

**HOUSEHOLD FOOD INSECURITY, ASSOCIATED FACTORS AND
COPING STRATEGIES AMONG PENSIONERS IN JIMMA TOWN,
SOUTH WEST ETHIOPIA**



BY: MISGANA ASSEFA (BSc)

**THESIS SUBMITTED TO JIMMA UNIVERSITY, INSTITUTE OF
HEALTH, FACULTY OF PUBLIC HEALTH, DEPARTMENT OF
POPULATION AND FAMILY HEALTH IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE MASTER DEGREE IN HUMAN
NUTRITION (MSc)**

JUNE, 2017

JIMMA, ETHIOPIA

JIMMA UNIVERSITY

INSTITUTE OF HEALTH, FACULTY OF PUBLIC HEALTH

**DEPARTMENT OF POPULATION AND FAMILY HEALTH, HUMAN
NUTRITION UNIT**

**HOUSEHOLD FOOD INSECURITY, ASSOCIATED FACTORS AND
COPING STRATEGIES AMONG PENSIONERS IN JIMMA TOWN,
SOUTH WEST ETHIOPIA**

MISGANA ASSEFA (BSc)

ADVISORS:

- **DESSALEGN TAMIRU (BSc, MSc and PhD)**
- **MESERET TAMIRAT (BSc, MSc)**
- **MELESE SINAGA (B Pharm, MSc)**

JUNE, 2017

JIMMA, ETHIOPIA

ABSTRACT

Background: Food and nutrition security exists when all people at all times have physical, social and economic access to food, which is consumed in sufficient quantity and quality to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life. Ethiopia is currently fronting new challenges related to urban poor food insecurity. However, there is no empirical evidence on Jimma Town pensioner's household food insecurity and coping strategies.

Objective: To assess the household food insecurity, associated factors and coping strategies among Pension user households in Jimma Town, South West Ethiopia.

Methods: A community based cross-sectional study was conducted among pension users household in Jimma town from March, 01 – 28, 2017. Simple random sampling technique was used to select study participants. Structured questionnaire was used to collect data. Data were entered into EPI data version 3.1 and analyzed using SPSS (Version 20.0).HFIAS Scale was categorized as mildly food insecure (0 - 11), moderately food insecure (11-16), severely food insecure (≥ 17). Binary logistic regression analyses were used to determine the association of food insecurity with different independent variables using odds ratio and 95 % of confidence intervals. Variables with $p \leq 0.25$ in the bivariate analyses were entered into a multivariable regression analysis to control for confounding variables. Those variables having a p-value < 0.05 in multivariate logistic regression was consider significance association with dependent variable.

Results: Findings of this study showed that 83.5 % of households were food insecure. Findings of multivariable logistic regression analysis also showed that educational status (AOR = 11.02, 95 % CI: 2.96, 41.02), occupational status (AOR = 4.006, 95 % CI: 1.38, 11.65), family size (AOR = 3.74,95 % CI: 1.27, 10.99), marital status (AOR = 1.03, 95 % CI: 1.43, 3.49), and means of livelihood (AOR = 2.44, 95 % CI: 1.102, 5.38) were the significantly factors associated with household food insecurity among pension user of Jimma town. Food insecure households were using coping strategies like changing consumption pattern (44 %) eating inexpensive food (72.4 %), reducing meal frequency (62.4 %) and selling household assets (30.8 %).

Conclusions and Recommendations: Factors like household heads education, family size and means of livelihood were significantly associated with household food insecurity status. Food insecure households used different coping strategies like reducing meal frequency and selling assets. Therefore, national policies and programs need to focus on the how to improve income and social life of this vulnerable groups to malnutrition.

KEYWORDS: Pensioners, Determinants, Food insecurity, Jimma,

Table of Contents

1. Introduction.....	1
1.1. Background	1
1.2. Statement of the Problem	3
2.1. Availability	5
2.3. Food utilization.....	6
2.4. Food Stability	7
3. OBJECTIVES	14
3.1. General objective	14
3.2. Specific objectives	14
4. MATERIALS AND METHODS	15
4.1. Study Area and Period	15
4.2. Study design	15
4.3. Source of population.....	15
4.4. Study population.....	15
4.6. Inclusion and Exclusion criteria	15
4.6.1. Inclusion criteria.....	15
4.6.2. Exclusion criteria.....	16
4.7. Sample Size and Sampling Technique.....	16
4.8. Sampling Technique	17
4.9.1. Dependent variable.....	18
4.9.2. Independent variables	18
4.10. Data Collection tools and measurement.....	18
4.11. Data analysis.....	19

4.13. Ethical Consideration	20
4.14. Operational Definitions	20
4.15. Dissemination plan.....	21
5. RESULTS	22
5.1. Socio-Demographic Characteristics of the Respondents	22
5.2. Proportion of Food Security status of Households	24
5.3. Proportion of Household Response to HFIAS questions	25
5.4. Coping Strategies	26
5.4.1. Consumption Related Coping Strategies	26
6.1. Policy Implication (Impact of Household Food Insecurity).....	33
6.2. Strength and Limitation.....	34
7. CONCLUSIONS AND RECOMMENDATIONS	35
7.1. Conclusions	35
7.2. Recommendations.....	35
9.1. ANNEX I: Information sheet and consent form.....	39
9.2. Annex II: Questionnaires	40
9.3. Annex III	48
9.4. Annex IV	56
9.4. Annex v: Assurance of principal Investigator	64

List of Figures

Figure 1: Conceptual framework of the study, Developed after reviewing literatures.....	12
Figure 2: Schematic presentation of sampling Techniques	17
Figure 3: Food Security Status of Pension users Households from March, 01-28, 2017 Jimma Town, South West Ethiopia.....	24

Lists of Table

Table 1: Socio-demographic and economic characteristics of pension user holds in Jimma Town, South West Ethiopia, from March, 01-28, 2017.....	23
Table 2: Household Response to HFIAS questions from March, 01-28, 2017, in Jimma Town, South West Ethiopia.....	25
Table 3: Consumption Related Coping Strategies of pension user households from March 01-28, 2017, Jimma Town, and South West Ethiopia	26
Table 4: The Respondents Asset and Assistance Based Coping Strategies, March, 01-28, 2017, Jimma Town, South West Ethiopia.....	27

ACKNOWLEDGMENTS

My sincere and deepest gratitude goes to my advisors Dr. Dessalegn Tamiru, Mrs. Meseret Tamirat and Mr.Melese Sinaga from the department of population and family health, for their invaluable comments and suggestions in the development of this thesis writing.

My appreciation and thanks also goes to my instructors and all the rest staff of population and family health department for their kindness, unreserved knowledge, cooperation and assistances in the whole process of this thesis writing. We are extremely grateful to the households pensioner user involved in the study and data collectors.

Finally, I am grateful to my family, all friends and colleagues for their advice, support and encouragement during this thesis writing.

LIST OF ABBREVIATIONS AND ACRONOMY

AOR	Adjusted Odd Ratio
AU	African Unity
COR	Crude Odd Ratio
FAO	Food and Agricultural Organization
HFIAS	Household Food Insecurity Access Scale
GDP	Growth and Development Programme
HIV/AIDS	Human Immune Deficiency/Acquired Immune Deficiency Syndrome
HRD	Humanitarian Requirements Document
IFAD	International Fund for Agricultural Development
IFRCRCS	International Federation of Red Cross and Red Crescent Societies
ILO	International Labor Organization
IMF	International Labor Organization
MDG	Millennium Development Goal
MoLSA	Ministry of Labor and Social Affairs
PSSA	Pension Social Security Authority
PSNP	Productive Safety Net Programme
SDGs	Sustainable Development Goals
SPF	Social Policy Frame
SSA	Sub Saharan Africa
SSA	Social Security Authority
UK	United Kingdom
UNESC	United Nations Economic and Social Council
USAID	United States Agency for International Development
USD	United State Dollar
WFP	World Food Program
WFS	World Food Summit

1. Introduction

1.1. Background

The definition of UN for older people age corresponds with Ethiopia's official retirement age, 60 years and above and minimum years of services to qualify for pension are 10 years. In the past, older people in Ethiopia used to be treated with respect and love, and they received support from their families, relatives and the community. Nowadays, older people who incorporate pensioners without means are forced into begging for lack of family and community support. This is due to the traditional culture of inter-generational solidarity and support have been eroded by Urbanization and modernization (1).

Social protection, including safety net, health insurance and pensions, is a major element in reducing risk for the working poor. Pension is retirement income, paid for by investments build up during one's working life. It is estimated that population over the 60 years of age in Ethiopia, will be increased to 6.8% in 2050 which is increasing the dependency ratio.

Food insecurity is a state in which people experience limited or uncertain physical and economic access to safe, sufficient and nutritious food to meet their dietary desires or food preferences for an industrious healthy and active life while food security is the counter part of it (2). Food security can be considered at national, household and individual levels. At national level, it is associated with physical existence of food stocks for consumption be it from own production or from markets. It is related to the availability dimension of food security and is a function of the combinations of domestic food stocks, commercial food imports, food aid and internal food production including determinants of each of these causes. Household level food security mainly relies on economic freedom and purchasing power of household members which again related to income distribution in the household (3).

Non-availability of food, lack of access, improper utilization and instability over certain period time are the four main pillars that lead to a situation of food insecurity and they exist in various ways in different parts of the world. It is predicted that by 2020, about half of the population will live in cities and urban centers including unplanned urban settlements. The rapid urbanization poses new challenges to achieving food security. Recent studies put forward that the urban population is disproportionately affected by poverty and food insecurity compared to its rural counterpart. Furthermore, the situation is

expected to have deteriorated following the recent global food price crisis that adversely affected net food buying households in both urban and rural areas alike (4).

Rainfall plays a major role in determining agricultural production and hence the economic and social wellbeing of rural communities that indirectly affects food security of urban population. The rainfall pattern in sub-Saharan Africa is influenced by large-scale intra-seasonal and inter-annual climate variability including occasional El Nino events in the tropical Pacific resulting in frequent extreme weather event such as droughts and floods that reduce agricultural outputs resulting in severe food shortages (6,7).

Investments in poverty reduction efforts would have better impact if complemented with timely and predictable response mechanisms that would ensure the protection of livelihoods during crisis periods whether weather or conflict-related. With an improved understanding of climate variability including El Niño, the implications of weather patterns for the food security and vulnerability of rural communities have become more predictable and can be monitored effectively (5).

Ethiopia, a country with an area of ~1.14 million km² is located in the region that is known as the Horn of Africa. Three major agro-ecological areas are distinct, the lowlands, mainly home to the Pastoralists and the middle lands, mainly home to people engaged agro-pastoralist and the highlands, forming the major cropping areas (sedentary agriculture) of the country. The main type of sedentary agriculture practiced is mixed farming that involves the production of grains and livestock mainly for subsistence. Parts of the south western, southern and eastern highlands, in addition to producing grains, specialize in the production of coffee, which is the leading export crop of the country. Most of the urban centers of the country are located in the highland area (7). In Jimma Zone, comprehensive household food insecurity has been done by different authors on different segment of population, however, it has not been done on pension user households. It is with aim that this study indented to investigate the prevalence and determinants of pension users' household food insecurity of Jimma Town.

1.2. Statement of the Problem

With one in every nine households in the world having insufficient food for an active and healthy life, food insecurity remains a global problem. Despite there is more than enough food produced today to feed everyone in the world, close to 800 million are chronically hungry since the affordability of food largely relates to income, ensuring access to food remains one of the key pillars of food security and the wider anti-poverty agenda (9,10).

In most developing countries, urban food and nutrition insecurity has been on the escalation, particularly in Sub-Saharan-Africa (SSA) due to the swift rate of urbanization. Furthermore, the urban populations have been hit hard by the food price catastrophe as compared with rural populations (11, 12).The inaccessibility food prevailing in Sub-Saharan Africa (SSA) is largely from a combination of factors including low economic power, poor livelihoods, limited resource and increased food price problems and political instability and policy gaps. In addition to the basic causes of food insecurity, literature showed that the educational status of the household, multiple income sources, number of children, sole parenthood, marital status and employment status of the households are perceived to be determinants of food insecurity both in developed and developing countries. Moreover, traditional farming practice, unstable weather conditions, recurrent drought, pests and disease, population pressure or growth, weak institutional capacity, inadequate infrastructure and social services are the other major reasons that determine food security in Ethiopia (14 ,15).

Literature focused on the outcomes of food insecurity and hunger in children who are members of elders that may be pensioners indicates that significant negative consequences such as social, psychological, and physical outcomes of food insecurity in childhood. It is the same for adults, particularly for mothers and the elderly. Food insecurity may also result in severe social, psychological, and behavioral consequences and individuals may manifest feelings of alienation, powerlessness, stress, and anxiety, and they may experience reduced productivity, reduced work and school performance, and reduced income earnings. Households and communities facing acute food shortages are forced to adopt coping strategies to meet the immediate food requirements of their families. These extreme responses may have adverse long-term impacts on households' ability to have sustainable access to food as well as the environment (16 ,17).

Another important thread has been the need to address the growing vulnerability of poor older people. People in older age experience particular vulnerabilities due to higher than average poverty rates, declining health and rising health costs, insufficient access to social services, water and adequate food, and problems of abuse and neglect. The high poverty levels of older people are also a function of the limited ability of families in poverty to care for their older relatives (10). According to the report of food security strategy of Ethiopia, urban low income, households employed in the informal sector, those outside the labor market, such as elderly, disabled, sick, some female-headed households, street children and urban poor vulnerable to economic shocks, especially those causing food price rises (19) .

Social pensions have recently been recognized as a key component of the United Nation's Social Protection Floor – one of nine UN initiatives agreed in 2009 to reduce the social impact of the global economic and financial crises that leads to food insecurity. Social pensions reduce poverty and vulnerability not just for older people only, but also for their families and in particular for orphans and children in their care. However, as we can understand from different studies pension users are elder people who are greater than 60years, disabled individual by armed force and retirement government employee who are nonproductive force of social segment, naturally immune compromised? By other side's the income they get monthly shared for different purpose like: food, health, utilities, other household, saving/investment, education, social participation and dept. payment which may leads to food insecurity of pension users (20)

To address the food insecurity problem, the government Ethiopia is taking a strong leadership role with the programs that meet the varying needs of vulnerable households. It is making significant investments and strides, particularly through its productive safety net program and agriculture-led economic growth that is tied to improved livelihoods and nutrition can become a long lasting solution to Ethiopia's poverty and food insecurity (19).

Although numerous studies examine catastrophic household food insecurity and associated factors worldwide, most focus on general household rather than specific vulnerable groups like pension users household. So, this study designed to assess the prevalence of household food insecurity and associated factors among pensioners in Jimma Town, South West Ethiopia.

2. Literature Review

The concept of food security emerged in the 1960s and has been evolving ever since. Our understanding of hunger has become more complex over time. In 1996, the definition of food security was settled at the World Food Summit in Rome, which adopted the following definition: ‘Food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food Preferences for an active and healthy life (21).

In 1996, the World Food Summit explain that food insecurity exists when people lack secure access to sufficient amounts of safe and nutritious food for normal growth and development and an active and healthy life. This definition integrates availability, access, stability and the biological utilization of food. Therefore, for the purpose of this study, the definition put forward by World Food Summit, 1996 was taken as a working definition of food security and the household level is considered as the key unit of food insecurity analysis (13)

2.1. Availability

The World Food Programme defines availability as the amount of food that is present in a country or area through all forms of national production, imports, food stocks and food aid. The term tends to be applied to food available at a regional or national level. Urban food security is different from rural food security – in the latter household production factors takes lead in determining the level of food availability while in former it is a combination of factors such as competitive retail network, existence of safety nets like public distribution system coupled with the supply position of the state. However in the current context of food prices increase and impact of global warming and consequent climatic change on production, even urban food availability is get affected. In urban sprawl, peripheries and adjacent rural zones is becoming more expensive and farmers often sell land for non-agricultural uses, which leads to further urban expansion and less food available (22).

2.2. Food Access

According to World Food Program definition food access is a household’s ability to acquire adequate amounts of food regularly through a combination of production, purchases, barter, borrowing, food assistance or gifts. Food access consists of three elements, which are physical, economic/financial and socio-cultural. The physical dimension can be illustrated by a situation where food is being produced in

one part of a country but an inefficient or non-existent transport infrastructure means that food cannot be delivered to another part suffering from a lack of food. From the economic viewpoint, food security exists when people can afford to buy sufficient food. The idea that food insecurity arises when food is available but people are unable to afford it is still quite a recent development in the history of food security. A further economic consideration is the importance of market systems to ensure access to food as points out (7).

The third element is the socio-cultural dimension which arises when food may be physically available and the potential consumer has the money to buy the food but is prevented from doing so for being a member of a particular social group or even gender. Social conflict and civil strife can seriously disrupt food production and lead to the loss of livestock for example with dire consequences for a household's future food security. Physical food access is not a concern in highly developed countries because individuals who are unable to access grocery shops may have the possibility of home delivery which facilitates food access for the sick and disabled however in developing countries it is controversial due to inadequate infrastructures (23).

According to FAO, 2012 report farming contributes to overall economic development and improves physical access to a variety of foods. In addition to physical food access, financial access plays an important role in ensuring food security. In this respect, residents of urban and peri-urban areas tend to be more disadvantaged than their rural counterparts because most often they have to purchase their food, which makes them dependent on food markets and thus more vulnerable to potential price volatile (24).

2.3. Food utilization

World Food Programme (WFP) defines it as the selection and intake of food and the absorption of nutrients. Food utilization depends on adequate diet, clean water, sanitation and health care (7). The World Food Summit defines food utilization as obtaining safe and nutritious food which meets their dietary needs. The availability and access to food on their own are not enough; people have to be assured of safe and nutritious food. The food consumed has to deliver sufficient energy to enable the consumer to carry out routine physical activities. Utilization also covers factors such as safe drinking water and adequate sanitary facilities to avoid the spread of disease as well as awareness of food preparation and storage procedures (22).

Urban residents as largely net buyers of food are particularly vulnerable to volatile food prices; they are often forced to reduce other expenditure in order to meet their basic food requirements. In the context of developing countries, poor urban dwellers are thus at risk of consuming insufficient and low-quality food, including street food, which may be unhygienic, exposing them to health risks. Urbanization is highly correlated with access to processed foodstuffs, which have higher sugar levels or artificial sweeteners; processed food tends to contain artificial coloring agents, hydrogenated fats, preservatives and chemical pesticides (25).

2.4. Food Stability

The World Food Summit says that stability implies that food must be present “at all times” in terms of availability, access and utilization for food security to exist. The literature differentiates between chronic food insecurity where food needs cannot be met over an extended period of time and transitory food insecurity, where the time period is more temporary. It is tremendously important that the three food security dimensions discoursed above and their associated indicators are stable over time, in order to ensure sustainable food security (26).

In developed countries cities are likely to be well organized and thus disaster preparedness is generally high whereas in the developing world the urban poor are at risk of food insecurity caused by extreme weather events, natural hazards and disasters. Temporary difficulties with access to food can be the results of disastrous events including war, or may be linked to other unforeseen occurrences. The recent study in Burkina Faso indicates that large urban populations’ access to food was reduced due to food shortages and high food prices. Secondly, the crisis triggered population movements because many households mainly in rural areas were unable to sustain their livelihoods and so migrated to cities in search of alternative income (27).

Because of the increasing urbanization of poverty and reliance of urban dwellers on purchased food, many food insecurity risks, in particular financial access to food and food availability, are expected to continue to be greater in urban areas than in rural communities. This could be especially the case if food commodity markets are not adequately regulated, potentially leading to even more price volatility as exemplified by the food crisis in 2007 – 2008. The risk of increasing food insecurity in urban areas will continue to be especially high in slums and informal settlements where, in many cases, socio-economic development is already lower than in rural areas (11,27).

Food Insecurity questionnaires usually employ a series of 9 questions that detect the level of concern and the lack of access to, variety and/or quantity of food. The questions retrospectively refer to a period between 4 weeks. They reflect 3 different domains of food insecurity: (1) Anxiety or uncertainty; (2) Insufficient quality and (3) Insufficient quantity. The principle causes of food insecurity are social injustice, inequity and the absence of warranties for the population to be able to access economic, social, cultural and environmental privileges as well as the right to food. Food insecurity is more common in households, with children, in single parent families (single mothers caring for a number of children), immigrant groups, displaced persons, refugees, the elderly, among others in which Studies carried out in the UK, USA, Canada and Australia have shown the pervasiveness of food insecurity to be associated with factors such as income, lower educational attainment, whether or not children were present in the household, past homelessness, poorer health, lack of home ownership and living alone (2).

Most food-insecure households have a small number of or no assets, no land or just a very small plot of land and a high dependency ratio (i.e. many members are either too old or too sick or less than fifteen years to work). This report indicates that they are also tremendously vulnerable to outward events such as droughts, floods and price fluctuations that enforce them to adopt negative coping strategies, such as reducing food consumption, selling productive assets, shifting production to more stable, lower-productivity crops, or taking children out of school (29).

The study conducted on food insecurity and nutritional vulnerability in the urban areas of Nairobi and Mombasa showed that vulnerability to food insecurity exists in urban and per-urban areas in various forms. Several explanations such as income poverty; the need to allocate resources to non-food expenditures like rent; the high cost of food reflecting transportation costs; the volatility of food and non-food prices; social isolation; and, lack of safety net and coping strategies were given (30).

The Windhoek Declaration of 2008, outlined a Social Policy Framework (SPF) for Africa, on the basis of which AU ministers agreed to the provision of a minimum package of social protection provision, comprising grants for children, informal workers, the unemployed, older persons and the disabled, together with broader social policy provision, including basic health care, and an implied commitment to ongoing contributory pension schemes for civil servant which has indirect impact on food security of pensioners. When we consider Ethiopian context the majority of social protection expenditure is the PSNP (31).

The situation in Ethiopia is not much different from the conditions in other developing regions. For example, World Food Programme stated that the common factors that cause household food-insecurity in urban areas of the country are: household size, age of household, sex of household head, marital status of household, education level of household, dependency ratio, access to credit, ownership of saving account, total income per adult equivalent, expenditure level (food and non-food), asset possession, access to social services, owner of home garden, access to subsidized food, sources of food, availability of food commodities, and supply of food commodities (22) .

Ethiopia has experienced an extraordinary increase in cereal production. Over the past decade alone, cereal production has more than doubled to nearly 20 million tones, mainly as the result of the expansion of cultivation land, increased productivity due to favorable rains, increased use of fertilizer, improved seeds, and low effect of pests and diseases. However, Ethiopia remains a net food importing country and depends on both commercial imports and food aid (32).

Similar to child, older persons who cannot get balanced diet lose their weight and is unable to perform their daily activities. In any country the elderly are grouped into the part of a society which is poor and unable to get adequate food. Since most Ethiopian elderly lead a subsistence life, those who can afford to have regular meals are very few. Due to this, majority of older persons have poor health and are physically weak as a result of low standard of living, lack of balanced diet, insufficient and unreliable income (33).

Findings of Sisay and Edriss revealed that educational status of the respondents, household size, age of household head, remittance and ownership of bank account were also found to be significant while the four variables, namely, overall dependency ratio, sex of household head, accesses to credit, and involvement in urban agriculture were not statistically significant (34). According to Birhane *et al*, household income, asset possession, house ownership, educational and employment status of household heads, and family size are factors associated with food security status. The results of this study indicated that having a lower monthly income, household heads who were uneducated, daily laborers and government employees were more likely to have higher food insecurity (35).

The study in East and West Gojjam zones of Amhara Region showed that maternal education status, household family size, maternal occupation types, paternal occupation types and family monthly income, residential area, agro-ecological zones, house roof made of corrugated iron sheet and number of

rooms, were also found to be a statistically significant predictor of food insecurity in the two communities (36).

According to Tegegne, 2015 report, factors like level of household annual income, source of livelihood, household size and educational status of household heads are determinants that associated with food insecurity (37). The findings in Nekemte Town reported that household size, sex of household head, marital status of household head, and educational status of household head, types of livelihood activities pursued and household access to credit services were factors associated with household food insecurity (38). The study done in northern part Ethiopia (Aksum) revealed that family size, age of household head, education level of household head, access to credit service, asset possession and access to employment were found predictors of household food insecurity (39).

2.5. Coping strategies practiced in Ethiopia

Maxwell (1996) classified household responses to food insecurity in two categories: Coping strategies and Adaptive strategies. Coping strategies are the responses made by households to improve the declining situation of household's food insecurity while adaptive strategies involve a permanent changes in the mix of ways in which food is required, irrespective of the year in question and it refers to long term adjustment. The most commonly practiced coping strategies during abnormal season include, short term dietary change, changing intra household food distribution like skipping adults to feed children, limiting size and frequency, borrowing and gifts from relatives and friends, and mutual support mechanism, selling of livestock and wood, cash for work and relief assistance.

According to the study of measuring food insecurity in urban and per-urban area by Maxwell, household practiced six categories of coping strategies during food insecurity such as eating foods that are less preferred and less expensive, limiting portion size, borrowing food or money to buy food, maternal buffering, skipping meals eating only one or two meals per day was commonly practiced, particularly by lower-income groups. Skipping eating for whole days, clearly, a more severe means of dealing with food insufficiency, going whole days without eating anything, was found to be practiced mainly by the lowest income group, and mostly at certain times of the year.

According to Urban food insecurity in the context of high food prices in Addis Ababa report, not eating for an entire day at the time of survey (3.3 %), have reduced the variety of food that they consumed (52

%) , have reduced the amount of food that they consume (35.8 %), and have reduced their meal frequency (25.5 %) are the coping strategies used by the respondents (35). Another study done at Durame, Wolenchiti and Debresina towns of Ethiopia found that high prevalence of food insecurity in the respondent (77 %), with 48 % being moderately or severely food insecure. The same study reported that the common coping strategies used by households against high food price were shifting to lower quality food or less expensive food types and reduction in the quantity of meals (37).

2.6. Conceptual Framework of the Study

Based on the empirical study reviewed determinants of food insecurity status can be affected by demographic, human capital, economic and institutional factors which will fall in any of the four dimension of food availability, access, utilization and stability (Figure 1).

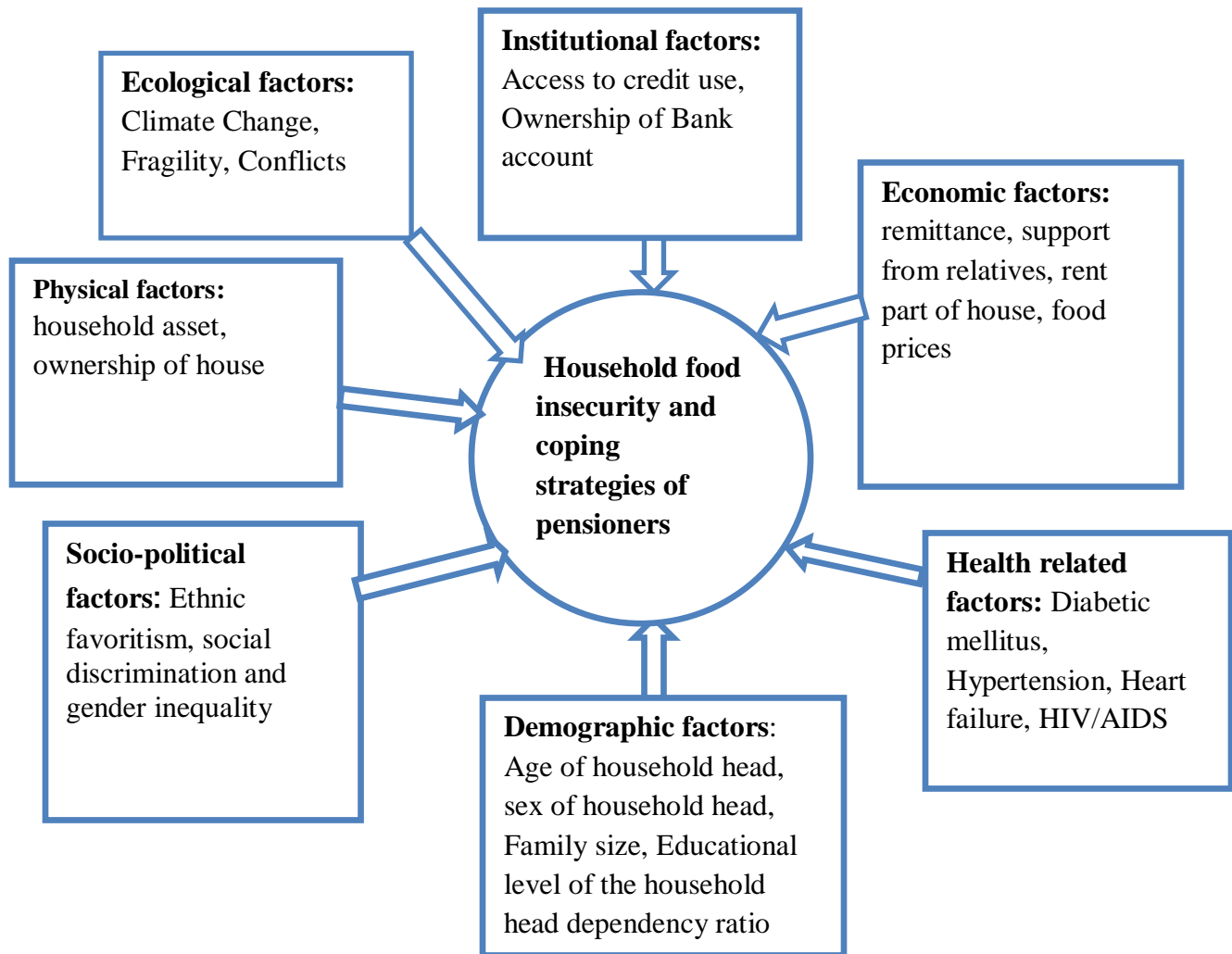


Figure 1: Conceptual framework of the study, Developed after reviewing literatures.

2.7. Significance the study

Although extensive food insecurity, coping strategies and associated factors studies pertaining to all other age groups have been conducted continuously, similar studies concerning pensioners have not studied clearly in Ethiopia. The output of this research will greatly help to development practitioners and policy makers to acquire better knowledge to carry out development interventions at the right time and place to decrease vulnerability to food insecurity. The finding of this study is also useful to researchers and development actors in both the governmental and nongovernmental organizations working in the area as well as elsewhere in the country with similar socio economic, cultural and physical environment.

This study is also important to all concerned sectors that are going to implement projects which are related to food insecurity in the area which may include the government, non-governmental organization and private investors. In general, the beneficiaries of this study are government, nongovernmental organizations, private sectors and the community at large. The results of the study can also be made ready and documented at town level so that it will serve as source material for further research development strategies.

3. OBJECTIVES

3.1. General objective

- To assess household food insecurity, associated factors and coping strategies among pensioners in Jimma town, south west Ethiopia

3.2. Specific objectives

- To assess the status of household food insecurity among pensioners in Jimma town, south west Ethiopia
- To identify factors associated with household food insecurity among pensioners in Jimma town, south west Ethiopia
- To identify coping strategies to household food insecurity among pensioners in Jimma town, south west Ethiopia

4. MATERIALS AND METHODS

4.1. Study Area and Period

This study was conducted in Jimma Town, Oromia regional state, Southwestern Ethiopia from March 01-28, 2017, 2017 among pension user household. Jimma town is one of the Oromia Regional State Administrative towns that surrounded by Jimma Zone districts in all directions and located at 352 km from capital city of the country in the South West part with an area of 50.52 square kilometer. It has a latitude and longitude of 7°40'N and 36°50'E respectively. The altitude is estimated to be 1720 – 2010 m above sea level.

According to CSA, 2007 report, this town has a total population of 120,960, of whom 60,824 are men and 60,136 women. It has a population density of 2,394.30 all are urban inhabitants. A total of 32,191 households were counted in this town, which results in an average of 3.76 persons to a household, and 30,016 housing units of which, 6481 are pension users' household. In Jimma town, 15.35 % of the land was used for agricultural purpose while 84.65 % of the land was used for different purposes. About 15 % of Jimma town populations were currently practicing urban agriculture. The main crops grown in Jimma town include pulses (Bean and pea), fruits and vegetables (papaya, mango and banana) and coffee. The major livestock species managed in the area includes cattle, hens, shoats, donkey, mule and horses.

4.2. Study design

A community based cross sectional design was employed

4.3. Source of population

All household pension users of Jimma town

4.4. Study population

All sampled pension users' household heads of Jimma Town

4.6. Inclusion and Exclusion criteria

4.6.1. Inclusion criteria

All pension user households lived at least for six months in Jimma Town South West Ethiopia during recruitment period were considered for inclusion in the study.

4.6.2. Exclusion criteria

Individual those are unable to hear, unable to speak, seriously ill, mentally illness during the study period and those who live out of Jimma Town were also excluded.

4.7. Sample Size and Sampling Technique

Sample size was determined using single population proportion formula by considering different proportion to population size for the specific three sites.

The sample size was calculated by assuming 50 % of households were food insecure with 95 % confidence level and 0.05 margin of error. Therefore, the subsequent report is based on the total sample of **399** study participants.

$$n = \left(\frac{z\alpha}{2} \right)^2 p \frac{(1-p)}{d^2} = \frac{(1.96)^2 (0.5 \times 0.5)}{(0.05)^2} = \frac{3.8416 \times 0.25}{0.0025} = \frac{0.9605}{0.0025} = 384.2$$

Since the source of population is less than 10,000; I consider correction formula

$$nf = \frac{n}{1 + \frac{n}{N}} = \frac{384}{1 + \frac{384}{6481}} = 363$$

Considering 10 % non-response rate, total sample size **399** households was involved.

Where z alpha =level of significance

P = population proportion estimate 50 % since no similar study done

d = margin of error 5 %

4.8. Sampling Technique

First, we went to Ministry of Labour and Social Affairs South West branch and got information the three station from where pensioners collect money monthly (United bank, Commercial nominee and Posta office) then by using payroll of the Pensioners as sampling frame we selected the households by Simple Random Sampling (lottery method) and proportion to population size for each site. Finally, we listed the study participants' names with their kebele, house numbers/phone numbers and used local guiders with data collectors to reach each household. Primary data was collected through interviewer based semi-structured questionnaire at household survey.

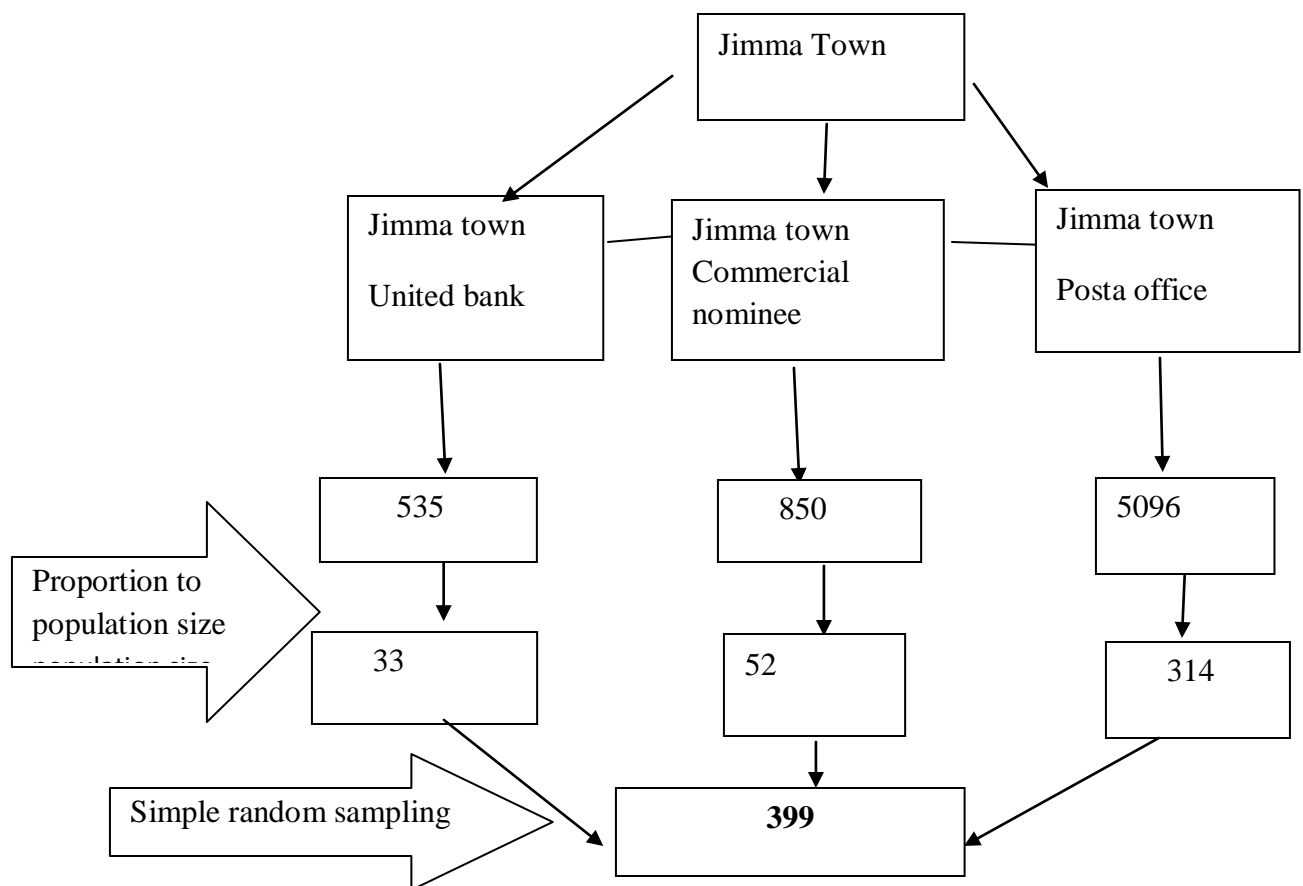


Figure 2: Schematic presentation of sampling Techniques

4.9. Study variables

4.9.1. Dependent variable

Food insecurity status

4.9.2. Independent variables

Socio-Demographic factors: Age of household head, sex of household head, family size, dependency ratio, religion, marital status, ethnicity, educational status of household heads

Socio-political factors: Ethnic favoritism, social discrimination and gender inequality

Ecological factors: Climate Change, Fragility, Conflicts

Physical factor (capita): household asset ownership, household ownership

Economic factors: rent part of house, remittance and relatives support

Institutional factors: Access to credit services

Socio-political factors: Ethnic favoritism, social discrimination and gender inequality

Ecological factors: Climate Change, Fragility, Conflicts

4.10. Data Collection tools and measurement

Questionnaire for interview was developed first in English and then translated into Afaan Oromo and Amharic and back translated to English with independent translators with health background to make the consistency of the questionnaire. Respondents were interviewed at their home by trained data collectors. The overall data collection activity was controlled by three supervisors. All completed questionnaire was examined every day after data collection for completeness and consistency by the principal investigator and supervisors. The data was collected for thirty days by six data collectors from all randomly selected households through six BSc nurses. Human nutrition students as supervisors and six BSc nurse through face to face interview at randomly selected. One supervisor was assigned per two data collectors, to assist them and to take remedial action when mistakes happen at spot. Data collectors and supervisors were trained for two days by research team on data collection tools and procedure during data collection and on a way how to obtain consent from clients.

Food Insecurity questionnaires usually employ a series of 9 questions that detect the level of concern and the lack of access to, variety and/or quantity of food was used.

4.11. Data analysis

Data was entered into EPI-data version 3.1. to identify out of range values, missing values or any other inconsistencies. Then, the data were exported into SPSS version 20 for the analysis. Descriptive statistics like proportion, mean, graphs, charts, tables and numerical summary were used. Binary logistic regression was used to identify the association between each independent variable and the outcome variables at a p-value of 0.25 were selected for multivariate analyses. Multivariable logistic regression models were used to isolate independent predictors of pension user household's food insecurity. Those variables having a p-value < 0.05 in multivariate logistic regression were considered significant association with dependent variable. Principal component Analyses (PCA) was done and the household wealth index ranked into tertiles.

To assess Household Food Insecurity and Associated Factors among Pensioners in Jimma Town, South West Ethiopia, food insecurity was performed by using FANTA household food insecurity access scale score which is a continuous measure of the degree of food insecurity (access) in the household in the past four weeks (30 days). First, a household food insecurity access scale score variable was calculated for each household by summing the codes for each frequency-of-occurrence question. Household food insecurity access scale Score (0 – 27), for each HH Sum of the frequency-of-occurrence during the past four weeks for the 9 food insecurity-related conditions, by coding 0 = no occurrence, 1 = rarely, 2 = sometimes, 3 = often.

Household food insecurity access category for each household was used as household food insecurity access category, 0 = food secure and category 1, 2 and 3 = food insecure. Based on the response to the nine HFIAS questions and their frequency of occurrence over the past 30 days, households were assigned a score between 0 - 27. A higher HFIAS is indicative of poorer access to food and greater household food insecurity (40). Definition of each food category (secure or mild to severe food insecure) is included under the operational definition. To identify potential household determinants of food insecurity, demographic and socioeconomic characteristics of households were included in the analysis.

4.12. Data Quality control

To assure the quality of the data before data collection properly designed structured questionnaire was prepared in English and translated to local language (Afaan Oromo and Amharic). To assure the quality of the data and to make sure that all assessment team members were able to administer the questionnaires properly, a total of two days rigorous training for data collectors and supervisors was given. Internationally standardized questionnaires like HFIAS were used. Before the actual data collection work, data collectors and supervisors carried out role play practices and then had field pre-test activities undertaken on 20 (5 %) at Agaro Town of pension user households to take some corrective actions to the contents of questionnaire. The data collectors and supervisors were university graduate BSc and MSc holders. At the end of every data collection day, each questionnaire was examined for completeness and consistency by the supervisors and the principal investigator, and pertinent feedback was given to the data collectors and supervisors.

4.13. Ethical Consideration

Ethical clearance was obtained from ethical committee of Jimma University, Institute of Health Science. A formal letter, from Faculty of Health sciences of Jimma University, was submitted to Jimma zone federal social service affairs then to commercial nominee, Posta office and united bank of Ethiopia Jimma branch where pensioners receive salary, finally the letter was distributed to respective kebele. The study participants was registered in codes but not in names, that will increase their confidentiality to respond for the questionnaires, also Clients informed that their participation was voluntary and the choice to participate or not would have no effect on any services utilization. Informed consent was obtained from respondents prior to the interview.

4.14. Operational Definitions

Household food insecurity access scale (HFIAS): It reflects 3 different domains of food insecurity such as anxiety or uncertainty, insufficient quality and insufficient quantity. Each one of the question refers to a previous period of four weeks (30 days). The subject that was interviewed is first asked about the occurrence of food insecurity, in other words if the condition reflected in the question took place in the last four weeks (yes or no). If the subject answers affirmatively to this type of question, another question is asked about the frequency to determine if the condition has occurred a few times (once or twice), sometimes (between three to ten times) or frequently (more than 10 times) in the last four weeks.

In this manner, Food insecurity status was measured using household food insecurity access scales (HFIAS)

Food security- study participants who has 0 score (no occurrence) of HFIAS questionnaires.

Mildly food insecure household: worries about not having enough food sometimes or often, and/or unable to eat preferred foods, and/or eats a more monotonous diet than desired and/or some foods considered undesirable, but only rarely and but not experience running out of food, going to bed hungry, or going a whole day and night without eating

A moderately food insecure household: sacrifices quality more frequently, by eating a monotonous diet or undesirable foods sometimes or often, and/or has started to cut back on quantity by reducing the size of meals or number of meals, rarely or sometimes, But it does not experience any of the three most severe conditions.

A severely food insecure household: has move on cutting back on meal size or number of meals often, and/or experiences any of the three most severe conditions (running out of food, going to bed hungry, or going a whole day and night without eating) or experiences one of these three conditions even once in the last 30 days is considered severely food insecure

Pensioner (retiree): study population which includes military, public servants and private retiree who collect money monthly from commercial nominee, Posta office and united bank of Jimma town.

Pension: A payment under given conditions to a person following his retirement from service due to age or disability or to the surviving dependents of a person entitled to such a pension in accordance with the pension plan or scheme of the country the person is residing.

4.15. Dissemination plan

The finding of the research will be distributed to Jimma University postgraduate and research study office, regulatory affairs, ministry of health and other concerned body working in the area of household food insecurity. Besides the findings of the works will be presented at different seminars and training organized by the Ministry of Health, partners, professional associations and regional health bureau.

5. RESULTS

5.1. Socio-Demographic Characteristics of the Respondents

A total of 399 households participated in the study with a response rate of 100 %. Over half 210 (52.6 %) of households were females headed. A total of 164 (41.1 %) household heads were guard. The one third 131 (32.8 %) of household heads were 65 years and above. The mean and median age of household head were 57.4 and 60 years respectively. The average household size of all the respondents was 5.33 persons which ranged from a minimum of 1 to a maximum of 8 persons per household. More than two-thirds (67.7%) of household heads were married. One hundred ninety one (47.9) respondents were Orthodox by religion. In terms of educational status, half 221 (55.4 %) of the respondents have been found to be illiterate (Table 1).

Table 1: Socio-demographic and economic characteristics of pension user holds in Jimma Town, South West Ethiopia, from March, 01-28, 2017

Variables	Categories	Frequency	Percent
Household Head (n=399)	Head	352	82.2
	Spouse	45	11.3
	Others*	2	0.6
Age Category	≤ 44	69	17.3
	45-64	199	49.9
	≥ 65	131	32.8
Sex	Male	189	47.4
	Female	210	52.6
Religion	Orthodox	191	47.9
	Muslim	138	34.6
	Protestant	66	16.5
	Others	4	1.0
Occupational status	Guard	164	41.1
	Government employee	61	15.5
	Merchant	38	9.5
	Soldier	12	3
	Housewife	124	31.1
	Other	22	5.5
Educational status	Uneducated	221	55.4
	Primary school	122	30.6
	secondary school	41	10.3
	diploma and above	15	3.8
Marital status	Married	270	67.7
	Widowed	103	25.8
	Divorced/separated	67	16.8
	Single/never married	7	1.8
Religion	Orthodox	191	47.9
	Muslim	138	34.6
	Protestant	66	16.5
	Others	4	1
House hold asset	Asset poor	118	29.6
	Asset medium	171	42.9
	Asset rich	110	27.6

* = Son/Daughter, Non-relative

5.2. Proportion of Food Security status of Households

Findings of this study indicated that 66 (16.5 %) of the respondents were food secure while 17 (4.3 %) and 257 (64.4 %) of respondents were mildly and severely food insecure respectively (Figure 2).

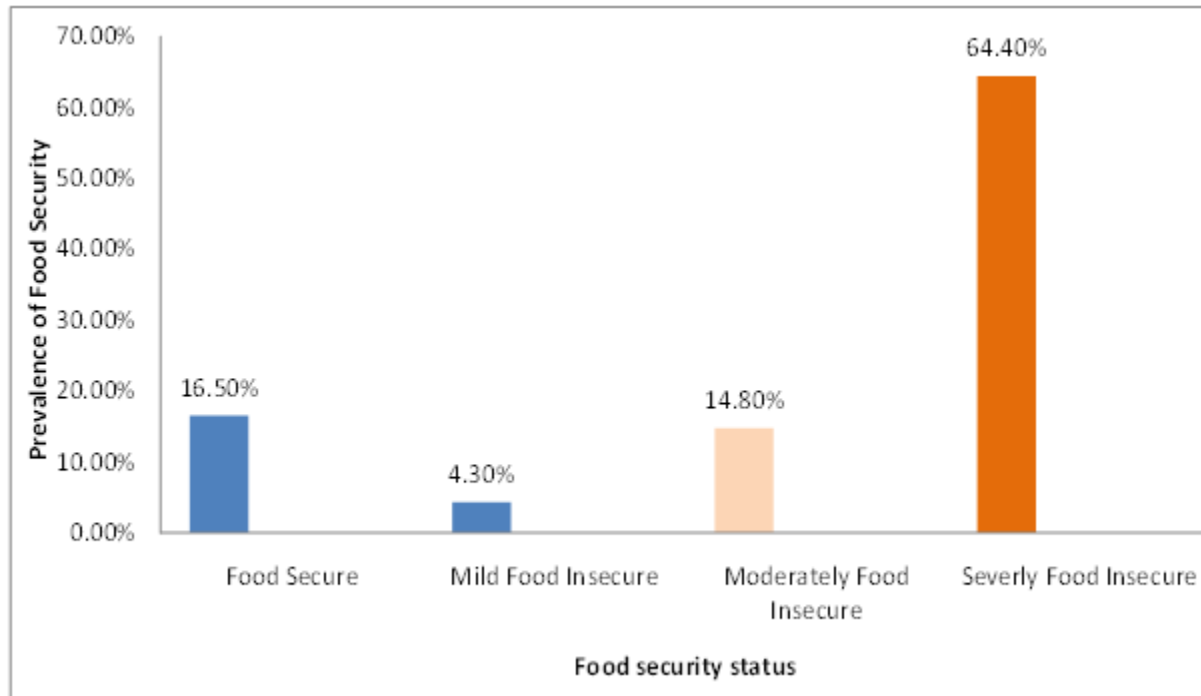


Figure 3: Food Security Status of Pension users Households from March, 01-28, 2017 Jimma Town, South West Ethiopia

5.3. Proportion of Household Response to HFIAS questions

Of the total heads of household, 118 (29.6 %) heads of household reported that they have ever experienced sleeping hungry, 123 (30.8) no food of any kind in the household and 11 (2.8 %) participants reported that no food available entire day at the time of survey. Two hundred fifty seven (64.4 %) households were eat just a few kinds of foods while 123 (30.8 %) households were reduced the amount of meal that they consumed (Table 2).

Table 2: Household Response to HFIAS questions from March, 01-28, 2017, in Jimma Town, South West Ethiopia

Occurrence Questions	Yes		No	
	Frequency	Percent	Frequency	Percent
Q1: Worry about food	333	83.5	66	16.5
Q2: Unable to eat preferred foods	303	76	96	24
Q3: Eat just a few kinds of foods	257	64.4	142	35.6
Q4: Eat foods they really do not want eat	217	54.4	182	45.6
Q5: Reduce amount of meal	123	30.8	276	69.2
Q6: Reduce frequency of meal	145	36.3	254	63.7
Q7: No food of any kind in the household	123	30.8	276	69.2
Q8: Go to sleep hungry	118	29.6	315	79
Q9: Go a whole day and night without eating	11	2.8	388	97.24

HFIAS Score (0-27) is the Sum of the frequency-of-occurrence during the past four weeks for the 9 food insecurity-related conditions. So, the total sum of frequency-of-occurrence question response code (Q1a + Q2a + Q3a + Q4a + Q5a + Q6a + Q7a + Q8a + Q9a).

To calculate the average of the Household Food Insecurity Access Scale Scores: Sum of HFIAS Scores in the sample divided by number of HFIAS Scores (i.e., households) in the sample.

Accordingly, the total and average household food insecurity scale score were; 5611 and 14 respectively and the maximum and minimum HFIAS score were 21 and 1 respectively.

5.4. Coping Strategies

Majority 333 (83.5 %) of household heads have experienced food shortage to a considerable degree during the last three months. The respondents reported that they reacted to food insecurity in many different ways.

5.4.1. Consumption Related Coping Strategies

This study found out that households were regulating their consumption patterns as a cost cutting measures. Among the strategies of consumption change, the most common one was to eat lower quality or less expensive foods, 289 (72.4 %) and reducing the number of meals consumed in a day 249 (62.4 %) followed by reducing consumption during each meal 176 (44 %) as shown in Table 3.

Table 3: Consumption Related Coping Strategies of pension user households from March 01-28, 2017, Jimma Town, and South West Ethiopia

Types of consumption related coping strategy	Frequency	Percentage*
Reduce the number of meals consumed in a day	249	62.4
Reducing consumption during each meal (pattern)	176	44
Eat less preferred, lower quality or less expensive foods	289	72.4
Increase consumption of street food	23	5.8
Selling any house hold assets	123	30.8

*Since respondents might have multiple answers the total percentage does not add up to 100

5.4.2. Asset and Assistant Based Coping Strategies

Food insecure households reported some type of coping strategy like borrowing money 207 (51.9 %), receiving donation from relatives or friends 176 (44 %), Selling household assets 123 (30.8 %), migration of household members to the nearby town for wage labor 173 (43.4 %) and practicing petty trades 9 (2.3 %) as shown in Table 4.

Table 4: The Respondents Asset and Assistance Based Coping Strategies, March, 01-28, 2017, Jimma Town, South West Ethiopia

Type of Coping Strategies	Frequency	Percentage
Migrate household member to the nearby town for wage labor	173	43.4
Receiving donation from relatives or friends	176	44
Borrowing money to buy food	207	51.9
Buy food on credit basis	78	19.5
Selling household assets	123	30.8
Selling household livestock	21	5.3
Petty trading	9	2.3
Selling wood	25	6.3
Selling charcoal	13	3.3
Send children to work	45	11.3
Begging	7	1.75

*Since respondents could have multiple responses' the total percentage does not add up to 100

5.5. Determinants of Household Food insecurity

In binary logistic regression analysis age, sex, marital status, educational status, access to credit service, occupational status, asset possession, existence of family members with chronic disease, means of livelihood and family size were selected as candidate variable for multivariable logistic regression.

Findings of multivariable analysis showed that the odds of households headed by widowed were 1.03 more likely food insecure status (AOR = 1.03, 95 % CI: 1.43, 3.49) than households headed by married. Household food insecurity were positively associated with lack of household head education (AOR = 11.02, 95 % CI: 2.96, 41.02), household head employed as guard (AOR=4.01, 95 % CI: 1.38, 11.65) and having large family size (≥ 7) (AOR = 3.74, 95 % CI: 1.27, 10.99). The odds of Households who led their life by renting part of their house were 2.44 times more likely food insecure (AOR = 2.44 (95 % CI: 1.10 - 5.38) than households led their life by getting remittance from abroad.

Table 6:-Factors associated with household food insecurity among pension user households from March, 08 - 23/2017, in Jimma Town, Southwest Ethiopia

Predictors	Food security status		COR	AOR	95 % CI		P-value
	Food insecure (%)	Food secure (%)			lower	upper	
Age							
≤ 44	59 (14.8)	10 (2.5)	1				
45-64	162 (40.6)	37 (9.3)	1.43		0.84	2.17	0.88
≥ 65	113 (28.3)	18 (4.50)	1.06		0.51	2.11	0.25*
Sex							
Male	167 (41.9)	22 (5.5)	1				
Female	167 (41.9)	43 (10.8)	1.95		1.12	3.41	0.02*
Marital status							
Married	223 (55.9)	47 (11.8)	1	1			
Divorced/separated	16 (4)	3 (0.8)	1.12	0.83	0.83	0.83	0.82
Widowed	91(22.8)	12(3)	1.59	1.03	1.43	3.49	0.04**
Single/never married	4 (1)	3 (0.8)	0.28	0.15	0.02	1.41	0.10
Education status							
College and above	8 (2)	7 (1.8)	1	1			
Secondary school (9-12)	27 (6.8)	14 (3.5)	0.08	1.48	0.34	6.29	0.59
Primary school (1-8)	92 (23.1)	30 (7.5)	0.13	2.80	0.77	10.17	0.17
Illiterate (uneducated)	207 (51.9)	14 (3.5)	0.21	11.02	2.96	41.02	<0.001**
Occupational status							
Merchant	23 (5.8)	15 (3.8)	1	1			
Guard	153 (38.3)	11 (2.8)	9.07	10.06	3.42	29.56	< 0.01**
Government employee	43 (10.8)	18 (4.5)	1.56	2.09	0.74	5.87	0.16
Soldier	8 (2)	4 (1)	1.31	2.54	0.40	7.89	0.32
House wife	107 (26.8)		4.11	2.72	0.94	7.89	0.07
Asset Possession							
Asset Rich	95 (23.8)	15 (3.8)	1				
Asset Medium	149 (37.3)	22 (2.2)	1.07		0.53	2.16	0.852
Asset Poor	90 (22.2)	28 (7)	1.97		0.26	1.01	0.05*
Family Size							
≤ 3	26 (6.5)	10 (2.5)	1				
4-6	168 (42.1)	33 (8.3)	0.41	2.64	0.96	7.23	0.060
≥ 7	140 (35.1)	22 (5.5)	0.80	3.74	1.27	10.99	0.017**
Access to credit service							
Yes	87 (21.8)	12 (3)	1				
No	247 (61.9)	53 (13.3)	1.56		0.79	3.05	0.20*
Means of livelihood							
Remittance from abroad	87 (21.8)	23 (5.8)	1	1			

Support from relatives *	62 (15.5)	4 (1)	9.46	3.52	0.99	8.44	0.050
Rent part of house	129 (32.3)	24 (6)	3.88	2.44	1.10	5.38	0.028**
Others	5 (1.4)	14 (3.5)	1.34	1.88	0.66	5.36	0.241
Chronic disease+							
No	217 (54.4)	34 (8.5)	1				
Yes	117 (29.3)	31 (7.8)	1.7		0.99	2.89	0.06*

* = Were significant Variables in Bivariate analysis but not in Multivariable analysis

** = were significant variables in Multivariable analysis

+ Family members with chronic disease, COR = Crude odd ratio, and AOR = adjusted odd ratio.

Hosmer - Lemshow's goodness-of-fit test produce chi-square of 7.746 with p-value of 0.759 and 8 degree of freedom hence the model were good for the data .

6. DISCUSSION

This study demonstrated that there is high prevalence (83.5 %) of household food insecurity in Jimma Town pension user's households. The results are considerably higher than the national food insecurity (35 %) reported by the Ethiopian Health and Nutrition Research Institute in 2009. In line with this study, high levels of food insecurity have also been documented in other urban poor settings in the developing world in general and in Ethiopia in particular. For example, Kimani Murage, et al., 2014 found that only 85 % of households in slum of Nairobi were food insecure. Moreover, the study towns' food insecurity level was slightly higher than the 75 % prevalence rate recorded for the urban household survey held in three sub-cities of Addis Ababa (36). The higher level of food insecurity identified in our study, could be due to the majority of the respondents were old age contributing to higher food insecurity. Another explanation is that this study was specific to a large metropolitan area, where households are dependent on markets for their food supply and the Town is also surrounded by districts that focus on the production of coffee and khat (1).

Households headed by individuals who were uneducated were more exposed to household food insecurity than households led by an educated one. Studies also showed educational status has significant input to household food security status (18, 36, 40, 42). There are several pathways for this link between food insecurity and illiteracy. The possible explanation is that, it may be due to uneducated heads are less likely to be employed, especially in the context of the present global economic crisis, household head education largely contributed on working efficiency, competency, diversify income, adopting technologies and becoming visionary in creating conducive environment to educate dependents with long term target to ensure better living condition than illiterate ones and plays a significant role in shaping household members. Thus, being literate reduces the chance of becoming food insecure in the sample households.

In this study, households with family size greater than or equals to seven were more likely food insecurity as compared to household with less or equals to three family members. This finding is similar with findings in other parts of the country (34, 40, 41). This is mainly due to the fact that larger household size would mean greater food insecurity as more mouths rely on insufficient income to survive. Other possible reason is that large proportion of household member are children, there exists high unemployment rate in the town and less opportunity of self-employing scheme developed in the

area. These usually lead household members to share the limited resources, which in turn aggravate the food insecurity conditions.

Our study finding showed those households headed by guard were more exposed to household food insecurity than households led by merchant pensioners. This result agrees with the finding of Gebre (39). This may be self-employing opportunities help to diversify and increase amount of income received by households. The fluctuation in access to employment determines urban household pensioner's food insecurity.

The result our study revealed that marital status of household head and food insecurity are related positively in the study area. It indicated that households headed by widowed head were more likely to be food insecure as compared to household headed by married. This finding is consistent with the finding in Nekemte Town (38). This is possibly related to the economy of scale where there is a greater opportunity of pooling together resources from different sources for household consumption. Married households usually reduce expenditure that would have been spent separately.

The fifth predictor variable in the regression analysis was income received through remittance. Households led their life by income from rent part of house were more food insecure than household led by income from remittance. This is similar with findings of Sisay and Edriss (34). This may be due to the fact that an increase in remittance will have a positive effect because the change in income will lead to change in expenditure. Thus, the income received from remittance increases the income so that capacity of the households to consume more will increase. In this regard, the sustainability of this income source is in question besides, it creates dependency syndrome.

We did not find any significant differences between male and female-headed households with respect to household food insecurity status, which is similar to what studies have found in other part of Ethiopia (35). This may be due to the widespread nature of food insecurity; a more in-depth understanding of food insecurity and gender would require further study, potentially using comparative studies and qualitative approaches.

In a food insecure situation, pension user's household in Jimma Towns use food consumption based coping strategies to survive with food shocks. These coping strategies could range from selling any household assets, reducing consumption during each meals, reduce the number of meals consumed in a

day, consuming low quality cheap foods (less preferred). This finding is similar with the study done in Addis Ababa, Jimma Zone and East and West Gojjam (35, 36, 42).

6.1. Policy Implication (Impact of Household Food Insecurity)

In case of a food insecure situation, adolescents use food based coping strategies to survive with food shocks. Coping strategies due to household food insecurity could play against the nutrient intakes of adolescents potentially leading to growth retardation. Stunted growth had been reported to be associated with household food insecurity and it has long-term effects on cognitive development, school achievement, and economic productivity in adulthood and maternal reproductive outcomes. Household food insecure results in high frequency of school absenteeism of adolescents and became challenge for the effort towards the Sustainable Development Goals (SDGs) of quality education and lifelong learning opportunities for all to which our country is striving to achieve (18, 19, 44).

Food insecurity as a result of food access difficulties can increase depression and poor mental health, stress level among household heads, which have the obligation of ensuring household food access. Food insecurity also has negative health consequences on linear growth of adolescent particularly that of girls hinder occurrence of catch up growth. Stunted growth had been reported to be associated with food insecurity. These consequences of food insecurity of household pensioners became challenge for the effort towards the Sustainable Development Goals (SDGs) of ensuring health lives and promote wellbeing for all at all ages (44).

Although remittance has the effect of reducing the likelihood of households becoming severely food insecure, it does not seem to be enough to take households into food security status in both urban and rural areas. Even though participation in migration itself should not be viewed as a cause of the food insecurity, remittances obtained from migration may not be adequate to compensate for the overall effect of losing household labour through migration from country. It may only serve as a diversification strategy to minimize the negative impacts of shocks on poor households by smoothening consumption in the short run and manage the symptoms of food insecurity but not achieve food security entirely. Therefore, migrations for remittances can create farm labour shortages in the household resulting in over dependence syndrome that transferred to the family, depletion of educated human power from country and population pressure to the town or country where they migrate (45).

6.2. Strength and Limitation

6.2.1. Strength

- Community based study
- Using primary data
- Response rate was 100 %
- Finding is new on the target population

6.2.2. Limitation of the study

The use of HFIAS self-reported food insecurity questions could also lead to social desirability biases. However as the food security scales are validated in developing countries, it is expected that this problem is minimal and attempt was made to minimize it by clarifying the purpose of the study. A cross-sectional design enables us only to assess food security at one point of the harvest cycle, precluding an understanding of food security across all of the seasons. The study was done in one of the nine regions of Ethiopia where the applicability of the findings may be limited to Southern Western Ethiopia and similar groups in geographical context.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1. Conclusions

The findings of this study showed that household food insecurity among pension users was very high and were significantly associated with socio-demographic factors like household heads education, family size, marital status, occupational status and means of livelihood. Food insecure households were used both consumption and asset based coping strategies like eat less preferred, lower quality or less expensive foods and receiving donation from relatives or friends respectively.

7.2. Recommendations

For policy makers and National Governments:

- Government policies should consider free services like school fee, health care and salary increment for pensioners since they are vulnerable group.
- National Government should strength Productive Safety Net program (PSNP) that focuses pensioners' households.
- Since income from source like remittance is provisional and the sustainability is not ensured, Government as a policy making body should focus on income generating activities like urban agriculture and livestock production.

For Researchers:

- There is a need for longitudinal studies that will empower an assessment of seasonality in food insecurity in Town pension users and to better understand the association between identified predictors and food insecurity.

For Jimma Town Health Bureau:

- Jimma town Health Bureau should take action based awareness, on the impacts of population growth at the family, community and national level should be strongly advocated that may lead to reduction in fertility and lengthen birth spacing to result in smaller household size and work through health extension workers, Idir and Women Development Agents.

8. References

1. Commission E. Vulnerability of Older People in Ethiopia. 2013.
2. Keino S, Plasqui G, Borne B Van Den. Household food insecurity access: a predictor of overweight and underweight among Kenyan women. 2014;1–8.
3. Endalew B, Muche M TS. Assessment of food security situation in Ethiopia: A Review. Asian Journal of Agricultural Research 2015;9(2):56–68.
4. Napoli M, Muro PP De, Mazziotta PM. Towards a Food Insecurity Multidimensional Index (FIMI). 2011;1–72.
5. Haile M. Weather patterns, food security and humanitarian response in sub-Saharan Africa. 2005;6:2169–82.
6. FAO. Ethiopia, Situation Report – February 2016.
7. WFP. World Hunger Series: Hunger and Markets,2009.
8. FAO &WFP. The State of Food Insecurity in the World. 2014.
9. Akpalu W, Christian AK, Ardey SN. WIDER Working Paper 2015 / 030 Does food insecurity impact subjective evaluation of well-being? Evidence from a developing country. 2015.
10. FAO IAW. Food Insecurity in the World Meeting the 2015 international hunger targets: taking stock of uneven progress FOOD. 2015.
11. von Braun J. Food and Financial Crises: Implications for Agriculture and the Poor. Consult Gr Int Agric Res CGIAR Annu Gen Meet. 2008;27.
12. Endalew B, Muche M, Tadesse S. Assessment of Food Security Situation in Ethiopia. 2015;10(1):37–43.
13. Atuoye KN. Relationship between Household Food Insecurity and Health in the Upper West Region of Ghana. 2015.
14. Mitiku A, Fufa B, Tadese B. Empirical analysis of the determinants of rural households food security in Southern Ethiopia : The case of Shashemene District. 2013;1:132–8.
15. Stephen A. Haering, MD, MPH Shamsuzzoha B. Syed, MD, MPH D (Cantab). Community Food Security in United States Cities: A Survey of the Relevant Scientific Literature. 2009;
16. United Nations Economic and Social Council ECFA. United Nations Economic and Social Council, Economic Commission For Africa: Status of Food Security in Africa. 2015;7.
17. Tamiru D, Argaw A, Gerbaba M, Ayana G, Nigussie A. Household food insecurity and its association with school absenteeism among primary school adolescents in Jimma zone , Ethiopia.

- BMC Public Health [Internet]. BMC Public Health; 2016;1–8.
18. Belachew T, Lindstrom D, Hadley C, Gebremariam A, Kasahun W, Kolsteren P. Food insecurity and linear growth of adolescents in Jimma Zone , Southwest Ethiopia. *Nutrition Journal* 2013; 12:55.2013;1–10.
 19. Ethiopia. Food Security Strategy (FSS). 1996.
 20. Hu Y, Stewart F. Pension Coverage and Informal Sector Workers. *Pensions*. 2009;(31).
 21. Glopolis. ETHIOPIA’S FOOD INSECURITY :Europe’s Role within the Broader Context of Food Flows, Climate Change and Land Grabs. 2010.
 22. WFP U and. Summary of food security and vulnerability in selected urban centers of Ethiopia, 2009.
 23. Szabo S. Urbanization and Food Insecurity Risks: Assessing the Role of Human Development. *Oxford Development Study* 2016;44(1):28–48.
 24. FAO. The State of Food and Agriculture 2012.
 25. Matuschke I. Rapid urbanization and food security: Using food density maps to identify future food security hotspots *Rapid urbanization and food security*,2009;1–15.
 26. Smith SM and M. Household Food Security: A Conceptual Review,1992.
 27. Swedish IF of RC and RCS. World Disasters Report World 2010: Focus on Urban risk. 2010.
 28. Zhang Y. Annual report 2010. 2010;
 29. Burchi F, Scarlato M. Addressing Food Insecurity in Sub-Saharan Africa : the Role of Cash Transfers. 2016.
 30. Republic of Kenya W\$ F. Comprehensive Food Security and Vulnerability Analysis (CFSVA) and Nutrition Assessment Kenya High Density Urban Areas Data collected. 2010;
 31. Hagen-zanker J, Mccord A, Ellis K, Hedger E, Moon S, Singh R. Financing Social Protection in the Light of International Spending Targets : A Public Sector Spending Review October 2010. 2010;44(October):1–93.
 32. Faso B, Gebreselassié S. Governing Food and Nutrition Security in Food-Importing and Aid-Recipient Countries: Burkina Faso and Ethiopia. 2015;(34).
 33. Ministry of Labor and Social Affairs. Government of the Federal Democratic Republic of Ethiopia National Plan of Action on older persons Ministry of Labor and Social Affairs. 2007;(June 2006).
 34. Sisay E, Edriss A. Determinants of Food Insecurity in Addis Ababa City, Ethiopia. 2012;3(3):8-

- 16.
35. Birhane T, Shiferaw S, Hagos S, Mohindra KS. Urban food insecurity in the context of high food prices : a community based cross sectional study in Addis Ababa , Ethiopia. 2014;14(1):1–8.
36. Motbainor A, Worku A, Kumie A. Level and determinants of food insecurity in East and West Gojjam zones of Amhara Region , Ethiopia : a community based comparative cross-sectional study. BMC Public Health [Internet]. BMC Public Health; 2016;1–13. Available from: <http://dx.doi.org/10.1186/s12889-016-3186-7>
37. Ephrem Tegegne. Livelihoods and Food Security in the Small Urban Centers of Ethiopia: The Case of Durame, Wolenchiti, and Debre Sina Town. 2015;(November).
38. Tesso G. Why the Urban Households remain Foods Insecure in Developing Countries? Empirical Evidence from Nekemte Town of Ethiopia. 2015;3(10):108–17.
39. Gebre GG. Determinants of Food Insecurity among Households in Addis Ababa City , Ethiopia. 2012;10(2):159–73.
40. Coates J. Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide:Version 3 Jennifer Coates Anne Swindale Paula Bilinsky August 2007.
41. NGONGI AM. Food Insecurity and Coping Strategies of Farm Households in Kahama District, Tanzania,2013.
42. Tegegne E. School of Graduate Studies. Livelihoods Food Secur Small Urban Centers Ethiop Case Durame, Wolenchiti, Debre Sina Towns By Ephrem Tegegneem,2015.
43. UNESCO. Education for Sustainable Development Goals, 2017.
44. Programme TUND. Introducing the new Sustainable Development Goals,2016.
45. Atuoye KN. Relationship Between Household Food Insecurity and Health in the Upper West Region of Ghana, 2015.

9. ANNEX

9.1. ANNEX I: Information sheet and consent form

Title of the research project: Household Food Insecurity and Associated Factors among Pensioners in Jimma Town, South West Ethiopia: Community Based Cross-sectional study.

Name of principal investigator: Misgana Assefa

Name of the Organization: Jimma University, Institute of Health

Name of the Sponsor: Self-sponsor

Purpose

You are invited to participate in this research study. The purpose of this study to determine Household Food Insecurity and Associated Factors among Pensioners in Jimma Town, South West Ethiopia.

Procedure

You will be asked to answer a questionnaire that will take you approximately 40 minutes. This will be taking place at your house. You don't have to worry about any things because everything is confidential.

Benefits and Compensation

You will not be compensated for participating in this study and there are no direct benefits for you as an individual participant, however the findings of this study will help in designing, reviewing and improvement of policies for pension users.

Voluntary Participation and Withdrawal

Your participation is entirely voluntary and should you change your mind, you have the right to withdraw from participating in the study at any time without penalty.

Confidentiality

We will do our best to keep your personal information confidential. You are not required to give your name so there will be no way to identify individual participants. So information cannot be specifically traced back to you

Contact Person

Should you have questions about the content of this study, participant; please contact the principal investigator, **Misgana Assefa**, on the telephone number, **0913558265**, Dr. Dessalegn Tamiru, Mrs. Meseret Tamirat (BSc, MSc) and Mr. Melese Sinaga (B pharm, MSc).

9.2. Annex II: Questionnaires

Jimma University

Institute of Health

Faculty of Public Health

Departments of Population and Family Health

English version Questionnaire developed to assess Household Food Insecurity and Associated Factors among Pensioners in Jimma Town, South West Ethiopia.

Verbal assent form

Greeting

Dear respondent, my name is _____. I am working as data collector for the study conducted by Jimma university post graduate student **Misgana Assefa** on Household Food Insecurity and Associated Factors among Pensioners in Jimma Town. I am here to enroll and take interview you. This questionnaire will be filled only if you agree to take part in the study. In addition, your genuine and true responses give value for success of the study and also will help for better understanding of the problem that would eventually help in designing appropriate intervention to solve the problems and I sincerely ask you to give your genuine and true responses to the questions provided. The questionnaire contains five parts and will take not more than 40 minutes. The information in this questionnaire will be kept strictly confidential, will not be disclosed to any one and only the research team will have access to the information you gave but your name and address will not be recorded or identified even by the research team.

So, would you like to participate in the study?

Thank you for your cooperation!

Yes/agree _____ No/disagree _____

Instruction for the interviewer

Starting time _____, **End time** _____

Date of data collection _____

Name of data collection _____ signature _____

Name of supervisor _____ signature _____

I. Socio-demographic characteristics of the Respondents

1.Relationship of the respondents with household	1.Head 2. Spouse 3. Son/ daughter 4. Relative
2.Age of household head	_____
3.Sex of household head	1.Male 2.Female
4.Religion	1. Orthodox 2. Muslim 3 .protestant 4. Others specify _____
5.Ethnicity	1 .Oromo 2. Amhara

	3. Tigre 4. Dawaro 5 .Others specify_____
6.Marital status	1 Married 2. Divorced/separated 3. Widowed. 4. Single/never married
7.Educational status	1.College and above 3. High school 4. Elementary 5.Illiterate
8.Occupational status	1. Merchant 2. Guard 3. Government employee 4. Soldier 5. Housewife Other (specify)_____
9.Is the head capable to work/ economically active	1.Yes 2.No
10. If inactive, why?	1.Sick 2.Aged 3.Disable 4.Others specify
11. Is there any family member who has chronic disease like: DM, HTN, HF, and HIV/AIDS?	1.Yes 2.No
11.1 If yes for Q11, what is the Estimated medical cost you pay monthly?	_____ETB

12. Number of permanent household members at the time of survey	1. Male _____ 2. Female _____ 3. N ^o of family members < 15yrs _____ 4. N ^o of family members > 65yrs _____
15. Do you have additional source of income?	1. Yes _____ 2. No _____
15.1. If yes, specify the source and amount	_____ ETB
16. Who is the owner of the house you live in? If rent, skip to question 16.1	1. It is our private house 2. Gifted from government /relatives/ 3. Kebele rent 4. Rent from private owner
16.1. If your house is rent, how much you paid monthly?	_____ ETB

II. Asset ownership

Information pertaining to household wealth			
	Asset	Response	N ^o of asset
1	Do you have your private house?	Yes.....1 No.....2	
2	Does your household have electricity?	Yes.....1 No.....2	
3	A mobile telephone?	Yes.....1 No.....2	
4	A bed with cotton/sponge/spring mattress	Yes.....1 No.....2	
5	Chair	Yes.....1 No.....2	
6	Sofa	Yes.....1 No.....2	
7	Table	Yes.....1 No.....2	
9	Television/ Functioning Flat screen Television	Yes.....1 No.....2	
10	Radio/Functioning CD player/iPod/G-bass	Yes.....1 No.....2	
11	Refrigerator (fridge)	Yes.....1 No.....2	
12	Gas Stove/Cylinder	Yes.....1 No.....2	
13	Electric stove	Yes.....1 No.....2	
14	Washing machine	Yes.....1 No.....2	

15	Chest drawer/ biffe/ comadienno	Yes.....1	No.....2	
16	Bicycle	Yes.....1	No.....2	
17	Motor Cycle/Bajaj	Yes.....1	No.....2	
18	Video camera/ Digital Camera	Yes.....1	No.....2	
19	Cart/Gari	Yes.....1	No.....2	
18	Car	Yes.....1	No.....2	
19	Account book			

III. Household Food Insecurity Access Scale (HFIAS)

No.	Questionnaires	Response option	Code
1	In the past four weeks, did you worry that your HH would not have enough food?	0 = No 1 = Yes	If no, skip to Q2
1a	How often did this happen?	1 = Rarely (once or twice in the last 4 weeks) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
2	In the past four weeks, were you or any HH member not able to eat the kinds of foods you preferred because of a lack of resources?	0 = No 1 = Yes	If no, skip to Q3
2a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	

3	In the past four weeks, did you or any HH member have to eat a limited variety of foods due to a lack of resources?	0 = No 1 = Yes	If no, skip to Q4
3a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
4	In the past four weeks, did you or any HH members have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	0 = NO 1 = Yes	If no, skip to Q5
4a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
5	In the past four weeks, did you or any HH member have to eat a smaller meal than you felt you needed because there was not enough food?	0 = No 1 = Yes	If no, skip Q6
5a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
6	In the past four weeks, did you or any other HH member have to eat fewer meals in a day because there was not enough food	0 = No 1 = Yes	If no, skip to Q7

6a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
7	In the past four weeks, was there ever no food to eat of any kind in your HH because of lack of resources to get food?	0 = No 1 = Yes	If no, skip Q8
7a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times))	
8	In the past four weeks, did you or any HH member go to sleep at night hungry because there was not enough food?	0 = No 1 = Yes	If no, skip to Q9
8a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
9	In the past four weeks, did you or any HH member go a whole day and night without eating anything because there was not enough food?	0 = No 1 = Yes	
9a	How often did this happen?	1 = Rarely (once or twice) 2 = Sometimes (3-10 times) 3 = Often (more than ten times)	
Derived from version 3 of the Household Food Insecurity Access Scale (HFIAS) measurement guide			

IV. Questionnaires Coping Strategies, In Case of Food Insecurity

1. Did you encounter food shortage in the last three months	1. Yes
--	--------

	2. No
2. If yes, what are the livelihood coping mechanisms that your household applied during food shortage (decline in food availability or income insecurity)?	
I. Coping strategies	1. Yes 2. No
a. Migrate household member to the nearby town for wage labor	
b. Receiving donation from relatives or friends	
c. Borrowing money to buy food	
d. Buy food on credit basis	
e. Selling household assets	
f. Selling household livestock	
g. Petty trading	
h. Selling wood	
i. Selling charcoal	
j. Send children to work	
k. Begging	
l. Others specify	

V. Which of the following types of consumption related

coping strategy did you use during food shortage?

I. Strategies	1. Yes 2. No
1. Reduce the number of meals consumed in a day	
2. Reducing consumption during each meal	
3. Eat less preferred, lower quality or less expensive foods	
4. Increase consumption of street food (e.g. prepared foods)	
5. Not eating for whole days sometimes	
6. Selling any household assets	
7. Others (specify) _____	

VI. Access to Credit

1. Have you (any member of your household) received credit in the last four years?	0. No 1. Yes
--	--------------

2. If your answer to the above question is yes, please give the following information?					
a. Source of credit	b. Used For	c. Amount in		Code: Source:	Code: Used
		Cash	kind		
				1= Banks 2= Saving and loan cooperative 3= Friend, Relative 4= Town trader, 5= Neighbor, 6= Private lender 7= Other, Specify	1= Start or expand a business 2= Buy land or housing 3=Household furniture 4=School fees 5=Repair the house 6=Loan repayment, 7=Healthcare costs 8=Family events 9= Others, specify

9.3. Annex III

ጅማ ዩኒቨርሲቲ

ጤና ሳይንስ ኢንስቲትዩት

የሰነ ህዝብና ቤተሰብ ጤና ትምርት ክፍል

መረጃ ማሰባሰቢያ ቅጽ በአማርኛ የተዘጋጀ

ማስታወሻ

የጥናቱ ርዕስ የጠረጎሞች የምግብ ዋስትና፣መንስኤዎች/ምክንያቶች ስከሰቱ ለመቋቋም የሚጠቀሙት ዘዴዎች

ይህ የጥናት ቃለ መጠይቅ በጠያቂ ባለሙያ የምሞላ ነው።

የቀበሌ ስም፣ _____

የቃለ መጠይቅ ቀን _____/_____/_____

የመረጃ ሰብሳቢ ስምና ፉርማ _____

የተቆጣጣሪ ስምና ፉርማ _____

ክፍል 1: የሥነ ህዝብና ማህበራዊ ጉዳዮች

1	የመልስ መላሹ ክቤተሰብ ጋር ያለው ኃላፊነት	1. አባ ወራ 2. ሚስት 3. ሴት ልጅ/ወንድ ልጅ 4. ሌላ ዘመድ 5. ሌላ ባዕድ ሰው
2	የቤተሰብ ኃላፊ ዕድሜ	_____

3	የቤተሰቡ ኃላፊ የታ	1. ወንድ 2. ሴት
4	ሃይማኖት	1. ሙስሊም 2. ኦርቶዶክስ 3. ፕሮቴስታንት 4. ሌላ(ይግለፁ) _____
5	ብሔር	1. ኦሮሞ 2. አማራ 3. ትግሬ 4. ደዉሮ 5. ሌላ(ይግለፁ) _____
6	የጋብቻ ሁኔታ	1. ያላገባች 2. ያገባች 3. የተፋታች 4. ባሏ የሞተባት
7	ትምህርት ደረጃ	1. መደበኛ ትምህርት ያልተማረ/ች 2. ማንበብ እና ማጻፍ 3. አንደኛ ደረጃ 4. ሁለተኛ ደረጃ 5. ከ ሁለተኛ ደረጃ በላይ
8	የሥራ ሁኔታ	1. ዘበኛ 2. የመንግስት ሰራተኛ 3. ነጋዴ 4. ወታደር 5. የቤት እመቤት 6. የቀን ሰራተኛ ሌላ (ይገለጽ) _____
9	የቤተሰቡ ኃላፊ ሥራ የመስራት አቅም አለውን?	1/ አዎ 2. አይደለም
10	አቅም የሌለው ከሆነ ለምን?	1. በሽተኛ 2. ያረጀ/ች 3. አካለ ስንኩል 4. ሌላ(ይገለጽ)
11	ከቤተሰቡ ውስጥ በማያድን በሽታ(ስኳር፣ የደም ግፊት, ልብ ድካም፣ ኤች አይቪ ኤድስ) የታማሙ አሉን?	1/ አዎ 2. አይደለም
11.1	ለጥያቄ 11 አዎ ከሆነ፣ በግምት ለህክምና በወር ምን ያህል ይሆናል	ብብር _____
12	ቋሚ የቤተሰብ ቁጥር	1. ወንድ 2. ሴት 3. ከቤተሰቡ እድሜያቸው ከ 15 ዓመት በታች የሆኑ 4. ከቤተሰቡ እድሜያቸው ከ 65 ዓመት በላይ የሆኑ
13	የቤተሰቡ አስተዳዳሪ የሥራው ቅጥር አይነት	1. ኮንትራት 2. በየቀኑ/በየሳምንቱ የሚሰራ 3. ቋሚ

		4. ሌላ (የገለጽ)
14	ያልተቀጠረ ከሆነክ ለየአለት ሁኔታ የሚሆነው ነገር እንዴት ታገኘሃለህ	1. ከወጭ አገር እርዳታ 2. ከዘማድ እርዳታ 3. ከቤት ክራይ 4. ሌላ (የገለጽ)
15	ተጨማሪ የገቢ ምንጭ አለዎት	1. አዎ 2. አይደለም
15.1	አዎ ከሆነ ምንጩ እና መጠኑን ግለጽ	ቡብር
16	የሚትኖርበት ቤት የማነው ክራይ ከሆነ ወደ 18.1 ጥያቄ አለፍ	1. የግላችን ነው 2. ከመንግስት የተሰጠን ነው 3. ከቀበሌ ተከራይተን 4. ከግለሰብ ተከራይተን
16.1	የሚትኖርበት ቤት ክራይ ከሆነ በወር ምን ያህል ትከፍላለህ	ቡብር _____

ክፍል 2: የቤተሰብ ምጣኔ ሀብት መለኪያ

በቤቶች ውስጥ ከዚህ በታች የተጠቀሱት ቁሳቁስ/ንብረት አሉ?

1	ኤሌክትሪክ	1. አዎ 2. አይደለም
2	የቤት መኖርያ	1. አዎ 2. አይደለም
3	ተንቀሳቀሻ ሰልክ	1. አዎ 2. አይደለም
4	አልጋ እና እስፖንጅ/የጥጥ/የእስፕርንግ ፍራሽ	1. አዎ 2. አይደለም
5	ወንበር	1. አዎ 2. አይደለም
6	ሶፋ	1. አዎ 2. አይደለም
7	ጠረጴዛ	1. አዎ 2. አይደለም
8	ቴሌቪዥን	1. አዎ 2. አይደለም
9	ሬድዮ	1. አዎ 2. አይደለም
10	ፍሪጅ	1. አዎ 2. አይደለም
11	የጋዝ ምድጃ	1. አዎ 2. አይደለም
12	የኤሌክትሪክ ምድጃ	1. አዎ 2. አይደለም
13	ልብስ ማጠቢያ ማሽን	1. አዎ

		2. አይደለም
14	ቸስት ድሮወር/ቢፌ/ኮመዲና	1. አዎ 2. አይደለም
15	ብስክሌት	1. አዎ 2. አይደለም
16	ሞተር ሳይክል	1. አዎ 2. አይደለም
17	ቪዲዮ ካሜራ/ድጂታል ካሜራ/	1. አዎ 2. አይደለም
18	ጋሪ	1. አዎ 2. አይደለም
19	መኪና	1. አዎ 2. አይደለም
20	የባንክ ደብተር	1. አዎ 2. አይደለም

ክፍል 3: ቤት ተኮር መጠይቅ (የምግብ ዋስትና እና የ ሀብት መለኪያ መጠይቅ)

1	ባለፉት 4 ሳምንታት በቤቶት ውስጥ በቂ ምግብ የለም ብለዉ ስጋት ገብቶት የዉቀል?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ ጥያቄ 2 እለፍ)
1ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ (በባለፉት 4 ሳምንታት አንዴ ወይም ሁለቱ) 2. አልፎ አልፎ(በባለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በባለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	
2	ባለፉት 4 ሳምንታት እርሶ ወይም የቤተሰቦት አባል ከአቅም ማነስ የተነሳ የምትፈልጉትን ምግብ ያለመመገብ ሁኔታ አገጥሞችሁ የዉቃሉ?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 3)
2ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ (በባለፉት 4 ሳምንታት አንዴ ወይም ሁለቱ) 2. አልፎ አልፎ(በባለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በባለፉት 4 ሳምንታት ከ 10 ጊዜ	

		በላይ)	
3	በለፉት 4 ሳምንታት እርሶ ወይም የቤተሰቦች አባል ከአቅም ማነስ የተነሳ የተወሰነ የምግብ አይነት የመመገብ ሁኔታ አገጥሞት የዉቃሉ?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 4)
3ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፉት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	
4	በለፉት 4 ሳምንታት እርሶ ወይም የቤተሰቦች አባል ከአቅም ማነስ የተነሳ የማትፈልጉትን የምግብ አይነት ተመግቦዉ የዉቃሉ?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 5)
4ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፉት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	
5	በለፉት 4 ሳምንታት እርሶ ወይም የቤተሰቦች አባል በገጠሞት የምግብ ማነስ ምክንያት ጥቂት የምግብ መጠን ተመግቦዉ የዉቃሉ?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 6)
5ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፉት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	

6	በለፉት 4 ሳምንታት እርሶ ወይም የቤተሰቦች አባል በገጠሞች የምግብ ማነስ ምክንያት መብላት የለቦትን ቁርሶን/ሚሳዎን/መክሰሶን/እራቶትን ሳይመግቡ ወለዉ የዉቃሉ?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 7)
6ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፉት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	
7	በለፉት 4 ሳምንታት ከአቅም ማነስ የተነሳ በቤቶች ውስጥ ምንም አይነት የምባላ ምግብ ያለመኖር ሁኔታ አጋጥሞት የዉቃል?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 8)
7ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፉት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	
8	በለፉት 4 ሳምንታት እርሶ ወይም የቤተሰቦች አባል በቤቶች ውስጥ በጋጠሞች የምግብ ማነስ ምክንያት ማታ እየተራቡ ወደ መኝታ ሂደዉ የዉቃሉ?	0. አዎ 1. አይደለም	(አይደለም ከሆነ ወደ 9)
8ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፉት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፉት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፉት 4 ሳምንታት ከ 10 ጊዜ በላይ)	

9	በለፋት 4 ሳምንታት እርሶ ወይም የቤተሰቦች አባል በቤቶች ውስጥ በጋጠሞች የምግብ ማነስ ምክንያት ቀንና ሌሊት ምንም ሳይመገቡ ወለዉ አድረዉ የዉቃሉ?	0. አዎ 1. አይደለም	
9ሀ	ይህ ነገር ምን ያህል ጊዜ ተከሰተ?	1. በጥቂቱ(በለፋት 4 ሳምንታት አንዴ ወይም ሁለቴ) 2. አልፎ አልፎ(በለፋት 4 ሳምንታት ከ3 እስከ 10 ጊዜ) 3. በአብዛኛዉ ጊዜ(በለፋት 4 ሳምንታት ከ 10 ጊዜ በላይ)	

ክፍል 4: የምግብ ዋስትና መጠይቅ		
1	ባለፉት ሦስት ወራት የምግብ እጥረት ተጨንቆ ያቃሉ	1.አዎ 2. አይደለም
2	አዎ ከሆነ ምን ያህል	ሀ. ቀናት ለ. ሳምንታት
3	አዎ ከሆነ የእለት የኑሮ ውድነት /የምግብ እጥረት ስያጋጥም/ ለመቅረፍ ቤተሰብዎ የተጠቀሙት መላ ምንድን ነው	
	1. ችግር የመቅረፍ መላ	1. አዎ 2. አይደለም
ሀ	የቤተሰብ አባልን ወደ አከባቢ ከተሞች በመላክ የቀን ሥራ ሥራ እንዲ ሰሩ ማድረግ	
ለ	ከዘመድ/ከጓደኛ ስጦታ በመቀበል	
ሐ	ምግብ ለመግዛት ብር በመበደር	
መ	በብድር ምግብ በመግዛት	
ሠ	የቤት እቃዎች በመሸጥ	
ረ	የቤት እንስሶች በመሸጥ	
ሰ	መንገድ ላይ በመዞር በመነገድ	
ሸ	እንጨት በመሸጥ	
ቀ	ከሰል በመሸጥ	

በ	ልጆችን ወደ ሥራ በመላክ	
ተ	በመለመን	
ቸ	ልላ (የገለጽ)	
ክፍል 5: በምግብ እጥረት ጊዜ የምግብ እጥረትን ለመለማመድ ከሚከተሉት የመመገብ አይነቶች ውስጥ ዩቱን ትጠቀማለህ		
I	መላዎች	1. አዎ 2. አይደለም
1	በቀን የሚበላውን ምግብ አይነት በመቀነስ	
2	በየመመገቢያ ጊዜ ጥቂት ጥቂት በመመገብ	
3	ያልተ መረጠውን፣ ጥሩ ንጽህና የሌለውን፣ ርካሽ የሆነውን ምግብ በመብላት	
4	ከመንገድ የሚገኙትን መግቦች መብላት በመጨመር	
5	ሙሉውን ምንም አለመብላት	
6	የቤት እቃዎችን በመሸጥ	
7	ሌላ (ይገለጽ)	

ክፍል 6: የብድር ነገሮች የመኖር ሁኔታዎች

1. ባለፈው 4 ሀመታት ውስጥ አንጭ /ከቤተሰቦችህ አባል/ ብድር የተቀበለ አለ 0. አዎ 1. አይደለም					
2. መልስህ አዎ ከሆነ እባክዎ የሚከተሉት መረጃዎች ስጡን					
የብድር ምንጭ	ለምን ተጠቀሙት	መጠን		የምንጭ ኮድ	ለተጠቀሙት ኮድ
		ገንዘብ	አይነት		
				1 ባንክ 2. ብድር እና ቁጠባ ማህበር 3. ጓደኛ/ዘመድ 4. የከተማ ነጋዴ 5. ከአካባቢ 6. የግል አብዳሪ 7. ሌላ (የገለጽ)	1 ቢዝነስ ለመጀመር/ለማስፋፋት 2. ማሬት/ቤት ለመግዛት 3. የቤት እቃዎች 4. የት/ት ክፍያ 5. ቤት ለማሳደስ 6. ብድር ለመመለስ 7. የጤና/ህክምና/ ክፍያ 8. የቤተሰብ ጉዳይ 9. ሌላ (ይገለጽ)

9.4. Annex IV

YUNIVARSIITI JIMMAA
MUUMMEE HAWAASAA FI FAYYAA MAATII
GUCA ODEEFFANNOO ITTIIN FUNAANNATAN

Mata duree qorannoo: Wabii Nyaataa fi Wantoota Wabii Nyaataaf Rakkina Wabii Nyaataa Fiduu Danda’an Kan Sooramtoota Magaalaa Jimmaa

Maqaa gandaa _____

Guyyaa gaaffii fi deebii ____/____/____

Maqaa gaafataa _____ Mallattoo _____

Maqaa To’ataa _____ Mallattoo _____

Kutaa 1: Dhimoota Namoomaa fi Hawaasummaa

1	Ittigaafatamummaa deebii deebisaan maatii isa wajjin qabu	1. Abbaa Manaa 2. Haadha Manaa 3. Mucaa Durbaa/Dhiiraa 4. Orma
2	Umrii gaggeessaa maatii	_____
3	Saala gaggeessaa maatii	1. Dhiira 2. Dubartii
4	Amantaa	1. Musliima 2. Oortodooksii 3. Kiristiyaana 4. Kan biraa (ibsaa) _____
5	Sabummaa	1. Oromoo 2. Amaaraa 3. Tigree 4. Daawuroo 5. Kan biraa (ibsaa) _____
6	Haala Gaa’elaa	1. Kan hin fuune 2. Kan fuudhe 3. Kan wal hiike 4. Kan Abbaan manaa irraa du’e
7	Sadarkaa Barumsaa	1. Kan hin baranne 2. Barreessuu fi dubbisuu 3. Sadarkaa 1ffaa 4. Sadarkaa 2ffaa

		5. Sadarkaa olaanaa
8	Haala hojii	1. Eegumsa 2. Hojjetaa mootummaa 3. Daldalaa 4. Loltuu 5. Haadha Manaa 6. Hojii humnaa kan hojjetu 7. Kan biraa (ibsaa)
9	Gaggeessaan maatii dandeettii hojii hojjechuu qabaa?	1. Eeyyee 2. Lakki
10	Kan dandeettii hin qabne yoo ta'emaaliif?	1. Dhukkubsataa 2. Kan dulloome/te 3. Qaama hir'uu 4. Kan biraa (ibsaa) _____
11	Miseensota maatii keessaa dhukkuboota hin fayyineen (Sukkaara, Dhiibbaa dhiigaa, Dadhabbii laphee fi HIV/AIDS) jiraa?	1. Eeyyee 2. Lakki
11.1	Gaaffii 11f Eeyyee yoo ta'e mana yaalaatti ji'atti qarshii hammaam baaftuu?	Qarshii _____
12	Baay'ina miseensa maatii dhaabbataa	1. Dhiira 2. Dubartii 3. Maatii keessaa ijoollee umrii waggaa 15 gadii 4. Maatii keessaa umrii waggaa 65 ol
13	Gosa qacarrii hojii abbaa warraa	1. Kontiraata 2. Guyyaadhaan/torbeen kan hojjetu 3. Dhaabbataa 4. Kan biraa (ibsaa)
14	Kan hin qacaramne yoo ta'e soora guyyaa guyyaaf kan ta'u akkamitti argattaa?	1. Gargaarsa biyya alaan 2. Gargaarsa firaan 3. Kiraa manaa irraa 4. Kan biraa (ibsaa)
15	Madda galii kan biraa qabduu?	1. Eeyyee 2. Lakki
15.1	Eeyyee yoo ta'e maddaa fi hamma isaa ibsaa	Qarshiidhaan _____
16.	Mana ati keessa jiraattu kan eeyyuutii? Kiraa yoo ta'e gara gaaffii 18.1tti darbi	1. Kan dhuunfaa keenyaati 2. Mootummaa irraa kan nuuf

		kennamedha 3. Gandarraa kireeffanee 4. Nama dhuunfaa irraa kireeffanee
16.1	Mana ati keessa jiraattu kiraa yoo ta'e ji'aan meeqa kaffaltaa?	Qarshiidhaan _____
16.2	Gabaa iddoo waan tokko bitattu irraa hammam fagaataa?	KM _____

Kutaa 2: Safartuu meeshaalee manaa

Mana keessan keessa meeshaaleen armaan gaditti tarreeffaman jiruu?

1	Ibsaa	1. Eeyyee 2. Lakki
2	Mana jireenyaa	1. Eeyyee 2. Lakki
3	Bilbila socho'aa	1. Eeyyee 2. Lakki
4	Sireen keessan firaashiin isaa jirbii/ispoonjii	1. Eeyyee 2. Lakki
5	Taa'umsa hirkoo	1. Eeyyee 2. Lakki
6	Soofaa	1. Eeyyee 2. Lakki
7	Minjaala	1. Eeyyee 2. Lakki
8	Televiitziinii	1. Eeyyee 2. Lakki
9	Raadiyoo	1. Eeyyee 2. Lakki
10	Firiijii	1. Eeyyee 2. Lakki
11	Midijjaa Gaasii	1. Eeyyee 2. Lakki
12	Midijjaa Elektirikii	1. Eeyyee 2. Lakki
13	Maashinii uffata miicu	1. Eeyyee 2. Lakki
14	Diroowiingii/biiffee/Sanduqa dhaabbii	1. Eeyyee 2. Lakki
15	Biskileetii	1. Eeyyee 2. Lakki
16	Doqdoqqee	1. Eeyyee 2. Lakki

17	Kaameeraa	1. Eeyyee 2. Lakki
18	Gaarii	1. Eeyyee 2. Lakki
19	Konkolaataa	1. Eeyyee 2. Lakki
20	Dabtara qusannaa/baankii/	1. Eeyyee 2. Lakki

Kutaa 3: Gaafannoo Wabii Nyaata fi Safartuu Qabiyye		
1	Torban arfan darban keessatti mana keessa nyaati gahaa hin jiru jettanii yaaddoftanii beektu?	0. Eeyyee 1. Miti
1a	Wanti kun hangam uumame/ta'e?	1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
2	Torban arfan darban keessatti isin ykn miseensa maatikeessan dhabuu irra kan ka'e dhiyaana keessan/nyaata otoo hin nyaatin irra ciwuun sin muudattee beeka?	0. Eeyyee 1. Miti
2a	Wanti kun hangam uumame/ta'e?	1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
3	Torban arfun darban keessatti isin ykn miseensa maatikeessan dhabuu irra kan ka'e nyaata akaaku/gosa murtaa'e qofa soorachuu isin muudateera?	0. Eeyyee 1. Miti
3a	Wanti kun hangam uumame/ta'e?	1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
4	Torban arfun darban keessatti isin ykn miseensa maatikeessan dhabuu irra kan ka'e nyaata ati jaalattu (feetu) soorachu dhabuun si qunamee beeka?	0. Eeyyee 1. Miti
4a	Wanti kun hangam uumame/ta'e?	1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
5	Torban arfun darban keessatti isin ykn miseensa maatikeessan mana keessatti dhabuu nyaata irra kan ka'e dhiyaanaratti nyaata baay'inni isa xiqaa kan ta'e soorachuun isin muudateera?	0. Eeyyee 1. Miti
5a	Wanti kun hangam uumame/ta'e?	1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama)

		<ul style="list-style-type: none"> 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
6	Torban arfun darban keessatti isin ykn miseensa maatikeessan mana keessatti dhabumma nyaata irra kan ka'e dhiyaana oto hin nyaatin irra darbuun isin muudateera?	<ul style="list-style-type: none"> 0. Eeyyee 1. Miti
6a	Wanti kun hangam uumame/ta'e?	<ul style="list-style-type: none"> 1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
7	Torban arfun darban keessatti dhaburraa kan ka'e nyaati cirumaa/sirumaa mana keessa dhibuun isin muudateera?	<ul style="list-style-type: none"> 0. Eeyyee 1. Miti
7a	Wanti kun hangam uumame/ta'e?	<ul style="list-style-type: none"> 1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
8	Torban arfun darban keessatti isin ykn miseensa maatikeessan dhabumma nyaata irra kan ka'e oto hin nyaatin rafuun ni jira?	<ul style="list-style-type: none"> 0. Eeyyee 1. Miti
8a	Wanti kun hangam uumame/ta'e?	<ul style="list-style-type: none"> 1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli
9	Torban arfun darban keessatti isin ykn miseensa maatikeessan dhabumma nyaata irra kan ka'e oto hin nyaatin oolanii buluun ni jira?	<ul style="list-style-type: none"> 0. Eeyyee 1. Miti
9a	Wanti kun hangam uumame/ta'e?	<ul style="list-style-type: none"> 1. Baayye xiqoo (torban arfun darban keessa yeroo tokko ykn lama) 2. Darbe darbee (torban arfun darban keessa yeroo 3 hanga 10 3. Yeroo baay'ee (torban arfun darban keessa yeroo 10 oli

Kutaa 4: Guca gaafannaa Wabii nyaataa		
1	Ji'oota 3'n darban keessatti hanqinni nyaataa isin quunnamee beekaa?	1.Eeyyee 2.Lakki
2	Eeyyee yoo ta'e rakkoo hanqina nyaataa guyyaa guyyaan isin muudatu hambisuuf miseensi maatii keessanii tooftaa maalii fayyadamee?	
	1. Hanqina wabii nyaataa hambisuuf tooftaalee fayyadame	1. Eeyyee 2. Lakki
A	Miseesa maatii gara magaalota olla jiraniitti erguudhaan hojii humnaa guyyaan akka hojjetan gochuu	
B	Fira/hiriyyaa irraa kennaa fudhachuu	
C	Nyaata bituuf qarshii liqeeffachuu	
D	Liqiidhaan nyaata bituu	
E	Meeshaa manaa gurguruu	
F	Horii mana gurguruu	
H	Daandiirra asii fi achi adeemuun daldaluu	
I	Qoraan gurguruu	
J	Kasala gurguruudhaan	
K	Ijoollee gara hojiitti erguudhaan	
L	Kadhachuudhaan	
M	Kan biraa (ibsaa)	
Kutaa 5: Yeroo hir'ina nyaataa keessatti rakkoo kana dandamachuuf tooftaalee armaan gadii keessaa isa kam fayyadamtuu?		
I	Tooftaawwan	1. Eeyyee 2. Lakki
1	Gosa nyaata guyyaan nyaatamu hir'isuudhaan	
2	Yeroo nyaataa xiqqoo xiqqoo nyaachuu	
3	Kan hin filatamne, qulqullina gaarii kan hin qabnee fi gatiin isaa gad bu'aa kan ta'e nyaachuu	
4	Nyaata daandii irratti argaman nyaachuu baay'isuu	
5	Guyyaa guutuu nyaata kam iyyuu nyaachuu dhiisuu	

6	Meeshaalee namaa gurguruudhaan	
7	Kan biraa (ibsaa)	

Kutaa 6: Argamuu Qaamolee Liqeessanii:

1. Wagoota 4'n darban keessatti ati/miseensi maatii kee liqii fudhateeru jiraa? 0. Eeyyee 1. Lakki					
2. Deebiin keessan eeyyee yoo ta'e odeeffannoo armaan gadii nuuf kennaa!!					
Madda liqii	Maaliif fayyadamtan	Hamma		Koodii maddaa	Koodii waan itti fayyadamanii
		Qarshii	Gosa		
				1= Baankii 2 = Liqii fi qusannaa 3 = Hiriyyaa/ fira 4 = daldaaltota magaalaa 5 = Ollaa 6 = Nama dhuunfaa 7 = Kan biraa (ibsaa)	1= Misooma jalqabuuf/babal'isuuf 2 = Lafa /mana bituuf 3 = Meeshaalee Manaaf 4 = Kaffaltii barnootaa 5 = Mana haareessuuf 6 = Gatii namaa deebisuuf 7 = Kaffaltii mana yaalaa 8 = Dhimma maatii 9 = Kan biraa (ibsaa)

9.4. Annex v: Assurance of principal Investigator

The undersigned agrees to accept responsibility for the scientific ethical and technical conduct of the research project and for provision of required progress reports as per terms and conditions of health institute in effect at the time of grant is forwarded as the result of this application.

Name of the student: **Misgana Assefa**

Date. _____ Signature _____

APPROVAL OF THE ADVISORS

Name of the first advisor: _____

Date. _____ Signature _____

Name of the second advisor: _____

Date. _____ Signature _____

Name of the third advisor: _____

Date. _____ Signature _____

Name of External Examiner _____

Date: _____ Signature: _____

