oxford Poverty Initiative
SC:	Save the Children
SDGs:	Sustainable Development Goals
SRS:	Somali Regional State
SSA:	Sub-Sahara Africa
UN:	United Nations
UNDP:	United Nations Development Program
UNHCR:	United Nations Higher Commissioner for Refugees
UNICEF:	Unite Nations International Children Emergency Fund
WB:	World Bank
WFEDO:	Woreda Finance and Economic Development Office
WFP:	World Food Program
WWI/II:	World War One/Two

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Chapter one: Background of the study

1.1 Introduction

Food poverty is multi-faceted and often its definition is contested. Food poverty as the main form and dimension of poverty is defined as a household-level hunger. Households in food poverty do not have enough food to meet the energy and nutrient needs of all or some of their members. Depending on patterns of intra-household distribution, at least one member of a food-poor household is always hungry but potentially, all members are (McKendrick *et al.*, 2014). Others (Radimer *et al*., 1990) defined food poverty as a condition of lacking the resources necessary to acquire a nutritionally adequate diet, which can be measured in terms of food calories or monetary value of the calories. Among the basic human needs that make human life better and quality, food comes first and foremost important not only to human race very survival but for its social and economic values at individual, community, and national level (Healy, 2019).

According to Food and Agriculture Organization, FAO (2019), globally more than 800 million people are hungry today, 20 percent more than the previous year. Another two billion are experiencing moderate or severe food insecurity, putting them at malnutrition and health risks. It was explained as result of the 2008/9 world food price spike (Bourgeois, 2014) and the general economic downturn in the world the severity of acute food insecurity in food crisis contexts is worsening principally in the low-income food deficit countries, LIFDCs (Maros and Martin, 2008). The above FAO report highlights that it is unlikely that the world will attain its zero-hunger target in 2030, if the fight against food insecurity continues in its present pace and socially excluded groups like conflict and climate affected social groups vulnerability to food poverty is not appropriately addressed.

Recent joint report by the Regional Office for Africa of FAO, and the United Nations Economic Commission for Africa, ECA (2019) revealed that 237 million people in Sub-Saharan Africa, SSA are suffering from chronic undernutrition, reversing the advances from the recent past. The same report disclosed from all the 257 million (1 in every 5 people) hungry people in Africa, 237 million is burden share of SSA. Compared to 2015, there were an additional 34.5 million undernourished people in Africa and third of this is in east Africa. The worsening food

security situation in the continent is said to be due to the combined effect of difficult global economic situation, conflict, and climate variability.

Ethiopia is one of the poorest and most hungry countries in the world. Although the country faces elevated levels of food insecurity, the Global Hunger Index, GHI (IFPR, 2018) indicated that the GHI of the country has decreased from 55.9 in 2000 to 29.1 in 2018. According to the interim poverty report by the National Planning Commission of Ethiopia (NPC, 2017), using different measures of aggregate poverty to compute food poverty to estimate the proportion of food-poor people that fall below the food poverty line; food poverty head count index, food poverty gap index and food poverty severity index are reported 24.8%, 6.7% and 7.4% respectively. Nevertheless, with huge differences between urban and rural in all measures. Interesting fact here is that food poverty indices are found to be higher than the aggregate poverty indices throughout the report, suggesting that much of the persistent poverty in Ethiopia is triggered by lack of enough food at household level.

Based on the 2016 Household Income and Consumption Expenditure Survey (HICES), about 22.4 per cent of the population in the Somali region were below the nationally defined poverty line. Poverty in the urban areas is more prevalent (22.9 per cent) than in the rural areas (22.3 per cent). The level of poverty in the region has significantly declined from 32.8 per cent in 2010/11 to 22.4 per cent in 2015/16. However, the food poverty situation in the region is critical (25.5 per cent in 2015/16). According to this survey the proportion of people living below the food poverty line in the region is higher than the national average.

Notwithstanding the positive progress in reducing food poverty and poverty in general in the country, vulnerability and inequality have increased at global, national, and even at subnational level (Akbar & Shafi, 2018). Internally Displaced Persons (IDPs) by virtue of their displacement are one of the most vulnerable social groups to food and other forms of poverty. The Development Assistance Committee, DAC Guidelines on poverty (OECD, 2001) specified IDPs amid other social categories known for severe poverty in several dimensions including food poverty. The State of Food Security and Nutrition of FAO (2017) reported that food security of conflict IDPs is brutally pretentious by conflict and that conflict is both cause and effect for food insecurity in affected communities and countries. The key dimensions of the vulnerability of IDPs includes but not limited to diminished household capacities to develop and sustain positive coping strategies, uncertainty with respect to the future, commonly poor

housing conditions, low income/unemployment, disruption of social and economic networks, and traumatization.

The subjects of this research were habitual residents originally from East Shewa, West Hararghe and East Hararghe zones of Oromia region and had experienced multiple displacements. After they flee from their original residency, they self-relocated from Dire Dawa Millennium Park spontaneously after walking fourteen days all the way to their present settlement site, Awbare town in Somali Regional State, SRS. These IDPs, with unlikely return to their habitual residence, livelihoods (same with other IDP groups across the country) and reclaiming their assets and social networks, durable solution to their plight is unforeseeable (IOM, 2019). When this uncertainty is compounded by meager emergency humanitarian assistance, the IDPs are at disadvantageous position in terms of food poverty compared to other social groups. It is with this ill-fated background and vulnerability of IDPs in Awbare; an investigation of food poverty status and coping strategies were undertaken. The study would add value to better comprehend, inform formulation and implementations food poverty alleviations policies, strategies, and programs/projects. Taking into consideration the realities stated above, and the forced displacement experiences they had gone through, an inquiry has been made to disclose food poverty status and coping mechanisms to food insecurity of IDPs in Awbare town of Somali Regional State (SRS) of Ethiopia.

1.2 Statement of the problem

IDPs are one of the most marginalized social groups whose wellbeing and food poverty status is far below the non-IDPs in similar situations. Displaced people lost everything they had once; their jobs, livelihoods, assets and networks, and legal documentation (Nermin, 2015). The poverty that displaced people experience is likely to be more extreme and persistent than experienced by others in society, which can exacerbate inequality (UN, 2017). They usually are invisible not included in national development and poverty reduction plans, strategies, and programs (SC, 2017).

In Ethiopia, despite the enormous number of conflicts IDPs ; It was the highest and reached 3.2 million at one point in 2018, including those relocated or returned, there is no national IDPs strategy or policy or even dedicated standalone government agency for solutions and inclusive development until most recently whereby the country adopted the Kampala convention on IDPs

which at least gave legal recognition on the obligations of the governments and rights of IDPs for protection from violence and access to basic human needs including food security (UNHCR, 2020). With the few exceptions of an ad-hoc assessments, aimed informing lifesaving efforts, there is a clear lack of research evidence on poverty in general and food poverty in particular of IDPs in the country. Most studies we have had on IDPs are either concentrated on non-conflict induced displaced (non-CID) or when they are on CID, they largely focus on causes of displacement, types of displaced and legal instruments that govern IDPs from international perspective (Mehari, 2017). According to Awbare Woreda Administration office, the IDPs in the study live in a dire and precarious situation and exposed forever worsening living conditions including food poverty. This should be weighted in addition to high prevalence food insecurity, IDPs lack of prospect for durable solution (IDMC, 2019). Thus, in this research an attempt was made to fill this research gap. Specifically, the status of food poverty and coping strategies to food insecurity among IDPs in Awbare town has been investigated with a bid to understand their food poverty status and what would be suggested to different actors to improve their food security.

1.3 Objectives of the study

The general objective of this research was to explore food poverty status, extent and coping mechanisms of conflict induced IDPs settled in Awbare town of SRS in Eastern Ethiopia.

The specific objectives of the research were to:

- analyze and describe the food poverty status of study groups
- investigate underlying factors that influence the food poverty status of IDP households in the study area
- identify coping mechanisms adopted by the IDPs in event of food poverty

1.4 Research questions

- Do IDPs in the study area have food security problems?
- What are food poverty indices in the displaced community?
- Are there coping mechanisms persuaded by displaced persons given they are food poor?
- Are there any policy and program actions to address food poverty problem of IDPs and are they effective?

- What are the important factors affecting the food poverty status of IDPs?

1.5 Significance of the study

Generally speaking, conflict IDPs are one of the least researched areas in Ethiopia. Having IDPs focused research like this one would be an addition to what has been seen recently as increasing interest in the academia to study displacement and all that it entails. To the best of my knowledge, conflict induced displacement has not been systematically researched in Ethiopia in the domain of development. This study would contribute bridging this gap and to the knowledge and practice on food security for IDPs.

Once they are affected by displacement, IDPs remain vulnerable to poverty even after they are relocated or integrated to various localities. Most of the time excluded from the socioeconomic development plan of countries. The result of this research is hoped to draw the attention of UN agencies, Federal, regional, and *Woreda* based disaster risk management authorities who oversee and operate in internal displacement management in the country to the unacceptable level of food poverty pertinent to not only IDPs in Awbare town but also possibly across the country. I believe this study would also inspire other interested researchers to study further the impact of forced displacement on food poverty at a wider scope. At policy level, the study could also be useful for the government at *Woreda*, regional, and federal level to diagnose and prescribe workable strategies for betterment of displacement affected people's food security status. Practically, for UN and NGOs involved in the assistance and protection of IDPs, the study would contribute to strategizing their interventions in manners that integrates emergency responses with the long run development efforts to rise capabilities and lessen IDPs vulnerability to poverty.

1.6 Scope and delimitation of the study

Food poverty is a very complex concept and food insecurity measurements are varied. This research had tried to focus on only few aspects of it. Information on food consumption from surveyed households involved experiential and recall time. This may pose methodological limitations where people may not remember what they ate or expended to buy/exchange for food in the time specified during data collections. Use of cross-sectional survey data has limitations compared to longitudinal time series data that are preferred over cross-sectional surveys data to better comprehend and capture changes on the wellbeing of the poor in relatively longer timeframe. This study may be limited in a sense that as displaced people tend

to hide or overstate their real welfare situation for different reasons and mostly for expectations of sort of additional assistances. Information on internal forced displacement is generally lacking from government alluded to its political sensitivity. Thus, there was limited access to secondary data from both government and non-government agencies. The study was confined to Awbare town and sought to come up with some generalization and shed light on a larger regional and national context to food poverty conditions of IDPs.

1.7 Ethical consideration

Permissions to access the study site and participants was secured from Awbare Woreda Administration. During and after data collection, the privacy, anonymity, consents of study participants were held with maximum care and responsibility. Study participants had been offered full rights to decline from participating in the study at any time during and after data collection procedure, if they wish to do so. A letter declaring the engagement of the researcher with study participants was obtained and disclosed to participants. Information obtained in interviews, discussions and other means would remain confidential and used only for the purpose of this and similar studies. On top of this, the researcher has read and understood the basic principles and policy statements of the Addis Ababa university anti-plagiarism policy framework. The researcher has taken the utmost care not to copy, steal or present the works of others as his own original work consciously. Whenever such materials or works of others are used, full acknowledgment, appropriate citation and referencing per the requirements of the policy has been done.

1.8 Organization of the thesis

The rest of this thesis is organized in four chapters. Chapter Two deals with review of literature that includes theoretical frameworks of food security and empirical studies on food poverty made in the country and elsewhere in the world. Chapter Three deals with methodology of the research. Results obtained are discussed in detail in chapter Four. Chapter Five presents summary and policy recommendations of the study.

Chapter Two: Literature Review and Theoretical Foundations

2.1 The concept of food poverty and IDPs

2.1.1. Food poverty

Food poverty has been defined as the inability to acquire or consume an adequate quality or sufficient quantity of food in socially acceptable ways, or uncertainty that one will be able to do so (Radimer *et al*., 1990). While the many definitions of food security have a strong emphasis on access, other definitions extend this to include the ability to acquire food in socially acceptable ways and a sustainable food system that maximizes self-reliance and social justice without resorting to emergency food sources (ADA, 2010). In contrast with Food insecurity, some had defined food poverty as the food insecurity experienced at household level but with more emotive and political meaning attached to it (Caraher & Furey, 2018) and also see Lambie-Mumford (2014), and Friel and Conlon (2004).

However, there is no standard definition of food poverty acceptable by all. A range of definitions of food poverty have been established and proposed by many scholars in the UK and some other countries (Poppendieck 2014, Fisher 2017, Radimer *et al*., 1990). The often-used definition of the food security is that food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life (FAO, 2006).

What most agree is that both food insecurity and food poverty have elements in common like physical and economic access, quality, quantity, duration, and social dimension of food. Based upon these elements, food poverty is defined as insufficient economic access to an adequate quantity and quality of food to maintain a nutritionally satisfactory and socially acceptable diet (O'Connor *et al.*, 2016; Nzuza and Duval, 2016). In this study both terms are used interchangeably in the belief that food poverty exists on a spectrum of food insecurity ranging from mild food insecurity to severe food insecurity with hunger and the status of food poverty is defined over a continuum food security state (Ogundar, 2013).

2.1.2 Internally displaced persons

Internally Displaced Persons /IDPs/ are persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence,

violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized state border (UNOCHA, 2004).

If we see IDPs from the social exclusion perspective, there are a wide range of causes of food poverty. It goes without saying that many vulnerable social groups, including IDPs are at risk of food poverty. When compared to other African countries internal migration in Ethiopia the lowest a decade ago and mostly resulted from non-communal conflict (Desalegn *et al*, 2013). Most recently forced displacement is emerging as an important development challenge. This explains why extreme poverty is now increasingly concentrated among vulnerable groups including people who had to flee in the face of conflict and violence, and their presence affects development prospects in the communities that are hosting them. Forcibly displaced persons, both refugees and IDPs have typically suffered a major setback. They have lost many of their jobs and assets, sometimes everything. Their human and social capital depletes rapidly (World Bank, 2017; Mwatsama and Stewart, 2005).

According to Mehari (2017), based on causes for displacement, there are five categories of internal displacement in Ethiopia. Conflict-induced Displacement (CID), Natural Disaster-induced Displacement (NDID), Development-induced Displacement (DID), Pastoralism as a form of displacement and Man-made Disaster-induced Displacement (MDID). This research was exclusively fixated on IDPs as communal conflict induced displaced persons.

2.1.3 Vicious circle of conflict and food insecurity

There is a vast wealth of literature that emphasizes the bidirectional relationship between the food poverty and conflict that one reinforcing the other, both at community and country level (Martin-Shields and Stojetz, 2018; Hendrix and Brinkman, 2013; Verwimp, 2012). Conflict-related food poverty is entitlement failure where people lose access to productive assets or other resources necessary to access food (Breisinger *et al.*, 2015). Conflicts increase food insecurity and limit the livelihood options of affected populations. They have been primary cause of interference with one or more of the dimensions of food insecurity. On the other hand, food insecurity driven by sudden food price spikes, dispossession or loss of productive assets may compound existing grievances and trigger conflict. Food insecurity and outmigration may disrupt existing social cohesion in local communities, and this may increase perceived marginalization and exclusion. A vicious circle of conflict and food insecurity makes it difficult to escape food poverty in vulnerable conflict affected communities and countries.

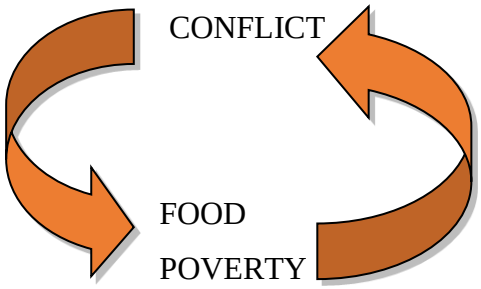

Figure 2.1: Diagram showing the vicious circular relationships between food poverty and conflicts

2.1.4 Food insecurity coping mechanisms

Coping strategies are how households adapt to the actual or perceived food shortages (Maxwell & Caldwell, 2008). Coping strategy or mechanism are the phrases most often used interchangeably conveying the same meaning in most literatures. In this context, coping strategy means coping mechanism or coping technique, which implies at a household and individual levels. They could be defined as a mechanism by which households or community members meet their relief and recovery needs and adjust to future disaster-related risks by themselves without outside support (Dagnew, 1993; as cited in Tesfaye, 2005).

Food insecurity is a grave issue facing households in displacement situations. Food insecure households exhibit a range of coping techniques that reflects their vulnerability. In situations of distinctive shocks that may include conflict and ensuing displacement, households adopt a variety of mechanisms to cope up. Literatures have identified diverse coping strategies applied at the household level amongst population affected by food shortage depending on their context and capacity. Davies (1993) refers to and categorize coping mechanism as the use of non-erosive strategies, erosive strategies, and distress strategies to cope with food insecurity. Non-erosive strategies refer to strategies like reducing the frequency of meals, and the consumption of less preferred food. Erosive strategies are the sale of productive assets that may reduce the ability to earn income, and distress strategies is for example to beg, or send members of the households to eat elsewhere. Although limited are evidence on the coping mechanisms of conflict-affected displaced groups in poor countries like Ethiopia, studies in other countries

with IDPs showed an alarming rate of food insecurity unusually associated with negative coping mechanism (WFP, 2016; Seguina *et al*., 2017).

2.2 Theories and measurements of food insecurity

It is believed that food security theories are profoundly drawn from the disciplines of policy, health, economics, sociology and even geography because many authors perceive it as a social issue that mainly led into social policy actions by governments. However, theory is not often a major focus of research. There are more other approaches theorizing the food security including the Marx's conflict theory of society, Abraham's Maslow hierarchy of human needs, and many others 'thinking' that attempted to explain why famine, food poverty or food insecurity exists, despite the term one preferers (Strickhouser, 2016; Debebe, 2018; Devereux,1993).

Therefore, in this research, I looked briefly into only five that are most relevant theories both in academic and policy arena. The very purpose of this study was not examining and appraising food (in) security theories and hence the focus here is to investigate the food poverty status of the internally displaced relying on theories that give impetus of the stated objectives of the study.

2.2.1 The food availability theory

Due to the unacceptably high level of global hunger and malnutrition that worried the international community, this theory came into existence in the 1970s. There was general consensus that aggregate food supply at global level is an assurance for food security. Food security was believed by then only a problem of aggregate supply at global level. This had a demand side policy implication of reducing population and increasing food production and productivity on the supply-side. In its first world food conference, FAO adopted the Universal Declaration on the Eradication of Hunger and Malnutrition and by then food security was defined as availability at all times of adequate world food supplies of basic food stuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices (UN, 1975). But, as more knowledge and information are availed on food security, a broader definition of food security was adopted on the 1996 World Food Summit including access to and utilization of food as important two dimensions of food security (FAO, 1996).

Global and national food security were thought to be units of analysis for food security. Food availability is measured by food balance sheet, agricultural production and productivity and

factors affecting them. Although subsequently dimensions of access and utilization were added, food availability remains as a fundamental component of food security (Jones *et al*., 2013).

2.2.2 Entitlement approach

Amartya Sen in his thesis entitled Poverty and Famines: An Essay on Entitlement and Deprivation, has revolutionized importance of food access in determining food security by highlighting historical experiences of famines in countries where gross national food supplies were adequate. According to him, it's Peoples' failure to access entitlement to bundles of commodity including food, what causes starvation not availability or unavailability as such (Sen, 1981). Entitlement theory has helped to pinpoint different entitlement failures from the experience and type of risks associated with different social groups to analyses food security. This depends on personal endowments and individuals' access to a set of commodities. IDPs not only are deprived of endowments but also lacks access to basic needs including food as they are forced away from their habitual residence, assets and social networks.

Sen argued access to food and command over food determines food security. It was a paradigm shift on food security definition that included entitlement ideas by affirming that food security also required both physical and economic access. Households or/and individuals are the units of food security analysis. Contrasting to the food availability theory, this theory considers services like drinkable water and health care that contribute directly for food security (Burchi and De Muro, 2012).

2.2.3 Climatic theories: drought and famine

This theory is directly linked to rain dependent subsistence agrarian economy like Ethiopia. Adverse climatic conditions such as drought and flood, do not only cause agricultural production failure but also diminishes rural employment. That in turn causes reduced or unavailability of food that eventually leads depletion of assets and hence people's ability to access to food and other basic needs. Famine disasters experienced by sub-Saharan Africa and South Asian countries had caused fatalities of millions of people for many decades (Debebe, 2018).

Now a days, climate change with its unprecedented consequences is one root cause for forced migration within and out of country's boundary. In Ethiopia, Climate change is among the protuberant causes of internal displacement even though, this group of IDPs are not the focus of this research. Sometimes drought and conflict are cause for displacement by their own end

and other time they underpin each other ensuing forced displacement for affected communities (McAdam, 2012).

2.2.4 Political economy theory

This is about government and societies relationship that governs every aspect of life. Socioeconomic lives of the people are strictly regulated and dictated by governments' policy choice and implementations. From the outset, this might not be acknowledged as a full-fledged theory capable of explaining food insecurity features. Nevertheless, such ill-fated relationships are manifested by ecological degradation, inappropriate development strategy, poorly formulated and implemented government policies, and civil strife that have a direct bearing on food security status of societies.

Because of prominent evidence of famines in Africa, India, and other parts of the world due to lack of good governance and inappropriate policies, the dispute against the theory had not been strong enough (Maxwell,1999; Dreze and Sen, 1989). The political economy approach can also be used to get better understanding on the livelihood conditions of marginalized and different social groups for instance IDPs, in the presence of their actual vulnerability. Karl Marx's productive resources ownership and exploitative relationship between the capitalists and the mass is perceived as one that can also be brought in here as a case in point (Millman and Kates, 1990 cited in Gezahagne, 2017). IDPs are one way, or the other the political and socioeconomic conditions results in a society they belong to. The dissatisfaction and grievances that exist among different groups over resources and political identities had led to displacement shocks that exposed them to various human right violations and Food poverty. The political ideology that dictates the social, economic and economic interactions of citizens of Ethiopians had been deep rooted in Ethnic oriented divisive environment where an ethnic group perceived the other as an outsider the extent that exclusion was technically, and constitutional considered legal and politically correct.

2.2.5. Sustainable livelihood framework

The sustainable livelihood framework, SLF was not actually meant for food security analysis. Introduced by Chambers (Chambers, 1983) and subsequently developed by him and others, it was an approach to development and poverty. The SL framework has been adopted by many INGOs, UN and government agencies to the extent that there are varies SL framework versions developed by them. Some researchers even had increased the traditional five assets set to six by adding personal assets as important component people use to achieve their livelihoods.

Personal assets if not more, are equally important as any other asset categories for the IDPs to achieve food security because they usually have restricted access to other assets, but personal assets compared to people in non-IDP situations. Personal assets can constitute motivation, self-esteem, self-confidence, self-perception, emotional wellness, assertiveness and spirituality (Messay, 2012).

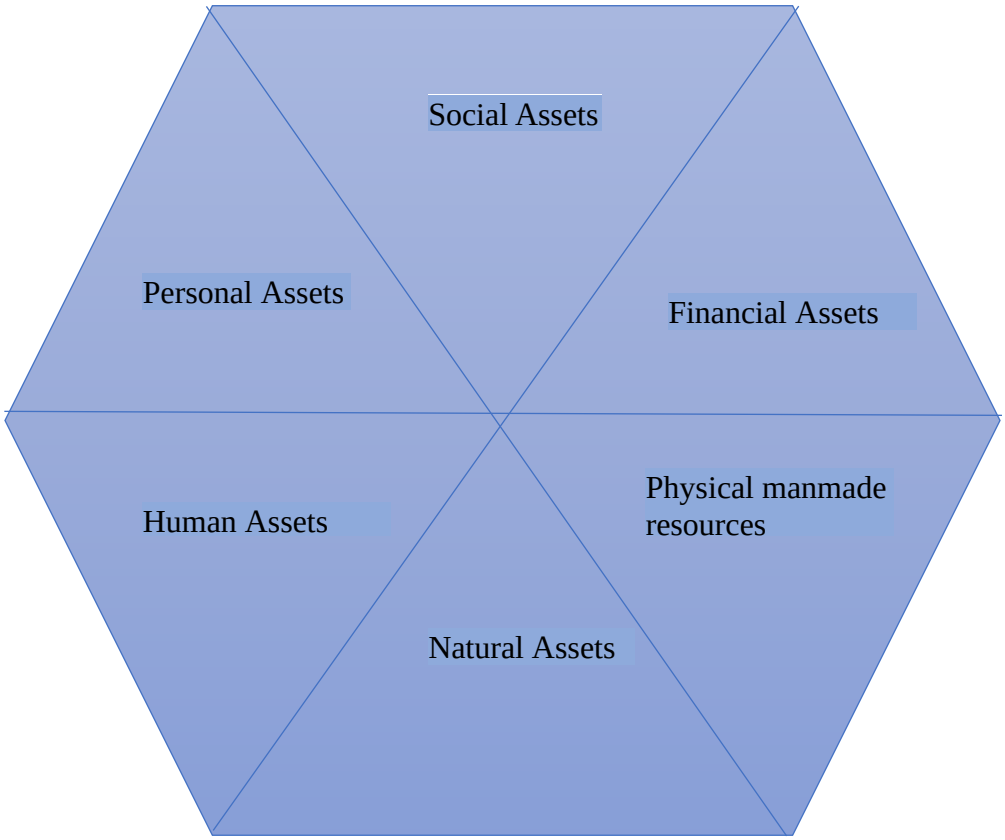

Figure 2.2: The six assets of the sustainable livelihood framework

The SL framework has been applied for various development and poverty reduction efforts including food security analysis (Messay, 2012; Hussein, 2002). It is supposed advantageous over other theories as it takes longer term approach and vulnerability perspectives over which food security is being analyzed (Burchi and De Muro, 2012).

Based on the discussion above on the vicious circle of food poverty and conflict, food insecurity theories and thoughts, it is impossible to single-out one theory that explains food poverty to a full extent, especially in forced internal displacement context. However, with combinations of these theories, it is possible to understand factors that cause food poverty in displacement

context, which was the focus of this research. When food availability is reduced, the effect on displaced population is twofold. First, the general shortage of food supply affects them as any other people in affected area. Second, since IDPs lost all their resources whether economic, social or otherwise, their capability to command on scare sources is more restricted than any other groups in community. Losing productive assets, or else resources as manifest of entitlement constraints to food, limits displaced persons access to sufficient and quality food. Communal conflicts are usually underpinned by poor political economy policy and governance which severely impairs people's ability to feed themselves. The vulnerability side of IDPs can also been seen along the lack of assets and other enablers for sustained food security through secured livelihoods.

Food Poverty may emanate from individual or/and household characteristics or from elements that are external and are at community, societal level or structural by origin. Household characteristics can be separated in to demographic and socioeconomic. A demographic indicator that may relate to food poverty includes household size, dependency ratio, household composition, Age and sex of the household head. Among socioeconomic indicators, assets and employment are most important ones that explain poverty of households. At community level, factors like state of conflict, infrastructure, basic and social services might be related to food poverty like access to roads, electricity, health facilities, schools, and access to credits. This is particularly true for vulnerable social groups like IDPs that are characterized by lose of assets, social networks, livelihoods, and businesses because of displacement (Cazabat, 2018).

2.3 Measurements of food poverty

Measuring food security evolved along the dynamics of food security definitions and its conceptualization. In the beginning food security was conceived only from food availability perspective, until the seminal works of Amartya Sen, which added access to food to the availability dimension of food security. The complex and evolving concept food insecurity has also increasingly changing on the measurement tool of food security along add-ons of new concepts and understandings on the study of food security both at policy and academic fora (Jones *et al.*, 2013; Burchi and De Muro, 2012).

Depending on the purpose of analysis, the dimensions (availability, access, utilization, and stability), levels or unit of analysis (from global to individual), and components (quantity, quality, safety, cultural acceptability and preferences), there are many metrices of food security. Availability and access can be measured at all levels from the global to the individual,

whereas utilization refers to the ability of individuals to absorb and effectively use the nutrients ingested for normal body functions. Availability and access include several components: quantity i.e., enough food and energy, quality i.e., foods that provide all essential nutrients, safety i.e., food that is free of contaminants and does not pose health risks, and cultural acceptability and preferences i.e., foods that people like and that fit into traditional or preferred diets. Stability is a cross-cutting dimension that always refers to food being available and accessible and utilization being adequate, so that people do not have to worry about the risk of being food insecure during certain seasons or due to external events (Leroy *et al*., 2015).

Measurements of food poverty (food insecurity) are either subjective (indirect) or objective (direct). For instance, indicators such as coping strategy index and self-report/self-assessment indicators are subjective measurements. Whereas indicators such as cost of attaining minimum energy, food expenditure/share of food in household total expenditure, food production index, dietary diversity score, nutrient intake, food stock, the global hunger index, global food security index, food and hunger index, and anthropometric measures among others are objective measurements. The use of subjective approach avoids shortcomings associated with the use of objective indicators that includes measurement error, recall problem or under report in the survey data (Masset, 2011). But according to Barrett (2010), the choice among the indicators involves tradeoff as purpose of measurement drives the choices of the indicators.

2.4 Empirical literature and research gap

A recent poverty notes by the World Bank Group (2018) on Yemen, a country overwhelmed by conflict with more than 3 million of its people are internally displaced, 60 percent of IDPs had trouble affording adequate food which is said to be consistent with previous finding in that IDPs primary concern is food. Internally displaced individuals (IDPs) are doing worse than the general population in welfare status. Similar assessment result was also reported by WFP Ethiopia in its joint IDPs need assessment done on Somali region IDPs in Ethiopia (WFP, 2019).

According to the National Planning Commission (NPC) interim report (2017) there is progressive decrease of food poverty and the narrowing of consumption expenditures among Ethiopian administrative regions. As it was the case in earlier surveys, food poverty remained more prominent in rural areas compared to urbans in Ethiopia. Compared to absolute poverty, food poverty is slightly high in all region of Ethiopia. Somali region has showed decline in Food poverty from 27 percent in 2010/11 to 25.5 percent in 2015/16. Regarding factors

determine the food poverty status, a research conducted in Afar region identified sex of household head and family size are positive and significant covariates of household food insecurity. The study showed most severe coping mechanisms households took include selling household asset and dropping children out of schooling. Access to agricultural extension services, participation in safety net program and educational status of household are identified as negative and significant determinants of household food insecurity (Teklay *et al*., 2015).

Household food security research by Sabbil and Abdulrahman (2016) for IDPs in Western Sudan revealed that 47% of the IDP households consumed less than adequate food and their food security status was determined by food relief received by household, the family size, the household ownership of domestic animals and the number of household members earning money. The study also noted that more than 87% of the respondents cite conflict and insecurity as the primary cause of their displacement.

Another qualitative IDPs food security assessment in Kenya by (Singh, *et al.,* 2017) confirmed that among the study subjects, dietary diversity remains low while, seasonal food insecurity and anxiety about the future are high. The same study using questionnaire and biometric measurements to assess nutrition and food security by three assessment scales: Individual Dietary Diversity Score (IDDS) using 24-hour recall of the consumption of different food groups, Household Food Insecurity Access Scale (HFIAS), involving recall over the previous four weeks and Household Hunger found that during the previous 12 months, 95·2% participants consumed at least one meal every day. 63·7%, 28·3% 4.4%, used own production, purchase, gift/borrowing from friends/relatives respectively as sources of food but only 3·6% of them got food aid from the government as their source of food. HFAIS responses revealed that 80.5% of participants had to eat a limited variety of foods and reported missing out on preferred foods (79.3%). Half of respondents reported going a whole day and night without eating anything with the HFIAS score of 11.6 (Singh *et al*., 2016).

A World Bank commissioned study by Etang-Ndip *et al., (*2015) on the socioeconomic impact of conflict crisis on displaced peoples in North Mali revealed mixed results. According to them, IDPs and refugees considered themselves as neither poor, nor rich before the onset of the crisis. This in the words of the researchers is a likely understatement of their actual wealth status as they were better educated and owned more assets than the average person in the North. But after the crisis, most respondents consider their household to be poor and hardly anyone considers their household as rich. The majority of the IDPs (94%) reported that their diet was

better before the crisis and regarding employment rate and opportunities are better. They also claimed that over time the employment situation among the displaced has improved steadily and even more people reported being employed than prior to the crisis.

A study by Nermin (2015) on urban IDPs and Poverty in Bosnia and Herzegovina revealed that consumption is significantly lower among displaced households, while incidence of poverty is not affected by displacement status compared to non -IDPs in the study area. Similar results were also witnessed by Bello *et al*., (2014) on their study of Darfur IDP women in Khartoum. They discovered that IDPs live in poverty and are vulnerable in terms of physical and social capital possessions. Statistics on poverty indicate that 37 percent of internally displaced persons (IDPs) and refugees are poor and socially excluded, mainly since they moved to new surroundings, lost their pre-conflict social networks and have difficulty entering the labor market due to loss of social capital (Kondylis, 2008).

Referring to IDPs, Anne and Karen (2018) contended that little is known about their demographics, basic needs and protection problems, yet they are believed to be among the poorest and most vulnerable groups in many conflict-affected countries. Let alone their needs, IDPs number, their living condition and where they live in a given country is usually not documented, not known. Generally, governments don't make public issues related to IDPs because of the sensitivity and implication on the reputation of the government, national investment and tourism.

From above studies reviewed, it is apparent that less or no attention was paid to food poverty analysis from forced displacement perspective in Ethiopia. In essence, internal migration including, forced internal displacement is not new for Ethiopia (Messay & Teferee, 2012). Nonetheless, the number of displaced was not as such large and primarily pegged to conflict. However, most recently conflict induced displacement (CID) has reached highest in the history of the country, recorded as 3.2 million (though reduced to 1.8 million lately) and the largest in the world in 2018 (MSF, 2019). Except for rural and urban household settings, voluntary resettlements and other non-conflict induced displacements, largely it is evident that there is lack of food poverty analysis studies taking in account the special conditions of internally displaced people in Ethiopia. In effect, this means excluding people who belong to the most vulnerable and poor, despite the fact that displaced people are generally victims of food poverty as well as poverty as a multidimensional phenomenon. (UNHCR, 2014; UNHCR, 2018).

At best of the researcher's knowledge, internal displacement, as a special kind of forced displacement has not been systematically researched in Ethiopia in the domain of development in general and food security in particular. What have been 'studied' so far regarding well-being of IDPs are need assessments and case studies intended for planning and monitoring of emergency humanitarian assistances aiming at saving lives and at best, promoting protection and recognition of IDPs per international and regional legal instruments. Therefore, this study was an effort to fill the gap.

2.5 Conceptual framework

Variables affecting the state of food poverty in conflict induced displacement is complex and interwoven that at times factors directly and/or indirectly influence food security at the same time. Literature review and experience revealed concept of food poverty is not always straightforward even in non-IDP situations. As it is the case in other normal situations (non-displacement) demographic factors like age, sex, and family composition impact food poverty of an IDP household.

The same narration can also be made on socioeconomic factors like income level/employment, asset possession and availability and diversity of income sources like remittance and access to credit. The degree of influence of some these variables is expected to be more pronounced in displacement situations where displaced people had lost their livelihoods, social connections, and security as result of forcefully fleeing their habitual place of residence.

IDP situation, especially conflict induced IDPs are caught between conflict-food poverty cycles as perpetuating from one event to the other. The conceptual framework depicted below clarifies the road path to food poverty that IDPs experience after they are uprooted from their homes. In situation like this people flee for their lives and leave everything once they had as a normal citizen leading normal life. They don't only lose their livelihoods, but they also would end up in having difficulty in accessing basic social services they once took for granted.

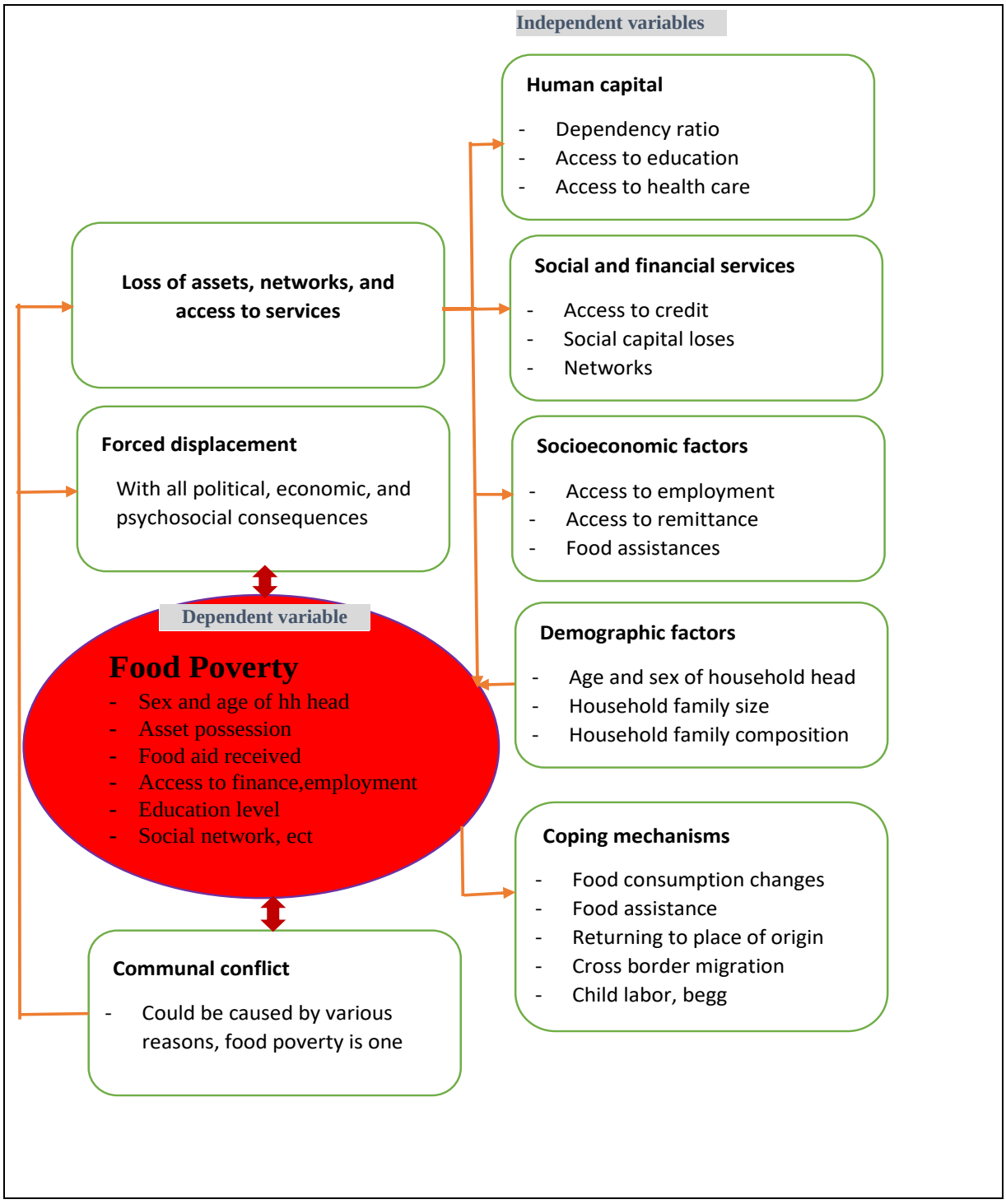

Figure 2.5: Conceptual framework showing variables underpin the food poverty situation of IDP

Chapter Three: Description of the Study Area and the Research Methods

3.1 Description of the study area

Awbare town is the administrative center of Awbarre *Woreda* of Fafan zone of Somali Regional State (SRS) and the fourth largest town in the region. It's located at $9^0$46'23" N and $43^0$12'54" E and 76km Northeast of Jijiga. It's mainly inhabited by Gadbuursi clan and situated at about 1200 meter above sea level. The town with a predominant agro-pastoral and sedentary Livelihoods has a population size of an estimated 22, 240. The climate of the town is semi-arid and is marked by seasonal variations, receiving an annual rainfall that varies from 400 to 900 mm. The area experiences a bimodal type of rainfall classified as a short rainy season (from July to September) and a main rainy season (from March to April). The mean annual temperature is 34 ^{0}c.

Apart from the host community, around 300 conflict induce displaced IDPs households had been accommodated in the town, who are relocated from Dire Dawa city Millennium Park. Currently, 200 of these IDP households are settled and more are expected to come. However, the population is stabilized as few additional households are coming in almost similarly proportional number of households are leaving the IDPs site for various reasons. In the town 3 wells were drilled by the Government and UNHCR solely for human and livestock water consumption purpose, all are functional and one of wells is extended with its facilities to the town by UNHCR, and 4 hand dug wells by NGOs. One human health center which serves more than 35000 people, one animal health post, a primary school (1 – 8), one Secondary School, (9-12) and an Alternative Basic Education (ABE), a Farmer's Training Center (FTC) are some of the amenities found in the town (WFEDO, 2019).

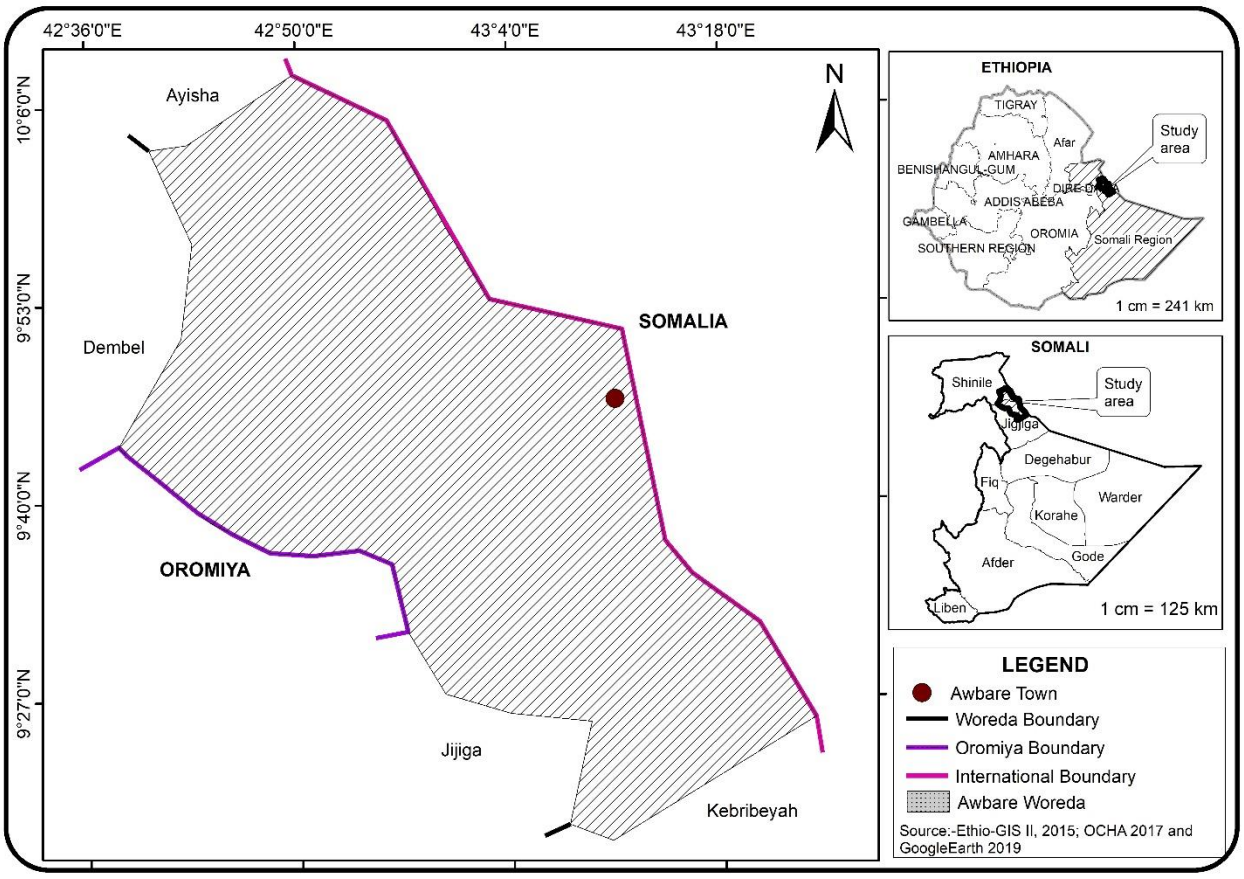

Figure 3.1: Map of Awbare Town

3.2 Research design

Research design in an empirical research project is an all-inclusive data collection plan. It is a "blueprint" of the research. It aims to answer specific research questions or specific research hypotheses. In atypical social research it encompasses the data collection process, the instrument development process, and the sampling process (Bhattacherjee, 2012).

This research has employed cross-sectional descriptive research design to answer food poverty and forced displacement related research questions posed above. This design was selected for that it helps to study prevalence of proportion of variable of interest in study population. The prevalence of food poverty as a variable of interest was studied based on data collected once from the group, which is the whole study population, in inexpensive and little time. The study had employed mixed research approach as defined by Creswell cited in Getaneh (2017), a procedure for collecting, analyzing, and mixing both quantitative and qualitative data and methods in a single study or a series of studies to understand a research problem comprehensively.

3.3 Data types and sources

Quantitative and qualitative survey data on consumption patterns, displacement status and other key variables had been collected from households using primary and secondary data sources. Secondary data about the trend on forced displacement, food and non- food items assistances, and other relevant information on the IDPs in Awbare town had also been collected from regional and Woreda level authorities and DRRMB officials.

3.4 Sampling techniques and sample size determination

The study area and population were chiefly selected because of three compelling reasons. The first is the organization the researcher is working for is involved in the assistances of the IDPs was believed to ease access to the IDPs and information on them. The second reason was the IDPs location is close to where the researcher lives and works, therefore frequent travelling and interaction between the researcher and the study population is conceivable. Unfortunately, these were proved wrong at the incidence of COVID 19 pandemic that impeded access to the IDP cite and hence data collection for longer time than expected. Third, the IDPs are not settled in a separate location from the host community, but within the same town and share the same services and access same market (at least supposedly), have similar cultural and living environments.

An important decision that had to be undertaken was about the size of the sample. Appropriate sample size depends on various factors relating to the subject under investigation, time, cost, variability of the study population, and the degree of accuracy desired. However, the entire population for this IDP food poverty study was only 200 households, while more were expected to come from their shelter in Dire Dawa. According to Israel (2013), for small population of 200 or smaller using census is the best option rather than having unacceptably very small sample size. This is because it has some inherent advantages over sampling that includes eliminating sampling error and provides data on all the individuals in the study population. The list of households from the IDP community for the study was secured from the Awbare Woreda IDP focal office within WFEDO. During data collection it was possible to reach only 190 from 200 planned respondents as some were absent on data collection dates and very few declined to participate in the study.

3.5 Tools and techniques of data collection

The research used structured questionnaire, FGD and KII to collect primary data.

3.5.1 Household survey

Survey approach usually relate to the present state of affairs and involve an attempt to provide a snapshot of how things are at the specific time at which the data are collected. Survey technique was adopted to get direct, relevant, and detailed information on the food poverty status of the study subjects (Denscombe, 2003). Questionnaire was the main instrument for collecting data in this survey research. It is set of standardized questions, often called *items*, which follow a fixed scheme to collect individual data about one or more specific topics (O'Leary, 2014).

Questionnaires are a particularly suitable tool for gaining quantitative data but can also be used for qualitative data. As a method of data collection, the questionnaire is a very flexible tool, which has the advantages of having a structured format, is easy and convenient for respondents, and is cheap and quick to administer to many cases. Personal influence of the researcher, and embarrassing questions can be asked with a fair chance of getting a true reply (Walliman, 2011).

Face to face, household survey based on structured questionnaire has been administered to generate relevant demographic, socioeconomic, food consumption patterns and displacement related information of the study population. Enumerators were selected based on their educational background, knowledge of the local language, and their previous experience on similar exercise. Translation of questionnaires to the local language (Af-somali) and training was conducted prior to actual survey. Agreement with enumerators was entered on schedule and other details on the data collection from all the 200 households of study communities. However, the questionnaire was administered only on 190 respondents. Data generated from this exercise had been thoroughly checked, cleaned, and corrected for errors.

3.5.2 Focus group discussion

According to Woods, Hayward and Simpson (2014), Focus group discussion is a technique that involves gathering of a group of individuals to discuss a specific topic, with the aim of drawing from participants complex firsthand experiences, beliefs, perceptions and attitudes of participants through moderation. In this study three FGD sessions were planned. The plan was

to form three different groups of 8, 10 and 6 people from the male adult IDPs (FGD01), women adult IDPs (FGD02) and IDP boys and girls (FGD03) respectively to run three distinct focus group discussions encompassing diverse age and gender groups. Unfortunately, because of the COVID19 pandemic, the public health infection prevention requirement to maintain social distancing and to avoid large crowds by then, only four participants from each group were established and had the focus group discussions, only five people were allowed to gather including the researcher as was imposed by authorities to contain the spread of COVID-19 infection. However later on as the restrictions are more relaxed and gathering with more participants with strict adherence on the COVID 19 preventions protocols is allowed, new FGD was conducted by increasing FGD discussants number to 8, 8, and 12 for the three groups FGD01, FGD02 and FGD03 Respectively.

The selection of the FGD participants from the IDPs community was assisted by a facilitator from the same community based on oral consent from participants. The inclusion criteria for FGD participants considered are 1) an IDP with valid ID (proof of registration as an IDP), 2) Age equal to or greater than 18 years (for male and female Adults) and less than 18 years for male and female children, and 3) should have been in the IDP center from the very being of their settlement. FGD guide questions were developed and verified prior to the discussions. Using the FGD information pertinent to IDPs plight and food consumption experiences, their perception of food poverty, coping strategies to their food insecurity situation were collected. This had helped a lot the researcher to understand the perception, condition, and experiences of study subjects on their food poverty status that gave depth and clarity to the information collected using other instruments from the study participants. Oral consent was sought and granted by FGD participants. All information and issues brought during the discussions remain anonymous and confidential.

3.5.3 Key informant interview

Semi-structured and open-ended questions and checklist were developed to help with getting information from people with diverse backgrounds and opinions by probing questions on the well-being and food poverty situations of IDPs (FAO, 2018). Seven key informants were selected based on 1) the nature of work they do in relation to IDP assistance 2) food security and wellbeing of IDPs, and 3) their knowledge about the food poverty 4) The time they have known the IDP population in the area or if they are IDPs themselves they also are needed to be in the center for not less than three consecutive years. Four of the seven informants were

Awbare *Woreda* administrator, *Woreda* based IDP focal point, Jijiga based UNHCR IDP focal point and the *Woreda* Disaster Risk Reduction and Management official in Awbare town. Another three interview sessions had also been undertaken with three different prominent IDP household members, who were identified and selected for the interview with the support from the Awbare *Woreda* IDPs focal point. The researcher had conducted the interview face to face with informants and information collected had been used to substantiate and to supplement survey findings.

3.5.4 Observations

This is a method of gathering data through observation rather than asking questions. The aim was to take a detached view of the phenomena, by being invisible either in fact or in effect. Observations can be a quick and efficient method of gaining preliminary knowledge or making a preliminary assessment of its state or condition. People can sometimes demonstrate their understanding of a process better by their actions than by verbally explaining their knowledge. The researcher had an opportunity to observe the study groups while they are in their routines without holding a direct conversation with them. Although this was proposed before and after survey data collection to get understanding on how people behave and act in their routines to augment and deepen knowledge on the general living conditions, living quarters, service provisions (Walliman, 2011) of the IDPs, because of limited access to site due to the COVID19 pandemic, the researcher had managed only to access the IDPs site once after the survey data collection is completed and did limited observations.

3.6 Techniques of data analysis

3.6.1 Setting food poverty threshold

What we commonly do in poverty analysis (whatever is the kind of poverty analysis we are interested in) follows three important activities one after the other. Viz, defining a welfare indicator, establishing the poverty line and aggregating income/consumption expenditure data (Ravallion, 2016). The most widely used methods to determine food security threshold points are Direct Calorie Intake (DCI), Food Energy Intake (FEI) and Cost of Food Needs (CFN) approach. Following the DCI approach, food consumption corresponding to the recommended daily allowance (RDA) of calories, which actually is 2100Kcal/d/p in Ethiopia, was adopted as threshold value to designate food secure and non-food secure households among the studied households.

3.6.2 Foster, Greer and Thorbecke model

This study has used the mathematical model developed by Foster, Greer and Thorbecke (FGT) to analysis of food poverty. Using the FGT decomposition model, it was possible to determine the incidence, depth and severity of food poverty in the study area. This method had been employed to food poverty analysis by many researchers (Ahmed *et al*., 2018; Sani and Kemaw, 2019) including Greer and Thorbecke in their study of food poverty analysis of Kenyan smallholders (Greer and Thorbecke, 1986). The FGT method also have been adopted by various UN and International non-governmental organizations to measure host of phenomena including food insecurity (Foster *et al*., 2010).

The model is proved to be useful in both general and food poverty analysis, evaluating the sources of change in food insecurity due to changes in the components i.e., to know if the change in food insecurity is due to the incidence, or increasing deprivation of the food insecure, or because of kilocalorie shortfall below the food security line have become more unequal, or some combination of these (Abrham & Bauer, 2012). The household food poverty status was measured by direct survey of household food consumption. Data on household food consumption was collected using seven days of recall period from the person responsible for food preparation in the household. This was converted into kilocalorie using the food composition table manual adopted from Ethiopian Health and Nutrition Research Institute (EHNRI, 1998). The adjusted AE calories consumption per day per person was calculated by dividing the total calories consumption of the household into the number of people in the household and again divided by seven days and then adjusting for adult equivalent using the consumption factor for age-sex categories. The 2100kcal/AE/day threshold value of food security stated by FDRE was used in this study (1996). Households whose consumption found to be greater than or equal to the threshold value of 2100kcal/AE/day are designated as non-food poor households while, those households whose food energy intake in kilocalorie is below the threshold value are food poor households.

$$P_{\alpha} = \frac{1}{n}\sum_{i=1}^{q}\left(\frac{c-yi}{c}\right)^{\alpha}, \alpha \geq 0$$

Where: P is the FGT food insecurity index; n is the number of sample households; yi is the measure of per adult equivalent food kilocalorie intake of the ith household; c represents the

cut off between food security and food insecurity households (expressed here in terms of caloric requirements of 2100kcal, q is the number of food-insecure households; and α is the weight attached to the severity of food insecurity. Regarding estimation of the model, when the weight attached to α=0 the measure is simply the headcount ratio (incidence); when α=1 the measure is food insecurity gap (depth of food insecurity); and when α=2 the measure is squared food insecurity gap (severity of food insecurity).

3.6.3 Econometric model

In order to identify the determinants of the food poverty situation of the households a binary logit model was used, the dependent variable Y (household food poverty status) is dichotomous variable taking value 1 if the household is food poor and 0 otherwise. In the case where the response variable is qualitative, it is the probability of the dependent variable given the independent variable that is determined. One of the most common qualitative regression models is logit model (Gujarati, 2004).

$$Yi = P_i + e_i \,; i = 1,2, \dots n, \quad \text{..... (1)}$$

$$Pi = \frac{\exp(z_i)}{1+xp(z_i)} \quad \text{..... (2)}$$

$$z_i = b_0 + b_1 x_{1i} + b_2 x_{2i} + \dots + b_{px_{pi}} = X\beta \quad \text{..... (3)}$$

Here y is n×1 vector of response having $y_i = 0$ if the household is not-food poor and $y_i = 1$ if the household is food poor, X is an n× (p+1) design matrix of explanatory variables, β is a (p+1) ×1 vector of parameters, ε is also an n×1 vector of unobserved random errors. The quantity P_i is the probability for the i^{th} covariate satisfying the important requirement $0 \leq P_i \leq 1$. Then, the log-odds of having y = 1 for given x is modeled as a linear function of the explanatory:

$$E(x/y) = \ln\left(\frac{P_i}{1-P_i}\right) = b_0 + b_1 x_{1i} + b_2 x_{2i} + \dots + b_p x_{pi} \quad \text{..... (4)}$$

Then, $P_i = \frac{\exp(X\beta)}{1+\exp(X\beta)}$ is the logistic function estimating the parameters of a logistic regression model using the method of Maximum Likelihood (ML).

3.6.4 Descriptive statistics

Descriptive statistics was used to measure central tendencies like mean and dispersion like standard deviation to explain patterns and frequency distributions of the quantitative data. This

has enabled to describe socio-economic, institutional, human capital, demographic and forced displacement situations and their relative effect on the dependent variable. T-test and chi-square tests have also been employed to test the significance level of the explanatory variables and to compare food secure and non-food secure households in relation to forced displacement.

3.7 Coping mechanisms

To establish how food insecure households cope with food poverty, a simple set of questions were administered to member of the household who prepares food first to identifying items or strategies used and then, the frequencies they are used. Coping mechanisms adopted by food insecurity households in the study group was measured according to Maxwell (2008) by assessing the frequencies of the strategy by ascribing weights, summing up the weights and then putting the result as a score. Weights 0, 1, 2, 3 and 4 as never, hardly, sometimes, often and always respectively. The weights were multiplied by the percentage of their frequencies and then sum up to get scores of every coping item used.

3.8 Definition of Variables and hypotheses

It is necessary to identify the potential explanatory variables. Different variables that were expected to affect household food poverty status in the study group. The major variables expected to have influence in the household to be food poor or not are explained below.

3.8.1 Dependent variable

Household food poverty status (hhfps) is the dependent variable for the logit analysis, it is a dichotomous dependent variable in the model taking value 1 if the household is food poor and 0 otherwise. Households' food poverty status was determined by comparing total kilocalories consumed in household per adult equivalent per day with the daily minimum requirement of the threshold value of 2100 kcal/AE/day. Households getting 2100 kcal/AE/day and above were considered as non-poor and otherwise poor.

3.8.2 Independent variables

Sex of the household head (sehhh): It is a dummy variable taking the value 1 if the sex of household head is female and 0, otherwise. In consonance with Baten and Khan (2010) finding, female-headed households can find it difficult than men-headed households to gain access to valuable resource, which could capacitate them to improve production and gain more income, that would decrease their probability of being food insecure. They do not actively participate

in the labor market or other livelihood activities, even if they wanted. This is particularity true in displacement situation where women and girls with children are the most disadvantageous.

Age of the household head (agehhh): It is a continuous variable measured in years. Many studies argued that young households' heads are stronger and energetic than elderly households as they are expected to engage in various farm and non-farm activities to earn more direct food production or income that increase households' access to food (Abafita and Kim, 2014). Hence, in this study age of the household head was expected to affect extent of food insecurity positively.

Family size (fmsze): It is a continuous variable which refers to the number of family members of the household. Household members are people who live together under the same roof and share food from the same table. Studies argued that larger family size tends to exert more pressure on household consumption than the labor it contributes to production (Stephen and Samuel 2013; Mequanent *et al.,* 2014). Therefore, in this study, larger household size is expected to affect extent food insecurity positively.

Education level of the household head (edhhh): It is a continuous variable measured in years of schooling of the household head. Education, which is a social capital, has a positive impact on household ability to take good and well-informed production and nutrition utilization (Babatunde 2007). Besides, Amaza *et al.* (2006) argued that households with higher years of schooling are less likely to be food insecure as it enables them to produce more and consume more. Thus, higher years of schooling was expected to affect extent of food insecurity negatively.

Livestock owned in tropical livestock unit (lstlu): It is a continuous variable measured by the number of Tropical Livestock Unit (TLU). Livestock are important source of food and income for rural households. Most IDPs in their original place of residence, are predominately from rural areas of Oromia practicing diversified livelihoods including animal husbandry. Livestock possession mitigates vulnerability of households during crop failures and other calamities (Abafita and Kim, 2014). Thus, this study hypothesizes that owning more TLU of livestock is expected to have negative effect on the extent of food insecurity of households.

Dependency ratio (dpndr): It refers to the proportion of economically inactive labor force (less than 15 and above 65 years old) to the active labor force (between 15 and 64 years old (Velasco 2003). Due to scarcity of resources, higher dependency ratio imposes burden on the

active and inactive member of household to fulfill their immediate food demands (Mequanent *et al.*, 2014). In addition, higher dependency ratio indicates that the labor force is small, with a constraint on the household per capita income and consumption, which also influences the wellbeing of the household members (Nugusse & *et al.*, 2013). In this study, dependency ratio was expected to positively affect extent of households' food insecurity.

Remittances (remit): It is a dummy variable, which takes the value 1 if the household had access to remittance in the past one year and 0 otherwise. IDP and non-IDP households in the study area are believed to be beneficiaries of remittance due to the support from family and community members is relevant in the highly structured Somali clan culture. Gulled (2006) in his study indicated that remittance and food insecurity had negative relationship, and this was also expected to be true in this study.

Total food aid (ttlfd): Although studies in non-IDPs situation claimed food aid has no significant effect on food security (Mulugeta, 2002; Abebaw, 2003 and Ayalew, 2003) Food aid by food agencies such as WFP and NGOs increases access to food by IDP households (Rose, 2008) and it is given as a coping strategy to food insecurity in displacement situations. Hence households in the study group are vulnerable for food insecurity and mostly cover their food shortfalls through emergency food aid. So, the amount of food aid received by the household is an important indicator of IDPs household food poverty situation. Therefore, food aid was expected to have a negative relation to food insecurity. The amount of food aid given converted into birr in contemporary local market price is continues variable measured in birr.

Asset possession (aspos): Depending on their flight experiences and specific circumstances, IDPs bring with them movable and immovable assets. This variable represents the amount of liquid and near liquid assets a household possesses estimated in birr. The assumption is that a household with reasonable asset possession is supposed to have a better opportunity to escape food poverty trap. The volatility and productivity of assets which may go beyond the physical aspect determines one's welfare conditions (Getahun, 2003).

Access to credit (credt): It is a dummy variable, which takes the value 1 if the household had access to credit and 0 otherwise. Access to financial resources is critical to the livelihood strategies of IDP households. Providing financial support for those who have ability and commitment for work but idle due to lack of money. IDP members who persuaded trade as their livelihood but left their property and fled to safety are the most appropriate targets who would improve their food security situation by increasing their income and ultimately increase

household food energy intake (Ayantoye *et al.*, 2011). In this study, access to credit was expected to affect extent of households' food insecurity negatively.

Employment status (emply): It is a dummy variable, which takes the value 1 if the household had access to labor wage employment in the last 30 days or 0 otherwise. Labor wage employment is one of the important income sources to people in displacement. This is because not only that IDPs seek for any labor employment varying from unskilled daily labor to highly skill professional jobs to cope with their food security situations but also the prospect for them to get employed is low (Torosyan, 2018). It is expected that employment affects food poverty negatively.

Social capital (socap): It is also a dummy variable which takes 1 if household head belongs to any association or 0 otherwise. In the absence of well-functioning formal safety net systems vulnerable households must rely on social networks for assistance. The loss of social capital with displacement has a negative impact on the resilience of IDPs, and their ability to manage risks and reduce the effects of shocks via the support of social networks. A study by UNHCR and World Bank (2011) in Afghanistan showed that IDPs have a higher degree of food insecurity than other urban poor in similar setting because of their limited access to social capital**.**

Table 3.1: Summary of variables measurement and hypothesis

Variables	Variable type	Variable definition and measurement	Hypothesis
Dependent variable			
Food Poverty status	Dummy	1 if a household is food poor; 0 otherwise	
Explanatory variables			
Sex	Dummy	1 if the household head is female; 0 otherwise	–
Family Size	Continues	Family size in number	–
Age	Continues	Age of household head in years	–
Asset Possession	Continues	Asset owned by the household in birr	+
Dependency ratio	Dummy	Ratio of dependents to active members	–
Livestock	Continues	Livestock owned in TLU	+
Remittance	Dummy	1 if a household receives remittance in the previous 1 year; 0 otherwise	+
Food aid	Continues	Total aid received in birr in the last 30 days	+
Education	Continues	Number of schooling years of the household head	+
Access to credit	Dummy	1 if household head access to credit;0 otherwise	+
Employment	Dummy	1 if household head is employed in the last 30 days:0 otherwise	+
Social capital	Dummy	1 if household head belongs to any association; 0 otherwise	+

Chapter Four: Results and Discussions

The study findings are presented in this chapter. The study used both qualitative and quantitative data collected among 190 households from Awbare IDPs site. The results of the FGT food poverty analysis indices, as well as demographic and socioeconomic profiles of food poor and non-food poor households among IDPs in Awbare town, are included. Descriptive statistics, such as mean, standard deviation, percentage, t-test, and chi-square test are presented to compare different households distinguishing features.

Factors associated with the status of food poverty among the study population is analyzed by statistical software Stata version 14.2 using binary regression model and results illustrated. The goodness of fit, collinearity of explanatory factors, statistical significance of various variables, and the model itself were all tested and evaluated in the regression results.

The final section of this chapter delves into the copying mechanisms used by the study group community in times of food scarcity.

4.1 Food poverty status of households

As it was discussed earlier there are several food poverty measurement matrices. In this study, households' food/calories consumption per day per AE was measured for the households using food consumption survey data converted into calories by employing the most recent conversion table. This was again compared to the minimum 2100kcal/p/day calorie requirement recommendation of the Ethiopian Health and Research Institute. Households whose calories consumption per day per AE above or equal to the threshold value of 2100/day/AE are designated as non-food poor and those with calories consumption of less than the threshold value as food poor households.

Accordingly, it's found that 44.7% (85) of the respondents are food poor, whereas 55.3% (105) are non-food poor. One might not immediately see the depth and severity of the food poverty among these IDPs based on the finding on incident or head count of the food poor, until additional information on the FGT model output is brought into perspective. The food poverty gap and food poverty gap square were14.51 and 28.48 respectively. The food poverty gap which shows the depth of food poverty on average among the study groups indicated the amount of resources of food calories required to pull the food poor from their food poverty situation on average. This a very important tool for food poverty alleviation interventions indicating the needs to bring the food poor at least to the food poverty line. The FGT food

poverty analysis indices showed on average 813.26 kcal and 2104.24 kcal per day AE food consumption by food poor and non-food poor households respectively. We can deduct here two other important revelation on the food poverty status of the IDPs. First, the average calorie consumption of the food poor is extremely low and magnifies how large the food poverty gap discussed above is and as much the huge resources need to avert the situation. Secondly, the average calorie consumption for those who are non-food poor was also barely above the threshold value of 2100 kcal. A clear signal for the group that are food security now might not be so any time longer and could slip into food poverty in the future and the food poverty situation among IDPs is worsening. This has also been witnessed both by the FGD the researcher had with women and boys'/girls' groups who highlighted with few remaining coping responses and the trend of coping strategies practiced by the IDPs asset depletion and resorting to secondary and cross boarder migration, technically an IDP turning into a refugee. In the discussion they expressed their fear that if enough interventions are not in place and on time, they would end up migrating to Somaliland looking for opportunities.

Table 4.1: Energy available per AE per day among surveyed households

Energy available per AE	Food poor (N=85)	Non-food poor (N=105)	Total (N=190)	t-Value
Maximum	1557.84	3686.54	2734.23	
Minimum	307.72	1350.7	1473.84	
Mean	813.26	2104.24	813.26	17
St. deviation	2095.79	9204.57	9204.57	

Source: Own survey result (2021)

4.2 Food poverty status and demographic, socioeconomic characteristics of households

Households' characteristic in relation to their food poverty status is featured below. The t-test results for continuous independent variables, which are family size, education level in years of schooling, age of household head in years, dependency ratio, total food aid received during a month and asset possessions in birr and chi-square test for categorical independent variables, which are sex of household head, are given respectively. Although the difference between the food poor and the on-food poor is pronounced and verified by employing the appropriate statistical tools, on average the average calorie intake of the non-food poor households is barely above the threshold value and those of the food poor households far below the threshold value measured on average as well.

IDPs households have shown some peculiarities in regard to both the continuous and categorical independent variables. The result showed that among IDPs education level and asset possession were prohibitively low. The measure for access for finance measured in terms of remittance transfer (only occurred 44 times for the entire study population within a year), credit (among 190 households only 30 had accessed credit, most from informal sources) and productive wage employment are extremely low. During a FGD with IDP male adults, boys and girls, discussion participants reiterated that they usually lack the trust from the host community members, who normal are the creditors for them to access finance. Consequently, IDPs households are typically characterized by poor education, poor access to finances and employment, and lack the necessary connection and network with the local economy to earn income and hence improve their food poverty status. The details on characterization of surveyed households in relation to the independent variables is outlined below separately for continuous (table 4.2) and categorical (table 4.3) variables.

Table 4.2: Household's food poverty status and its characteristics (Continuous variables)

Variable name	Total respondents (N=190)		Food poor (N=85)		Non-food poor (N=105)		t-value
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	
Family size	7.14	1.85	8.24	1.36	6.25	1.72	6.08***
Education level	1.85	3.3	0.81	1.85	2.7	3.93	4.06
Age of household head	38.09	7.37	36.35	7.91	39.5	6.6	3.22
Livestock size	8.06	10.65	3.18	8.03	12.01	10.89	4.4***
Dependency ratio	1.99	1.44	2.3	1.04	1.6	1.64	3.4***
Total food aid	1672.24	424.53	1499.71	348.86	1811.91	430.3	5.4***
Asset possession	1050.82	3613.91	263.53	1117.83	1688.15	4669	2.74**

** and *** statistically significant at 5 and 1 percent probability level

Source: Own survey result (2021)

Family size and food poverty

The mean family size for the study population was found 7 person per household. The average family size for food poor and non-food poor households were 8 and 6 respectively. When compared to the 4.6 average household family size in Ethiopia and even average of 6.6 persons per family of the Somali regional state, which is the highest average family size in the country, the number of family size for food poor households is very large. As depicted above in Table 4.2., the mean value for the family size of the food poor and the non-food poor household has showed statistically significant at t-vale of 6.08 with 1 percent level of significance. This shows having larger family size for the food poor respondents predisposes the IDPs for food poverty substantially.

Education level of the household head and food poverty

Education level of the household head is believed to have bearing on food poverty status of the household. Among others, education level is a component indicator for the degree of human capital development. This is not only because of an additional year of schooling expands opportunity for more productivity and income, but also the more educated the head of a family, the higher his ability to manage resources and get the best out of the food the family has access using different means.

Needless to say, the mean years of schooling of the head of households for IDPs population is 1.85 years. The average years of schooling for heads of households is 0.81 and 2.70 for food poor and non-food poor households. This clearly articulates that there is low level of schooling years for the study population in general. The mean schooling year of heads of households for the food poor and the non-food poor groups have not been found statistical significance.

Livestock size and food poverty

Livestock have important hedge value for food security. They are sources of food and also serve among pastoral communities for the purpose of asset accumulation and source of income and as means to livelihood diversification. Among the movable assets that IDPs in the study area brought along with them, livestock were the most prominent.

The survey revealed (Table 4.2) that the study IDPs community has 8.06 TLU on average. 3.18 TLU and 12.1 TLU are mean livestock holdings for the food poor and non-food poor households. There is a remarkable mean livestock holding difference between the two groups.

Figure 4.2 Focus group discussion with IDPs Adults

This was verified in FGD01 that families who moved out immediately after the communal conflicts escalated, got the chance to move out with their livestock. The t-value for these two mean values of size of livestock in TLU is found to be 4.4 at 1 percent of statistical significance.

Dependency ratio and food poverty

Dependency ratio as a proportion of economically inactive to economically active people, affects household ability to pull out of food insecurity. According to survey result, the average dependency ratio for the study group is established at 1.99. This is very close to the mean dependency ratio for food poor (2.3) and non-food poor (1.6) households. The t-test for the group mean shows statistical significance at 1 percent level of significance. Besides, the dependency ratio for the food poor households is slightly higher than those of the non-food poor households.

Food aid and food poverty

Until durable solutions for IDPs are secured and sustained, much of IDPs lives hang on all kinds of direct assistances given to them. Food aid always comes in the forefront among relief items for people experiencing forced displacement, like in an IDP situation. The average food assistance that IDPs received on monthly basis in terms of current market value in birr was 1672.24. Whereas 1499.71 and 1811.91 are mean values for food poor and non-food poor households respectively. Despite several studies findings on the negative impact of food aid on food security (Mulugeta, 2002; Abebaw, 2003 and Ayalew, 2003), in non-IDP study subjects, this study found positive relationship between food aid and food security and showed statistically significant differences between average food aid values of the food poor and the non-food poor groups of the respondents at 1 percent probability. Food items are rationed based on family size (not AE) and attendance on predetermined food distribution time.

Asset possession and food poverty

Assets with quasi-cash liquidity are important to respond to shocks like forced displacement. Stock taking of asset possession of surveyed households were undertaken and converted into currency value to recorded in birr. Assets including cash, TV sets, bed, household utensils and the like (except livestock) were included in the inventory. On average, the respondents have 1050.82 while the food poor and the non-food poor households have 263.53 and 1688.15 worth of assets in birr respectively. The difference in the two-group means is statistically significant at 5 percent of probability level. In one of the FGD we had with FGD01 (IDP male adult), few

families with history of diversified livelihoods (Like petty trade, animal husbandry, crop production, wage employment) in their place of origin, disclosed that they have been using savings to buy food and even start micro and small businesses. While the asset value in the study group is meager, the result has proved how assets, peculiarly cash is imperative in fighting food poverty and unemployment in forced displacement situation.

Table 4.3: Household food poverty status and its characteristics (Categorical variables)

List of variables		food poor		non-food poor		*X2*
		number	percent	number	percent	
Sex of household head	female	73	38.42	28	14.74	66.14***
	male	12	6.32	77	40.53	
Remittance	Yes	16	8.42	28	14.74	1.62
	No	69	36.32	77	40.53	
Access to credit	Yes	15	7.89	15	7.89	0.39
	No	70	36.84	90	47.37	
Access to employment	Yes	23	12.11	82	43.16	49.48***
	No	62	32.63	23	12.11	
Access to social capital	Yes	9	4.74	6	3.16	1.53
	No	76	40	99	52.11	

***Statistically significant at probability level of 1 percent
Source: Own survey result (2021)

Sex of household head and food poverty

As this is shown on the above table 4.3., among the total 190 households, 101 (53%) are female headed. Nonetheless, from 85 food poor households, female headed households account about 73 (86%). This was by far larger than female non-food poor households, which were only 27% of the total non-food poor households and food poor male headed households, that's 12 (14%). Sex of household head is statistically significant between food poor and non-food poor household. It can be argued here that the assumption that female headed households are more prone to food poverty than their male counterparts hold true for the study group. In displacement situation, where family members are usually separated or male spouses remain behind or go back to scavenge assets and livelihoods in their places of origin, females with their unfavorable socioeconomic position struggle to meet ends by themselves.

Remittance and food poverty

Remittance has paramount economic benefit both at national and household level. Somalis are also well renowned in transferring a big chunk of money to their relatives and families both from abroad and different parts of the country. This may not be the case for IDPs settled in Awbare, the subjects of this study. This is partly because these IDPs had lived in their places of origin for generations and integrated with other cultures and had been in loose attachment with the typical Somali culture in the present-day Somali region. The disconnection in cultural ties and other transactions definitely affects the amount and frequency of remittance transfer for this particular group. This, I think clarifies the fact that from the total 190 surveyed households, only 44 (15%) had received remittance from relatives and friends living abroad or in Ethiopia with in the last one year. Among whom had received remittance, 28 (64%) are from food poor household and 14 (36%) are from non-food poor households. But the result showed that there wasn't statistically significance difference between food poor and non-food poor households in terms of remittance.

Access to credit and food poverty

Availability and access to financial services including credit for IDPs plays a pivotal role in their battle to be food secure. People who had lost assets and livelihoods but then with entrepreneurial skill could take the best out of provision of financial resources to regain and recover from forced displacement related shocks. In the worst scenario, displaced people could also borrow money either from informal (relatives and friends) or formal (financial service providers) sources to sustain their lives and buffer their consumption until the good days come, at least as short-term redemption from hunger.

The result disclosed that 15 respondents from each of the non-food poor households (18%) and food poor households (14%) had accessed credit in the last one year. This is only 16% of all respondents and exposed the low remittance transfer frequency among the study group. The statistical analysis finds that there is no statistically significant difference between the food poor and the non-food with regard to access to credit by respondent households.

Employment status and food poverty

Labor and skill are among the resources a displaced person can take with him wherever he or she goes. The availability of demand for such labor/skill and access to the labor market makes a profound effect on the ability of a household to escape the wrath of hunger. Ability to access

wage earning employment not only help an IDP to feed himself and his family, but it also creates sense of dignity and positive future prospect of getting out of poverty.

Out of 190 households, 105 (55%) of the respondents had engaged in income generating employment in the last year, according to the survey result. From those who had been employed, 23 (22%) are from food poor households while the remaining 82 (88%) are from non-food poor households. The survey result revealed that there is a significant difference in terms of employment between food poor and non-food poor households at 1 percent probability level. The researcher interview with the *Woreda* administrator confirmed that most jobs available for IDPs are low rate, unskilled labor jobs like construction daily labor, porter and all sorts of wage-earning activities that most host community members would not do preferentially, or for some extent semiskilled jobs including masonry, carpentry and farming. IDPs who have been employed in one or more of these job categories have been better positioned to reduce food poverty for themselves and their families in contrast with those who had not got employed in the last one month from the date the survey questionnaire was administered to study households.

Social capital and food poverty

When the ability to access traditional, network-based risk management and coping strategies are restored, forcefully displace peoples' resilience improves. IDPs who had lost all social connections and networks and henceforth, the privileges and benefits that come along that they had previously back at their habitual residences, they have to deal with multifaceted challenges in order mitigate food insufficiency problems. The social capital not only helps them to increase their decision and bargaining power to access resources, but also is an opportunity to voice collectively on matters affecting their lives.

As it can be seen from the table above, the surveyed IDP's are found having very low level of access to social capital. Only 15 (8%) of households said they belong to any social group or association within the IDP site that look after the interests of such group or association. This is a demonstration of the deprivation IDPs in the study group are living with. Food poor and non-food poor household heads have access to social capital of 3% and 5% respectively. The survey discovered that there is no significant difference between these two groups means regarding access of head of household to social capital.

4.3 Econometric model analysis result

Thus far, based on the survey data on the independent variables, an attempt has been made to classify households into various demographic and socioeconomic characteristics. Furthermore, by applying the FGT model on food consumption data, food poverty incidence, gap and severity of the study population have been calculated and presented accordingly. Descriptive statistical tools have also been employed to determine mean, percentage, standard deviations and statistical significance of each the independent variables in relation to the dependent variable and results have been also analyzed and discussed. However, identifying factors that determine the status of food poverty of the study area goes beyond the purview of descriptive statistics and food poverty indices. Thus, logit model which uses maximum likelihood, was applied for this purpose and the results are presented henceforth.

4.3.1 Model diagnosis

It was mentioned in the methods section of this thesis that binary logistic model would be used to identify determinates of food poverty. Subsequently the model was specified and applied on the binary outcome variable, food poverty status of households that takes 1 if the household is food poor and 0 otherwise, and 12 explanatory variables expected to influence it. Before we proceed to the results of the regression model some diagnostic tools were applied to see how the model fits well the survey data.

Multicollinearity refers to the case in which two or more explanatory variables in the regression model are highly correlated, making it difficult or impossible to isolate their individual effects on the dependent variable. The variable included in the model were tested for problem of multicollinearity using the variable inflation factor. As rule of thumb, variable with VIF value less than 10 is believed not have multicollinearity problem. whereas, if the VIF of a variable is found to be more than 10 such variable is said to be subjected to multicollinearity problem. The VIF analysis showed that all exploratory variables in the model have VIF values less than 10 (Appendix: 1). Consequently, all the 12 variables have not multicollinearity problem and were used safely in the estimation of the model.

The likelihood ratio has a chi–square distribution and it can be used for assessing the overall significance of logistic regression model. The goodness-of-fit was tested by the Log likelihood ratio (LR) test. The result showed the chi-square of 180 with 12 degree off freedom and probability value of zero. Therefore, the hypothesis that all variable coefficients except the intercept are zero is rejected. This shows the chi square is statistically significant and the model

displayed a good fit. Moreover, the goodness of fit for the logistic regression can also be measured using the R2 count, which is based on the principle that if a predicted probability of an event is greater than 0.50, the event will occur, otherwise, it won't occur. The logit model output showed the percentage of households whose food poverty status is correctly predicted as 91.05%, which is greater than 0.50. The sensitivity, which is correctly predicted food poor households was 88.24% and specificity, which is correctly predicted non-food poor households was 93.33%. This elucidated how the model classified the food poor and the non-food households correctly.

4.3.2 Estimation results of the binary logit model

Among 12 explanatory variables hypothesized to influence food poverty status of households in the study area, the model results distinguished 8 of them statistically significant at different significance level. Sex of household head, age of household head, family size, livestock size (TLU) and employment have been found statistically significant at 1 percent probability level. Likewise, Dependency ratio and total food aid were statistically significant at 5 percent probability level. But asset possession pointed out statistically significant at 10 percent probability level.

The remaining 4 explanatory variables were not statistically significant and have not displayed to influencing the dependent variable (Table 4.4). The coefficient estimate result from the logit regression model have also indicated that all statistically significant explanatory variables with exception of dependency ration, indicated the predicted direction of the independent variables with respect to food poverty as it was hypothesized initially.

Table 4.4: Maximum Likelihood Estimates of Binary Logistic Model

Explanatory variables	Estimated coefficients	Standard error	Z-value	p >| z |	Odds Ratio
Sex of household head	2.593179	0.6458077	4.02	0.000***	13.3722
Age of household head	-0.110194	0.0403503	-2.73	0.006***	0.89566
Family size	0.910053	0.2564929	3.55	0.000***	2.48445
Education level	-0.234096	0.1465719	-1.6	0.11	0.79129
Livestock	-0.097907	0.0319207	-3.07	0.002***	0.90673
Dependency ratio	-0.536253	0.2507224	-2.14	0.032**	0.58494
Remittance	-0.420723	0.7074626	-0.59	0.552	0.65657
Total food aid	-0.001844	0.0007547	-2.44	0.015**	0.99816
Asset possession	-0.000302	0.0001575	-1.92	0.055*	0.9997
Credit	1.557165	1.10046	1.42	0.157	4.74535
Employment	-1.643654	0.6484817	-2.53	0.011***	0.19327
Social capital	0.333059	1.269565	0.26	0.793	1.39523
Constant	1.909651	2.879803	0.66	0.507	6.75073
Pseudo R2 = 0.6901				Sensitivity = 88.24%	
Prob > chi2 = 0.000				Specificity = 93.33%	
-2 Log likelihood = 180.3			Percent correctly predicted (Count R2) = 91.05%		
Number of obs. = 190					

***, ** and * at probability level of 1%, 5% and 10% respectively.
Source: Own survey result (2021)

(a) Sex of household head

This is a dummy variable that takes one if the household is headed by female and zero otherwise. The coefficient estimates for the variable found to be significant at probability level of 1 percent and have positive relationship with household food poverty. The odds ratio of being food poor increase by 13.3722 if the household head is female, keeping other variables constant. This is in line with fact that men are in a better position to get employment or access other resources than their female counterparts. It gives plausible sense that in forced

displacement situations women have more difficulties in securing employment and livelihood opportunities than men, and hence exposed for food poverty. Similar findings were also obtained by Baten and Khan (2010).

(b) Age of household head

Age of the household head was statistically significant and negatively related with food poverty at 1 percent probability level. When the age of the household head increases by one year, the odds ratio in favor of food poverty decreases by a factor of 0.89566. This is contrary to popular understanding that people at younger age are more productive and have better chance to escape the crouches of hunger than older people. The possible explanation is that displaced young people with no or little means for self or wage employment and access to productive assets, would not have an opportunity to put in to use their labor, skills, and creativity. But, displaced older people may come with better asset accumulation or are at better positioned in creating networks of relatives and friends who could help them out in their time of difficulties. Some researchers had shown similar findings on association of older age of household heads with food security, although in non IDP situations (Abdullah *et al.*, 2017).

(c) Family size

In conformity with prior speculations, family size found to have positive relationship with food poverty. It is estimated to be statistically significant at 1 percent level of significance. The positive relationship illustrated that, other things constant, the odds ratio in agreement of food poverty increases by a factor of 2.4844 as family size of a household increases by one. This is intuitively appealing for IDPs where family members who are willing to involve in income generating activities but lack access to do so in one hand and having more people to feed once suffering limited access to food, on other hand. This finding was consistent with works of Stephen and Samuel (2013), Mequanent *et al.* (2014), Getachew (2013) and Teklay *et al*. (2015).

(d) Livestock size

Livestock size and food poverty are found negatively related at significant level of 1 percent. Among very few movable assets the IDPs managed to take with themselves, livestock were the most important. Livestock are important sources of food and income for the study group as pastoralism was partly practiced livelihoods prior to and even after their plight. The result indicated that, keeping other things constant, the odds ratio of having larger livestock size by

one TLU decreases food poverty for a household by a factor of 0. 90673.The result is similar to earlier anticipations and the findings of Abafita and Kim (2014).

(e) Dependency ratio

According to the result of this study dependency ratio was negatively related to food poverty at less than 0.05 probability level. The odds ratio of being food poor, given all things held constant, decreases by factor of 0.58494 as dependency ratio increase by one. Although the sign for the coefficient estimate of the dependency ratio is negative and opposite to what has been hypothesized, it has to do with blanket food and other non-food items assistances to IDPs matching only number of people within a household irrespective of the burden of dependency. This could be also attributed to the fact lesser dependency ratio doesn't automatically translated into productive employment or income generation, notwithstanding a household with low dependency ratio. While it seems farfetched, having more adults who don't add to the family income or food stock. Those households have higher food consumption compared to households with younger children and/or older adults (economically inactive family members) with lower food consumption, could strain food consumption for the former than the latter when predominantly food (and other) assistance is the only source of income for that household.

(f) Total food aid

Food aid by governmental and non-governmental actors is often the only thing standing between forcefully displaced persons and death. It was deliberated in the hypotheses section of this thesis that many researchers found out and criticized food aid as response to food problems as it creates dependency on the part of recipients and undermines self-reliance. However, this study found that food aid is negatively related with household food poverty and is statistically significant at 0.05 percent probability level. Sometime food aid is the only accessible means for displaced people to feed themselves. Keeping all other things equal, the odds ratio of being food poor decreases at a factor of 0.99816 for the IDP households in the study area as they receive more food aid worth one birr. According to works of many scholars (Diriye, Nur, & Khalif, 2013), food aid has constraints related to dependency, beneficiary selection, post distribution monitoring. However, food aid contributes to improve food security status of households that are in forcefully displaced situation (IDPs and refugees), at least in the short run. Per this finding, the researcher, in consistent with Singer (1988) argues food aid has its pros and cons.

(g) Asset possession

Assets are known to give a buffer for lack of food by low-income households at times of livelihoods loses, as it's the case in forced displacement. The study discovered asset possession of IDP households is statistically significant at 10 percent probability level and negatively related with food poverty. The odds ratio marked that by assuming everything constant, an increase on asset by one birr, decreases food poverty by factor of 0.9997. This is in line with hypothesis and finding of other researchers (Guo B., 2011). This is so because that when IDPs lack stream of income and faces uncertainty, households with assets at their disposal are less likely to go hungry compared to those with little or no asset that can easily be converted to any commodity, including food.

(h) Employment status

Employment, at best for unskilled labor jobs, and often with lower wage rate compared to the host community, is another instrument displaced people used to minimize food consumption gap they experience. Employment is found to have a negative and statistically significant relationship with food poverty at 1 percent probability level. In key informant interview I had with one of the *Woreda* government official; employment opportunities and even participating in the cross-border contraband trade is an integral part of refugees and IDPs livelihoods. IDPs and refugees reside in a trade corridor with neighboring Somaliland, there are opportunities for IDPs to work as porters, waiters and even smugglers of contraband goods across the border. These are some of the possible explanations as to why employment is associated negatively with food poverty among the IDPs population in Awbare town. As per the result of the model analysis, employment decrease the odds ratio of being food poor by a factor of 0.19327. This result is identical with expectation of the hypotheses and studies by other researchers (Dula and Degefa, 2017).

4.4 IDPs coping mechanisms

Following their plight, IDPs face with multitudes of problems from physical safety and security to experience of hunger. They pursue different mechanisms to respond to their perceived fear and actual food insecurity situations. The study collected and analyzed various consumption and non-consumption responses by the food insecure households that they had adopted when they face food poverty. The respondents were asked to identify and rank strategies they have been using to situations of food poverty they have been living with. The responses they used to deal with ther food poverty situation was found quite different from what we observed in

other non-IDPs food poverty situations. Having food aid as response, and secondary cross border migration had been widely practiced by IDPs along some consumption related coping strategies like minimizing food intakes, rely on less preferred but cheaper food items.

Table 4.5: Major coping strategies used by IDPs

Copying strategy practiced by study IDPs		Food poor N=85	Non-food poor N=105	Total N=190
		%	%	%
1	Reduced quality of food / eat less preferred diet	89.4	17.1	56.1
2	Seek for relief assistance	75.3	56.2	69.2
3	Spent savings/selling livestock	64.7	18.1	43.6
4	Reduced portion of food	63.5	11.4	39.4
5	Purchased food on credit from traders	57.6	17.1	39.3
6	Migrate across the border for employment	25.9	73.3	52.2
7	Loan from families and relatives	25.6	47.9	38.7
8	Firewood and charcoal sale	5.9	52.4	30.7
9	Increased child labour	4.3	56.9	32.2
10	Skip mealtimes	6.3	61.4	35.6
11	Return to place of origin	16.9	65.8	43.6
12	Begging	27.6	70.3	51.5

Source: Own survey result (2021)

As indicated in table 4.5 above, the majority of food poor IDPs households used coping strategies including reduced quality of food / eat less preferred diet, seek for relief assistance, spent savings/selling livestock, reduced portion of food and purchased food on credit from traders.

Among food poor households, 89.4% have used reduced quality of food / eat less preferred diet as strategy to cope up with food poverty. About 75.3 % depended on food aid provided by government and other non-governmental humanitarian agencies as response to the food poverty experience, they have to go through. Even though food assistance by these actors is often intermittent and low in variety and quantity, the respondents said food aid remains one of the major ways to meet their food needs. The third and fourth coping strategies used by food poor household IDPs when faced with food insecurity are spent savings/selling livestock to uy food

and reduced their portion of food at 64.7% and 63.5% respectively. Skipping meals, firewood and charcoal sale and increased use of child labor are the least adopted coping mechanisms used by IDPs at 6.3%, 5.9%, 4.3%, and respectively.

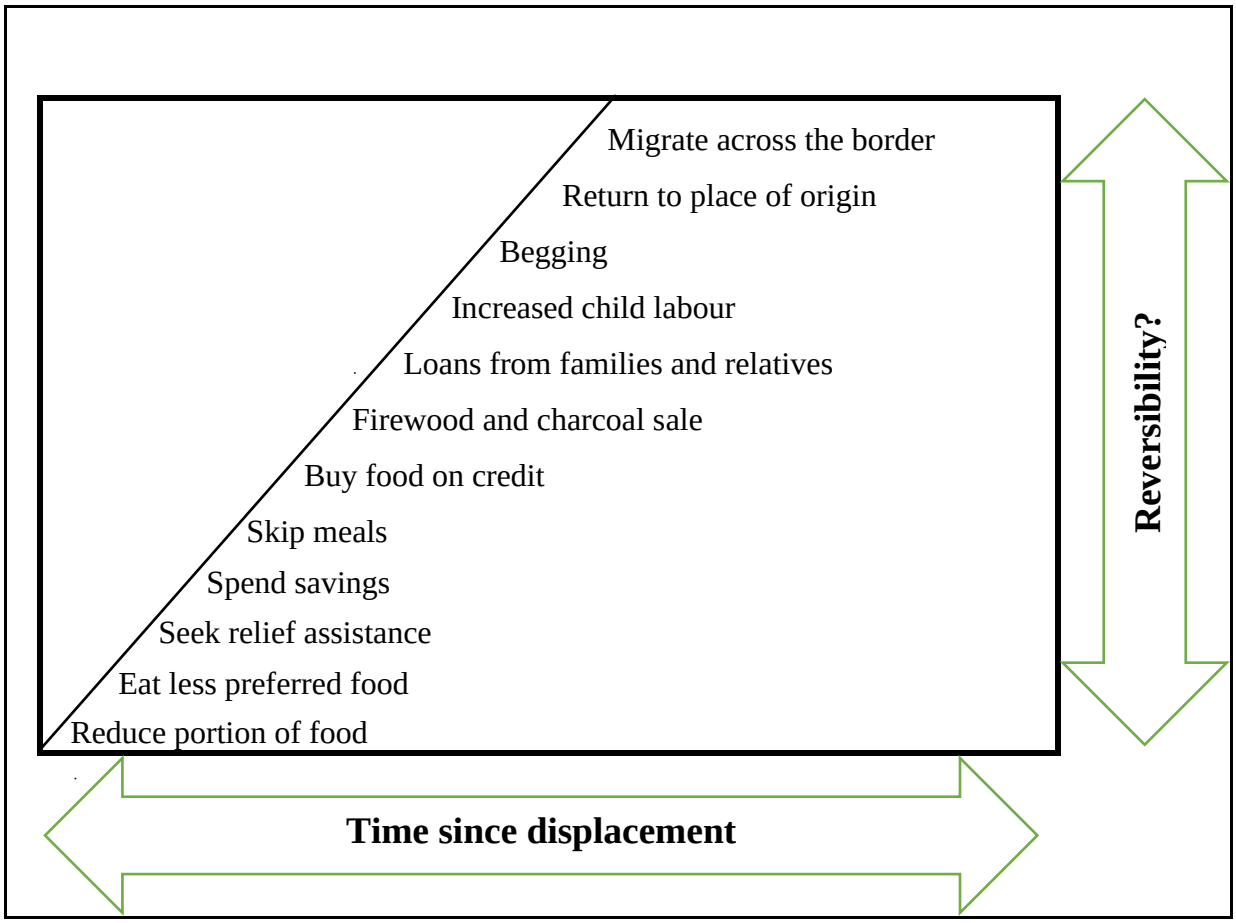

Figure 4.1: Model of coping strategies to food poverty of IDPs

Source: Modified to Internally displace persons situation in Awbare from Messay (2012)

As it can been seen from the model developed on IDPs coping strategies and shown above in figure 4.1, IDPs food poverty coping strategies are pertaining to both consumption and more exorbitant strategies involving productive assets and abandoning their settlement site such as secondary migration to neighboring Somaliland, sale of livestock to buy food and even taking the risk for their safety and security to return back to their place of origin were adopted as food poverty was worsening or no food assistance was delivered on time or sufficiently. This is different from typical non-IDPs situations progressive adoption of coping strategies form reversible to irreversible strategies as food poverty situation gets deteriorated.

IDPs quickly opt for the mix of erosive and non-erosive coping strategies as their choice to go gradually from reversible to irreversible strategies are limited because they usually run out of options at the very beginning when they faced displacement. In addition to this the result showed that IDPs have atypical adaptation road path they follow to cope with their food poverty situation. IDPs in Awbare have also turned in to a refugee status from an IDP situation as soon as they cross the border to another country, in this case Somalia and beyond to cope with their food insecurity situation. These findings are in line with the rapid food security assessment for Libyan IDPs by Voluntas advisory together with Diwan market research (2017) that found the most frequent negative coping strategies used by IDPs including spending savings, buying food on credit, or selling household goods.

Chapter Five: Conclusions and Recommendations

5.1 Conclusions

The research investigated food poverty status, factors influencing such status and what coping mechanisms are used by IDPs residing in Awbare town of SRS. Thereupon, both quantitative and qualitative data were collected using structured questionnaire from 190 households, seven key informant interviews have been conducted and focus group discussion with three groups from the study community considering age, sex and diversity was undertaken.

First, data were analyzed using the FGT model to investigate the food poor and the non-food poor households, the food poverty gap and the severity of the food poverty among IDPs. The result indicated 47.3% of the IDP population are food poor while 53.7% are non-food poor. This is found to be greater than the both the national and regional value of proportion of food poverty for rural and urban areas.

Next, descriptive statistical tools such as mean, standard deviation, percentage, frequency was used to describe the demographic, socioeconomic and institutional factors in relation to the food poverty status of households. When found necessary, t-test and chi square test were applied to determine the statistical significance of independent variables between food poor and non-food poor households. Among the analyzed independent variables, Sex of household head, age of household head, family size, food aid, livestock size, and dependency ratio have shown significance difference between the food poor and the non-food poor households.

The logit model parameter estimation revealed that eight independent variables were statistically significant and happened to influence the food poverty status of households. The direction of influence of all significant independent variables on the dependent variable with exception of dependency ratio was the same with what had been hypothesized in this study. Sex of household head, age of household head in years, and family size were positively related to food poverty at 1 percent probability level. On the other hand, livestock size in TLU and access to employment at 1 percent probability level, total food aid in birr and dependency ratio at 5 percent probability level, and asset possession in birr at 10 percent probability level were disclosed as negatively related to food poverty of the study group.

When it comes to coping strategies, households have had experienced actual or worried about potential food poverty, it demonstrated the heightened vulnerability displaced persons are living with. Analysis of coping strategies by the IDPs showed that reduced quality of food / eat

less preferred diet (89.4%), relied on food assistance (75.3%), sale livestock or other savings to buy food (64.7%), Reduced portion of food (63.5%) and Purchased food on credit from traders (57.6%) were major coping mechanisms whereby IDPs adopted to their food poverty situation. The choice of coping strategies depends on what is available for IDPs and constraints henceforth. Both food poor and non-food poor IDP household have practiced use of coping strategies at varies degree that are both consumption and livelihood related. The longer, the IDPs vulnerability situation remains unimproved, the sooner households exhaust their productive assets, if they have any.

Negative coping mechanisms are rampant among food poor IDPs households. More than 90% households either went for secondary migration and become refugees or sale the limited assets they might have managed to bring from their original place of residences. According to a focus group discussion held with IDP women and young girls/boys (FGD02 and FGD03), they reported that as there are very limited income-earning possibilities, some households with young boys and girls resort for migrating to other countries looking for employment opportunities as daily laborer and house maids.

5.2 Recommendations

IDPs are defenseless to their vulnerability to food poverty. What sets them aside from other forcefully displaced population such as refugees is that IDPs have no functional international or national institute looking into their problems or, for that matter have no legal provision that recognizes their rights and afford them appropriate protection. Ensuing the summary of findings and interpretations of this research, the following recommendations are delineated with a view to disentangle IDPs from unacceptable level of food poverty and their increasingly worsening living conditions.

- This research has confirmed that the majority of food poor households are female headed and female IDPs are more likely to be food poor than their male counter parts. Therefore, UNWFP, UNHCR, IOM and INGOs and NGOs working with IDPs, primarily the federal and regional governments need forge working partnership and coordinated effort towards to self-reliance and livelihood interventions prioritizing women and young girls.
- Because IDPs have lost their homes, livelihoods, jobs and social networks, it is always difficult for them to access productive resources including land. Thus, the government at regional and *Woreda* levels have to facilitate access to land and other productive assets based on IDPs household's skill and livelihoods history they had once back home.
- Food and non-food items assistance should be sufficient to sustain families until they reach a point where they no more need handouts from government and non-governmental organizations. Not having enough and consistent support had exposed IDPs to resort into bad coping mechanisms prematurely with no sufficient effort to preserve and protect savings and other assets.
- All humanitarian assistances should be combined with an effort for IDPs self-reliance. development and self-reliance interventions should start as early as possible after forced displacement. This has twofold benefit for all. First, IDPs would not lose productive assets whatever and how much assets they came with at the time their plight. Early livelihood rebuilding interventions would have helped them to generate more income or food from their assets than expending it on food consumption as response to food

poverty they face. On the other hand, it would give displaced people the sense of control and respect for their lives and minimize the possibility of developing dependency on aid agencies and losing hope for their future prospect.

- The federal and regional government legislatures should make favorable laws that govern all aspects of the lives of the internally forcefully displaced. This can include provisions that discourage communal conflict which brings displacement and violations of basic human rights including right to food, basic registration and identity, access to reproductive health and family planning services, the right to access all other services locally available for non-IDPs, access to productive assets, social cohesion and integrations and the like.
- Job creation interventions should also target youth IDPs. Marketable skills development based on the national and local skilled labor demand would give better employment opportunity for youth IDPs. If not as a special affirmative action, the local authorities must include youth IDPs in their job creation projects and assistance packages in the same manner they do for non-IDPs youth.
- Financial service providers should segment IDPs and develop financial products for inclusive and appropriate financial services to IDPs. Access to loans must be open enough to IDPs by removing collateral requirements and by facilitating risk sharing among the federal, regional and *Woreda* government, private sectors, and NGOs.
- In order to succeed in realizing the agenda 2030 of transforming the world into zero hunger, food security and nutrition programs should take into account IDPs in general, and targeted nutrition programs must be inclusive to IDP mothers and children less than five years old to make the most out of the synergies between eradicating poverty, hunger, food insecurity and malnutrition.
- Further research on food poverty status and factors influences it of internally displaced in the country particularly with larger representative IDP sites and population is also recommend even after the IDPs are returned, relocated or are still in IDP sites.

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Annexes

Annex 1: Variable Inflation factor for Independent variables

Variable	VIF	1/VIF
Sex household head	1.45	0.69134
Employment	1.35	0.74121
Family size	1.34	0.74856
Education level in years	1.29	0.77352
Livestock in TLU	1.19	0.83943
Dependency ratio	1.18	0.84683
Credit	1.17	0.85443
Total food aid in birr	1.14	0.87528
Remittance	1.12	0.89353
Asset possession	1.1	0.91191
Social Capital	1.09	0.91843
Age of household head in years	1.08	0.92305
Mean VIF	1.21	

Annex 2: Household Survey Questionnaire-

Dear respondent,

Good morning/afternoon, my name is (Enumerator) _____ .We are here to do a household survey with the objective to analyze food poverty status and coping mechanisms of Internally Displaced Persons (IDPs) in this town of Awbare. The information provided will be strictly confidential and used only for the objectives mentioned above. The study is conducted for the purpose of the partial fulfilment for the requirement of Degree of Master of Science in Food security and Development studies, so you are kindly requested to give genuine responses.

Before starting the interview, if you have any questions or need for clarification you can ask me. Are you willing to be interviewed?

if YES. ☐ continue, if NO. ☐, Terminate the interview and move to next household.

Part One: General Information

1.1. Kebele _____
1.2. Village _____
1.3. IDP=1: Non-IDP=2
1.4. Name of the enumerator _____
1.5. Date of interview _____ (DD/MM/YY)
1.6. Start Time_____ End time _____ Signature _____

Part two: DEMOGRAPHY and CHILD EDUCATION		
1.	Interviewee Name & Telephone Number	Name: _____ Phone Number: ☐☐☐☐☐☐☐☐☐☐
2.	Age	
3.	Sex	1. Female 2. Male
4.	Place of birth	Region: _____ Zone_____ Woreda_____
5.	Place of Origin	Region: _____ Zone_____ Woreda_____
6.	Marital Status HH head	1.Single 2. Married 3. Divorced 4. Widowed
7.	What is your level of Education?	1.Litrate (Can read and write any of the local languages) 2. Illiterate

8.	How many people are living in this household including yourself? _____	Age in Years	Male	Female	
		0-1			
		1-2			
		2-3			
		3-5			
		5-7			
		7-10			
		10-12			
		12-14			
		14-16			
		16-18			
		18-30			
		30-60			
		60 +			
		Total			
Part three: ECONOMIC PROFILE					

9.	What was your main occupation in your place of last residence	1. Agriculture / livestock 2. Mining / Quarrying 3. Construction 4. Daily labourer 5. Transportation / Communication 6. Wholesale trade 7. Retail trade 8. Health 9. Education 10. Other services: Specify: _____ 11. Public administration / Government 12. NGO / Intl. organization 13. None / Unemployed

<table>
<tr>
<td>10.</td>
<td>What is the monthly household income and what it consists of? Please record average percentage.</td>
<td>
<table>
<tr><td>Source</td><td>Amount in birr</td><td>Percentage</td></tr>
<tr><td>Your salary</td><td></td><td></td></tr>
<tr><td>Other HH members' salary</td><td></td><td></td></tr>
<tr><td>Remittances</td><td></td><td></td></tr>
<tr><td>Loans and credits</td><td></td><td></td></tr>
<tr><td>Cash & In-Kind Donations</td><td></td><td></td></tr>
<tr><td>Sale of assets</td><td></td><td></td></tr>
<tr><td>Total income</td><td></td><td></td></tr>
<tr><td>Other: _____ _____</td><td></td><td></td></tr>
</table>
</td>
</tr>
<tr>
<td>11.</td>
<td>Did generally the household income fairly cover the household food expenses?</td>
<td>Yes=1
No=0</td>
</tr>
</table>

12.	Household food consumption (for the previous 7 days) Unit could be mg or kg depending the amount of food item measured)	Food type	Home Produced		Purchased	Gift/Aid/Loan	Price/unit ETB	Cumulative consumption
			Unit	Qty. (A)	Qty. (B)	Qty.(C)		(A+B+C)
		Sorghum						
		Maize						
		Wheat						
		Barely						
		Millet						
		Rice						
		Lentils						
		Beans						
		Chick pea						
		Milk						
		Meat						
		Egg						

		Butter						
		Tea						
		Cigarette						
		Chat/Khat						
		Soft drink						
		Sugar						
		Potato						
		Tomato						
		Spinach						
		Cabbage						
		Edible oil						
		Flour						
		Spaghetti/Macaroni						
		Banana						
		Orange						
		Mango						

		Others						
Part four: DEGREE OF INTEGRATION and COPING								
13.	Since you displaced, from whom do you received assistances? (Circle all that applies)	1. Government 2. International organizations. Specify: _____ 3. Locals support. Specify: _____ 4. Host community 5. Personal/family support						
14.	Which type of assistance did you receive?	1. Emergency assistance: Food, Water, 2. Shelter / Housing 3. Medical treatment 4. Financial Support 5. Information, Counseling 6. Training courses. Specify: _____ 7. Job placement 8. Business start-up grant 9. Education						
15.	Currently, what are the 3 greatest problems your household faces?	1. Insecurity 2. Unemployment / underemployment 3. Lack of marketable skills						

	(Record up to 3 only)	4. Lack of identity papers 5. Lack of education certificate 6. Lack of land title 7. Lack of savings 8. Access to food 9. Access to water 10. Access to housing 11. Access to electricity 12. Sanitation facilities 13. Access to health services 14. Lack of social network 15. Lack of local knowledge 16. Conflicts, fear of persecution 17. Social discrimination 18. Corruption 19. Other / Specify: _____
16.	What did your household to do cope with food poverty?	1. Reduced quality of food / diet 2. Reduced quantity of food / diet 3. Decreased expenditures 4. Spent savings or investments 5. Loans from family / friends

		6. Loans from employers / money lenders 7. Purchased food on credit from traders 8. Sold income generating equipment 9. Worked for food only 10. Worked on relief programmes from government/NGOs/International 11. Increased child labour 12. Begging 13. No coping mechanism 14. Other / Specify: _____
17.	Do you have plan to return to your home or previous community?	1. Yes 2. No
18.	If no, why do you not want to return?	1. Conflict / insecurity 2. Food insecurity 3. Rising land prices 4. Land grabbing 5. Lack of land / housing 6. Unemployment / lack of 7. Arable land not available 8. Pasture land not available 9. Lack of basic services 10. Other, Specify: _____

19.	what type of house you live in currently? (specify) _____	1. Thatched roofed 2. Plastic roofed 3. Iron sheet roofed house 4. Others
20.	Do you have access to sanitation / toilet facilities in your location?	1. None / open field / bush 2. Traditional covered latrine 3. Others, specify_____
21.	How does your current housing condition compare to the house you forcibly left?	1. Worse 2. Same 3. Better
22.	What is your main source of drinking water for your household?	1. Water tank /trucking 3. Public well 2. Public hand pump 4. Pool /Birka
Part five: ASSET POSSESSION		
23.	What have you lost since displacement? (Obviously, some respondents will choose more than 1 of these options!)	1. loss of employment 2. loss of land 3. loss of livestock 4. loss shelter 5. loss of food 6. other specify_____
24.	Does your household possess any assets including cash savings?	1=yes; 0=otherwise

25.	If yes, how much and what type of assets your household possess?	Types of assets owned at the household level	Unit	Quantity /Amount	Estimated current value in Birr	
		Camel				
		Cattle				
		Shoats				
		Donkey				
		Chicken (Poultry)				
		Bee colony /Horticulture				
		Radio/TV set				
		Household furniture				
		Cash				
		Others. Specify _____				
		Total asset score value (in birr)				

26.	Do you possess land or access one	Yes=1; otherwise=0
27.	If yes for the above question, how many ha or qodi* land you have?	_____
Part six: FOOD POVERTY SELF-PERCEPTION and SOCIAL CAPITAL		
28.	Is your household or any member of the household is a member of any social organization?	Yes=1; otherwise=0
29.	If yes to the above question, mention those social organizations/associations	1. _____ 2. _____
30.	Have you received any type of credit for the last couple of years?	Yes=1; otherwise=0
31.	If yes, from where do you get the credit?	1. Local money lender 2. friends and relatives 3. NGOs 4. Commercial bank of Ethiopia 5. Micro finance institute 6. Other, specify _____
32.	Compared with your previous habitual residence, do you think you are more food poor now?	Yes=1; otherwise=0

33.	Compared with your Non-IDP in this place, do you think you are more food poor?	Yes=1; otherwise=0
34.	What were the household's sources of food before facing displacement? (Multiple Responses allowed)	1. Purchase 2. Own crops 3. Gift 4. Own livestock 5. Casual labour 6. Payment in kind (for labour or services provided) 7. Others, Specify_____
3 35.	What are the household's current sources of food for most of the time (Multiple Responses allowed)	1. Purchase 2. Own crops 3. Gift 4. Own livestock 5. Casual labour 6. Payment in kind (for labour or services provided) 7. Others, Specify_____

Note:

1. Age categories are appropriate for age-AE conversion
2. Food item to calorie data is for seven days and with suitable units of measurement

(1kg = 1000 mg)

*Qodi is local measurement of land, 1 Qodi = 1/5 of ha.

Annex 3: Table of conversion factors and crop values

Food item	Unit	Mean kcal per gram
Teff	Gram	3.589
Wheat	Gram	3.623
Sorghum	Gram	3.805
Maize	Gram	3.751
Haricot Bean	Gram	3.451
Sweet potato	Gram	1.36
Tomato	Gram	0.373
Onion	Gram	0.713
Meat	Gram	1.148
Milk	Litre	0.737
Egg	Each	0.061
Butter	Gram	7.364

Source: Ethiopian Health and Nutrition Research Institute, 1998

Annex 4: Conversion Factor used to calculate Adult Equivalent (AE)

Age Category (Years)	Male	Female
< 10 Years	0.6	0.6
10 – 13	0.9	0.8
14 – 16	1	0.75
17 – 50	1	0.75
> 50	1	0.75

Source: Storck *et al*. (1991)

Annex 5: Conversion Factor for Tropical Livestock Unit (TLU)

Animal Category	Tropical Livestock Unit (TLU)
Ox	1.1
Cow	1
Heifer	0.5
Bull	0.6
Calves	0.2
Sheep	0.01
Goat	0.09
Donkey	0.5
Horse	0.8
Mule	0.7
Poultry	0.01

Source: Storck et al. (1991)