

**HOUSEHOLDS POVERTY AND LIVELIHOODS NEXUS IN  
SMALL TOWNS OF EAST GOJJAM, AMHARA REGION,  
ETHIOPIA**



***GETANEH MOSSU MAMARU***

*Addis Ababa University*

*Addis Ababa, Ethiopia*

*March, 2017*

**HOUSEHOLDS POVERTY AND LIVELIHOODS NEXUS IN  
SMALL TOWNS OF EAST GOJJAM, AMHARA REGION,  
ETHIOPIA**

**Doctoral Dissertation Submitted to the Department of Geography and  
Environmental Studies, Addis Ababa University, Addis Ababa, Ethiopia**

**In Partial Fulfillment for the Requirement of the Degree of Doctor of  
Philosophy (PhD) in Geography and Environmental Studies (with  
specialization in socio-economic development planning and environmental  
managment)**

**Addis Ababa University, College of Social Sciences**

**Addis Ababa, Ethiopia**

**By: Getaneh Mossu Mamaru**

**Supervisor: Bekure Woldesemyat (Professor)**

**ADDIS ABABA UNIVERSITY  
COLLEGE OF SOCIAL SCIENCES**

**HOUSEHOLDS POVERTY AND LIVELIHOODS NEXUS IN  
SMALL TOWNS OF EAST GOJJAM, AMHARA REGION,  
ETHIOPIA**

**GETANEH MOSSU MAMARU**

**Approved by Board of Examiners**

**Signature**

**Date**

---

**Dissertation Supervisor**

---

**Signature**

---

**Date**

---

**Internal Examiner**

---

**Signature**

---

**Date**

---

**External Examiner**

---

**Signature**

---

**Date**

---

**Chairman, Department of GeEs**

---

**Signature**

---

**Date**

## **Declaration**

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

Name: Getaneh Mossu Mamaru      Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## **Acknowledgement**

*The accomplishment of this PhD dissertation was impossible without unreserved and tireless encouragement and assistance of many individuals. These individuals, therefore, must be acknowledged for their contribution in the realization of this research project.*

*Firstly, I would like to thank Professor Bekure Woldesemyat for his continual follow-up, invaluable and constructive comments and reflections from the start of the proposal development to the end of the research project. Without him the research project would not appear as it is appeared in this manuscript. He shaped and reshaped the research project beginning from its inception to the end.*

*Secondly, I would like to be grateful to the proposal examining committee Doctor Solomon Mulugeta (internal examiner) from the department of Geography and Environmental Studies and Doctor Abeje Birhanu (external examiner) from the department of Sociology, both from the College of Social Sciences, Addis Ababa University for their constructive comments which helped me a lot in shaping the research proposal. I am also grateful to the Board of Examiners: Dr Solomon Mulugeta (Chair Person), Dr Messay Mulugeta (internal examiner) and Dr Teferi Mekonnen (external examiner) for their invaluable constructive comments on the final draft of the dissertation.*

*Thirdly, my heartfelt thank goes to Doctor Daniel Gebretsadik and Demis Mengist (PhD fellow in the Department of Geography & Environmental Studies, Addis Ababa University) who gave their precious time to comment the draft of the fifth chapter of the dissertation.*

*Fourthly, I would like to thank all the key informants, group discussants and survey households for their cooperation in providing the necessary data for the research. I would also like to extend my deepest gratitude to the data collectors who dedicated their time and energy to collect data from the survey respondents. I would also like to extend my deepest gratitude to Asmamaw Eshete, Gebeyehu, Birhanu and Mekuria Feleke from the Ministry of Urban Development, Housing and Construction (MUDHCo) for their cooperation in the provision of urban policy documents.*

*Fifthly, my acknowledgement also goes to my wife Misses Medenekia Mister who continually supports and encourages me in all day-to-day activities of my PhD student career besides her responsibilities in looking after our children Fitsum Getaneh and Yordanos Getaneh. My gratitude also goes to my adorable son Fitsum Getaneh for his patience while I was inserting and analyzing the data as well as typing the manuscript at home.*

*Sixthly, I would like to acknowledge Asnaku Tilahun and Tizita Asre for their assistance in weighting the food items consumed by households, encouragement in my student career and tireless assistance in the non-productive activities at home. My heartfelt thanks also goes to Asre Yasab and his family, Getasew Admas and his family, my brother Leweye Mossu and my sister Hermela Mossu for their assistance in accommodation and provision of food and drinks during the field survey as well as their moral support. The same gratitude also goes to my brother Nakie Mossu for his continuous encouragement for the completion of the research project.*

*Lastly, I would like to acknowledge the department of Geography and Environmental Studies as well as its entire staff for their unreserved follow-up in due course of the research work and their tireless efforts in their course deliveries. Likewise, I would like to thank the School of Graduate studies of Addis Ababa University and Association of African Universities headquartered in Accra, Ghana for their financial assistance for the completion of the research project.*

**Getaneh Mossu**

**March, 2017**

## Table of Contents

Content	Page
Acknowledgment .....	i
Table of Contents .....	iii
List of Tables .....	vii
List of Figures .....	ix
List of Abbreviations and Acronyms.....	x
Definitions of Local Terms .....	xii
Abstract .....	xiv
<b>CHAPTER ONE</b>	
<b>INTRODUCTION</b>	
1.1. Background .....	1
1.2. Statement of the Problem .....	3
1.3. Justifications .....	6
1.4. Objectives .....	7
1.5. Basic Research Questions .....	8
1.6. Scope and Limitations .....	8
1.7. Significance .....	11
1.8. Organization of the Dissertation .....	12
<b>CHAPTER TWO</b>	
<b>REVIEW OF RELATED LITERATURE</b>	
Introduction .....	13
2.1. Conceptual Literature .....	13
2.1.1. The Debate on the Meaning and Measurement of Poverty .....	13
2.1.1.1. Subsistence and Basic Needs Approach .....	14
2.1.1.2. Multiple Deprivation Approach .....	16
2.1.2. Meaning, Origin and Development of Sustainable Livelihood .....	20
2.2. Theoretical Literature .....	22
2.3. Empirical Literature .....	27
2.3.1. Poverty in the World and Ethiopia .....	27
2.3.2. Urban Livelihood in Ethiopia .....	32
2.4. Sustainable Livelihoods Framework: A Conceptual Framework of the Study .....	34
Summary .....	46
<b>CHAPTER THREE</b>	
<b>METHODOLOGY</b>	
Introduction .....	47
3.1. Philosophical Foundation of the Research .....	47
3.2. Research Approach and Design .....	50

3.3. Research Methods .....	52
3.3.1. Sources and Types of Data .....	52
3.3.2. Sampling, Sample Frame and Sample Size .....	53
3.3.3. Instruments and Procedures of Data Collection.....	57
3.3.3.1. Instruments of Data Collection .....	57
3.3.3.2. The Procedures of Data Collection .....	62
3.3.4. Techniques of Data Analysis and Interpretation .....	63
3.3.5. Methods of Poverty and Livelihood Security Measurement .....	65
3.3.5.1. The Method of Poverty Line Construction .....	65
3.3.5.2. The Method of Aggregating Consumption Poverty .....	69
3.3.5.3. The Method of Multidimensional Poverty Measurement .....	70
3.3.5.4. The Method of Construction of Livelihood Security Index .....	73
3.4. Ethical Considerations .....	76
Summary .....	77
<b>CHAPTER FOUR</b>	
<b>DESCRIPTIONS OF EAST GOJJAM ZONE AND THE STUDY TOWNS</b>	
Introduction .....	78
4.1. East Gojjam Zone .....	78
4.2. Location, Size and Shape of the Study Towns .....	80
4.3. Physical Setting of the Study Towns .....	83
4.4. The Genesis and Development of the Study Towns .....	84
4.4.1. The Genesis and Development of Felege Birhan .....	84
4.4.2. The Genesis and Development of Wojel .....	86
4.4.3. The Genesis and Development of Yetmen .....	88
4.5. Demographic and Socio-economic Characteristics of the Study Towns .....	90
4.5.1. Demographic Characteristics .....	90
4.5.2. Socio-economic Characteristics .....	96
4.6. Infrastructures and Services of the Study Towns .....	98
4.7. Markets of the Study Towns .....	99
Summary .....	100
<b>CHAPTER FIVE</b>	
<b>MAGNITUDE AND PROFILES OF POVERTY IN THE STUDY TOWNS</b>	
Introduction .....	102
5.1. Consumption Poverty .....	102
5.1.1. The Poverty Line .....	102
5.1.2. The Incidence, Depth and Severity of Consumption Poverty .....	103
5.1.3. Consumption Poverty Profiles .....	106
5.1.3.1. Consumption Poverty by Sex and Age of Household Heads .....	106
5.1.3.2. Consumption Poverty by Size of Households .....	109
5.1.3.3. Consumption Poverty by Migration and Marital Status of Heads .....	110
5.2. Multidimensional Poverty .....	113

5.2.1. Dimensions, Indicators and Cutoffs .....	113
5.2.2. The Extent of Multidimensional Poverty .....	119
5.2.3. Raw Headcount Ratios .....	121
5.2.4. The Contribution of Indicators and Dimensions to Multidimensional Poverty Index.....	122
5.2.5. Severity of and Vulnerability to Multidimensional Poverty .....	123
5.2.6. The Multidimensional Poverty Profiles .....	124
5.2.6.1. Multidimensional Poverty by Sex and Age of Household Heads .....	124
5.2.6.2. Multidimensional Poverty by Size of the Household .....	126
5.2.6.3. Multidimensional Poverty by Migration and Marital Status of Heads ....	127
5.3. The Relationships between Consumption and Multidimensional Poverty .....	129
Summary .....	131
<b>CHAPTER SIX</b>	
<b>LIVELIHOOD ASSETS OF THE HOUSEHOLDS</b>	
Introduction .....	133
6.1. Human Assets .....	133
6.1.1. Education .....	133
6.1.2. Health .....	136
6.1.3. Labour .....	140
6.2. Physical Assets .....	141
6.2.1. Housing .....	141
6.2.1.1. Housing Tenure and Number of Rooms .....	141
6.2.1.2. Persons per Room .....	143
6.2.1.3. Housing Materials .....	145
6.2.1.4. Housing Utilities .....	146
6.2.2. Durable Assets .....	150
6.2.3. Infrastructure .....	152
6.2.4. Livestock .....	155
6.3. Natural Assets .....	157
6.4. Social Assets .....	158
6.5. Financial Assets .....	161
6.5.1. Income .....	161
6.5.2. Saving .....	163
6.5.3. Credit .....	166
Summary .....	169
<b>CHAPTER SEVEN</b>	
<b>VULNERABILITY CONTEXTS; POLICIES, INSTITUTIONS AND PROCESSES; LIVELIHOOD STRATEGIES AND OUTCOMES</b>	
Introduction .....	172
7.1. Vulnerability Contexts .....	172
7.1.1. Trends .....	172

7.1.1.1. Population Growth Trends of the Study Towns .....	172
7.1.1.2. Price Trend .....	174
7.1.2. Seasonality .....	175
7.1.3. Shocks .....	179
7.2. Policies, Institutions and Processes .....	181
7.2.1. Policies .....	181
7.2.1.1. The Urban Development Policy .....	181
7.2.1.2. Rural Land Policy .....	188
7.2.2. Institutions .....	189
7.2.3. Processes .....	195
7.2.3.1. Processes of Participation in Development .....	195
7.2.3.2. Process of Decentralization .....	197
7.3. Livelihood Strategies .....	198
7.4. Livelihood Outcomes .....	202
Summary .....	206
<b>CHAPTER EIGHT</b>	
<b>THE CONTRIBUTION OF RURAL ASSETS, LIVELIHOOD SECURITY AND DETERMINANTS OF POVERTY</b>	
Introduction .....	208
8.1. The Contribution of Rural Assets to Household Livelihoods .....	208
8.1.1. Total Household Monthly Income .....	208
8.1.2. Arable and Grazing Land .....	209
8.1.3. Other Rural Assets .....	212
8.1.4. Monthly Household Income from Agriculture .....	214
8.2. Livelihood Security .....	216
8.2.1. Indicators of Livelihood Security .....	216
8.2.2. Livelihood Security Status .....	219
8.2.3. Livelihood Security by Dimensions .....	222
8.3. The Determinants of Poverty .....	225
8.3.1. Definitions of the Variables .....	225
8.3.2. Model Specifications .....	228
8.3.3. Results and Discussions.....	233
Summary .....	238
<b>CHAPTER NINE</b>	
<b>CONCLUSIONS, THEORETICAL &amp; POLICY IMPLICATIONS &amp; RECOMMENDATIONS</b>	
Introduction .....	240
9.1. Conclusions .....	240
9.2. Theoretical and Policy Implications and Research Gaps .....	251
9.3. Recommendations .....	253
References	
Appendices	

## List of Tables

Table	Page
Table 4.1: Population Size of the Study Towns by Sex .....	91
Table 4.2: Broad Age Structure and Migration Status of the Population of the Study Towns by Sex .....	93
Table 4.3: Distance from the Town to the Birth Place of Migrants .....	94
Table 4.4: Primary Causes of Migration in the Study Towns .....	95
Table 4.5: Literacy Rates of the Study Towns Aged 10 Years and Above by Sex .....	97
Table 5.1: Indices of the Consumption Poverty .....	104
Table 5.2: Consumption Poverty by Sex and Age of the Household Heads .....	107
Table 5.3: Consumption Poverty by Size of the Households .....	110
Table 5.4: Consumption Poverty by Migration and Marital Status of the Household Heads ...	112
Table 5.5: Indices of the Multidimensional Poverty .....	119
Table 5.6: Raw Headcount Ratios of Households in the Selected Indicators .....	121
Table 5.7: Censored Headcount Ratio & the Contribution of Individual Indicator to the MPI .	122
Table 5.8: Multidimensional Poverty Severity and Vulnerability .....	124
Table 5.9: Multidimensional Poverty by Sex and Age of the Household Heads .....	125
Table 5.10: Multidimensional Poverty by Size of the Households .....	127
Table 5.11: Multidimensional Poverty by Migration & Marital Status of Household Heads ....	128
Table 5.12: The Relationships between Consumption and Multidimensional Poverty .....	130
Table 6.1: The Percentage Distribution of Households by Level of Education and Skills .....	135
Table 6.2: the Level of Illness, Treatment & Number of Days absent from the Usual Activity.	137
Table 6.3: Expenditure of the Households for Medical Treatment in 2014.....	139
Table 6.4: Household Members Working in Family Business .....	140
Table 6.5: Housing Tenure and Number of Living Rooms .....	142
Table 6.6: Persons per Room and Number of Rooms Used for Work .....	144
Table 6.7: Housing Materials of the Households .....	145
Table 6.8: Housing Utilities of the Households .....	148
Table 6.9: The Percentage of Households Who Owned Durable Assets .....	150
Table 6.10: Total per Capita Value of Durable Assets of Households .....	151
Table 6.11: Sources of Water, Light and Cooking Energy & Access to Telecommunication...	154
Table 6.12: Percentage of Households Who Owned Livestock .....	156
Table 6.13: Agricultural Land Ownership, Holding Size and Tenure .....	157
Table 6.14: Frequency Distribution of Households by Association .....	159
Table 6.15: Sources of Initial Capital and Assistance for Business .....	160
Table 6.16: Major Income Generating Activities of the Households .....	162
Table 6.17: Sources of Other Income and the Amount Earned in Birr .....	163
Table 6.18: Place and Amount of Savings of Households .....	164

Table 6.19: Frequency and Purpose of Saving .....	165
Table 6.20: Borrower Households, Sources of Credit and the Amount of Money Borrowed ...	167
Table 6.21: Purposes of Borrowing and Reasons for Not Borrowing .....	169
Table 7.1: The Months of Maximum Income and Profit for some Businesses.....	177
Table 7.2: Percentage of the Households by the Shocks they faced in 2013/14 .....	180
Table 7.3: Examples of Typical LI PW Subprojects .....	186
Table 7.4: Level of Satisfaction of the Household Heads in Schools & Health Services .....	190
Table 7.5: The Number of Persons Needed and Employed for Each Process Unit of the Sub- Municipalities .....	193
Table 7.6: Percentage of Households Participated by Development Activities .....	195
Table 7.7: Labour in Days and the Amount of Money Contributed by Households .....	196
Table 7.8: Primary or Major Livelihood Activities of Households .....	199
Table 7.9: Secondary Livelihood Strategies of Households .....	200
Table 7.10: Place of Work of Households for the Livelihood Activities .....	202
Table 7.11: Whether Livelihood of the Household Is Improved or Not .....	203
Table 7.12: Primary Reasons for the Improvement of the Livelihood of Households .....	204
Table 7.13: Primary Reasons for the Decline of the Livelihood of Households .....	205
Table 8.1: Total Monthly Household Income in Birr .....	209
Table 8.2: Land Holding Size and Livestock Possession of the Households .....	210
Table 8.3: The Percentage of Households who depend on other Rural Assets .....	213
Table 8.4: Monthly Household Income from Agriculture in 2013/14 Crop Harvest Season....	214
Table 8.5: Monthly Share of Agricultural & Means of Production .....	215
Table 8.6: Indicators of Selected Dimensions of Livelihood Security .....	218
Table 8.7: Composite Livelihood Security Index of Households by Consumption Poverty .....	220
Table 8.8: Household Livelihood Security Index by Major Livelihood Activity .....	221
Table 8.9: Household Livelihood Security Index in Economic, Food & Housing Dimensions..	223
Table 8.10: Household Livelihood Security Index in Water, Education & Health Dimensions..	224
Table 8.11: Definitions of the Explanatory Variables and their Association with Poverty.....	236
Table 8.12: Significant Coefficients and Odds Ratios for the Independent Variables.....	233

## List of Figures

Figure	Page
Figure 2.1: Sustainable Livelihoods Framework .....	35
Figure 4.1: Map of East Gojjam Administrative Zone .....	79
Figure 4.2: Location Map of the Study Towns .....	81
Figure 4.3: Some Items in the Market Places of the Study Towns .....	100
Figure 6.1: The Major Diseases in the Study Towns .....	139
Figure 6.2: Pictures Showing the Housing Materials.....	146
Figure 6.3: Kitchen in the Study Towns.....	147
Figure 6.4: Pit Latrines in the Study Towns.....	149
Figure 6.5: The Water Points and Rows of Jar at the Points in Wojel.....	153
Figure 7.1: Trends of Population Growth in the Study Towns.....	173
Figure 7.2: Consumer Price Index Trends in Amhara Region.....	174
Figure 7.3: Some Business Activities in the Periodic and Non-Periodic Market Days.....	178
Figure 7.4: Some Active Businesses in the Periodic Market Days.....	178
Figure 7.5: Percentage of Licensed Activities in the Study Towns.....	201
Figure 8.1: Quarrying Site (Left) and a Heap of Stones (Middle and Right).....	212

## **List of Abbreviations and Acronyms**

AAU: Addis Ababa University  
ACSI: Amhara Credit and Saving Institution  
ADLI: Agricultural Development Led Industrialization  
AF: Alkire Foster  
AIDS: Acquired Immune Deficiency Syndrome  
ANOVA: Analysis of Variance  
CARE: Cooperative for Assistance and Relief Everywhere  
CHLSI: Composite Household Livelihood Security Index  
CIS: Commonwealth of Independent States  
CSA: Central Statistical Agency  
DF: Degree of Freedom  
DFID: Department for International Development  
DHS: Demographic and Health Survey  
EHNRI: Ethiopian Nutrition and Health Research Institute  
FGT: Foster, Greer and Thorbecke  
GDP: Gross Domestic Product  
GIS: Geographic Information System  
GNI: Gross National Income  
GNP: Gross National Product  
GTP: Growth and Transformation Plan  
HDI: Human Development Index  
HDR: Human Development Report  
HICES: Household Income, Consumption and Expenditure Survey  
HIV: Human Immune Virus  
HLSIED: Household Livelihood Security index in Economic Dimension  
HLSIEDD: Household Livelihood Security index in Education Dimension  
HLSIFD: Household Livelihood Security index in Food Dimension  
HLSIHD: Household Livelihood Security index in Housing Dimension  
HLSIHLD: Household Livelihood Security index in Health Dimension  
HLSIWD: Household Livelihood Security index in Water Dimension  
HPI: Human Poverty Index  
IDS: Institute of Development Studies  
IADB: Industry and Urban Development Bureau  
LDCs: Least Developed Countries  
LIPW: Labour Intensive Public Works  
LL: Log Likelihood  
MDGs: Millennium Development Goals  
MoFED: Ministry of Finance and Economic Development  
MPI: Multidimensional Poverty Index

MSEs: Micro and Small Enterprises  
MUDHCo: Ministry of Urban Development, Housing and Construction  
NGOs: Non-governmental Organizations  
N: Number of Households/respondents  
NR: Natural Resource  
ODI: Overseas Development Institute of the United Kingdom  
OPD: Out Patient Diagnosis  
OPHI: Oxford Poverty and Human Development Initiative  
PASDEP: Plan for Accelerated and Sustained Development to End Poverty  
PCA: Principal Component Analysis  
PIPs: Policies, Institutions and Processes  
PPA: Participatory Poverty Assessment  
PPP: Purchasing Power Parity  
SE: Standard Error  
SIDA: Swedish International Development Agency  
SPSS: Statistical Packages for Social Sciences  
TLU: Tropical Livestock Unit  
UN: United Nations  
UNDP: United Nations Development Programme  
UNEFPA: United Nations Food Programme Agency  
UPSNP: Urban Productive Safety Net Project  
US: United States  
USA: United States of America  
VIF: Variance Inflation Factor  
WCED: World Commission on Environment and Development  
WDR: World Development Report  
WFP: World Food Programme  
WMS: Welfare Monitoring Survey

## Definitions of Local Terms

- Areki*- is a very alcoholic homemade local drink made from different cereals and gesho.
- Awraja*- is an administrative area during Emperor Haile Selassie and Derg regimes. It is more or less equivalent to zone, which is the current administrative area.
- Dega*- is a traditional climatic zone found between altitudes 2,300 and 3,300 meters above sea level and its temperature ranges from 10 to 15 degrees Celsius. It is equivalent to temperate climatic zone.
- Derg*- is a geez word which means committee and this committee rules the country from 1974 to 1991.
- Gesho*- is a perennial cash crop in the homesteads used for the making of local drinks like *tella* and *areki*. Its scientific name is *rhamnus prinoides*.
- Idir*- is a local traditional association for the purpose of assistance when a family member of the member of the association dies.
- Equb*- is a traditional local association used for rotated saving of money.
- Kebele*- is the lowest administrative area which has at least 5,000 people. Kebele is more or less equivalent to a county in Britain.
- Ketena*- is the smallest division of *kebele*. It contains two or more villages.
- Mahiber*- is a traditional local religious association for the Orthodox Christians organized in the name of saints and established primarily for eternal life so that members meet in every month in the saint day.
- Qolla*- is a traditional climatic zone between altitudes 500 and 1,500 meters above sea level and its temperature ranges from 20 to 30 degrees Celsius. It is equivalent to tropical climatic zone.
- Senbetie*- is a traditional local religious association for the Orthodox Christians established primarily for eternal life, but in this case not in the names of saints. Members meet in every first Sunday of every month.
- Teff*- is one of the species of grass and the staple foods for many people in Ethiopia. Its scientific name is *eragrostis tef*.
- Tella*- is a local homemade drink from different cereals and gesho, but less alcoholic than *areki*.
- Tera*- is part of the market area which specializes in a particular commodity to be exchanged.
- Teskar*- is a religious practice by the Orthodox Christians for an adult person in the 40<sup>th</sup> day after his/her death.

*Woreda*- is an administrative area which is found in the middle of zone and kebele administrations in the current administrative division of the country. It is the lowest level of government with its own budget.

*Woyna Dega*- is a traditional climatic zone between altitudes 1,500 and 2,300 meters above sea level and its temperature ranges from 15 to 20 degrees Celsius. It is equivalent to subtropical climatic zone.

*Zikre Hig*- is a bulletin in Amhara National Regional State where proclamations and laws are issued.

## **Abstract**

*Poverty in Ethiopia is one of the pressing problems catching the attention of the government, development practitioners and researchers for more than two decades and will draw the attentions in the years to come. This study aims to explore the extent of poverty and examine the link between poverty and livelihoods of households in small towns of East Gojjam guided by sustainable livelihoods framework. The study was based on quantitative and qualitative data generated from both primary and secondary sources. The sample for the survey was selected using two-stage sampling technique. In the first stage, the study towns was selected purposively based on set criterion and in the second stage, 328 households were selected using simple random sampling technique after the sample size was statistically determined. In contrast, in this stage key informants and group discussants were selected purposively. Questionnaire survey was used to generate mainly quantitative data and key informant interview, group discussion and observation were employed to generate qualitative data from the selected primary sources. Thus, both quantitative and qualitative methods of data analyses were employed for the study. Descriptive statistics such as percentages and mean and inferential statistics such as chi-square test, independent t-test, one way ANOVA and logistic regression were employed to analyze the quantitative data. In addition, indices for the multidimensional poverty and livelihood security were constructed. Direct quotation, paraphrasing and pattern matching were used to analyse the qualitative data. The study, therefore, found that the incidences of consumption and multidimensional poverty were 37% and 55% respectively. The chi-square test shows the absence of significant differences among the incidences of poverty of the study towns though the percentages show some differences. Both the poor and the non-poor households were deprived of the productive assets though the poor were more deprived. The chi-square tests and t-tests confirmed that these differences in the asset possessions between the poor and the non-poor were statistically significant. About 9 out of 10 households were self-employed, 70% of the businesses were non-licensed and the place of work for 30% of the businesses was residential house and compound. The study also found that the livelihoods of about half (50%) of the households was improved due to largely better profit from their businesses and the livelihood of 20% of the households was decreased due to shocks. Households pursue a living from agricultural land (32%), grazing land (25%), cooking energy (33%), quarrying site and social assets from the rural areas. Agriculture was the primary source of income for significant proportion of the poor. The study also found that over a third (35%) of the households were insecure in their livelihood. More proportion of households was insecure in economic dimension followed by housing, but a few was insecure in food dimension. The livelihood of households who were employed in private organization (80%), casual labourer (62%) and beggars (60%) were more insecure than the others who engaged in other livelihood activities. Household size, monthly income, housing crowdedness, radio/television possession, livestock, credit and the interaction of municipality and population were found statistically significant determinants of poverty. In order to reduce poverty and improve livelihood security, the federal and regional governments should design small towns targeted poverty reduction programmes and trainings on skills of various kind and reengineering low price but high quality housing materials should be some of the top priorities in these towns. Furthermore, the local businessperson should involve in the establishment of agro-processing industries rather than migrating to the larger towns. This will help to improve employment opportunities in these towns.*

**Key words:** Small Towns, Poverty, Livelihoods, Assets and Livelihood Insecurity

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1. Background**

Small towns have drawn the attention of regional planners since the 1960s. Today, planners are more concerned about small towns due to their role in regional development through alleviating the problems of large towns by checking migration and rural areas by providing services (health, education and entertainment), manufactured goods and agricultural products which are not produced in the hinterland (Satterthwaite & Tacoli, 2003; Rezvani et al., 2009). In simple terms, small towns improve regional development through creating a link between rural areas and large towns thereby enhance local and regional development, improve livelihoods and reduce poverty in both urban and rural areas of a region (Satterthwaite & Tacoli, 2003). Though the population size of small towns differs from country to country, on the basis of the classification of Tegegne (2002) small towns in Ethiopia are towns of population size less than 20, 000.

Small towns which are found very close to rural areas play their central place functions by disseminating manufactured goods including agricultural inputs imported from large towns, providing services and collecting agricultural products for export and create a link between rural areas and large towns through these central place functions. Thus, the livelihoods of households of small towns are largely associated with the central place functions of these towns. A considerable number of urban households in developing countries more specifically of small towns have both urban and rural asset-based livelihoods. Their livelihood depends on assets such as farming land, grazing land, water, forests, social assets, financial assets, etc which are either rural or urban-based (Satterthwaite & Tacoli, 2003). They, for example, rely for their livelihoods on the combination of rural and urban natural resources like peri-urban farming and farming in rural areas on own, inherited and rented agricultural land (Satterthwaite & Tacoli, 2003). The livelihood of a considerable size of households in small towns is, thus, a multi-spatial livelihood.

Farrington et al. (2002) noted that in many smaller urban settlements rural and urban activities are intimately interwoven. They further described that small and intermediate towns in Sub-Saharan Africa are rural in character, meaning that they lack the necessary infrastructure unlike large urban areas and their livelihood strategies are mainly of natural resources dependent.

Therefore, rural and urban poverty are interwoven in which one is the cause for the other. For example, inadequate capacity of urban areas in the dissemination of agricultural inputs may reduce the productivity of agriculture which is a cause for rural poverty and vice versa. In addition, poverty in small towns might be a result of their inadequate performance in discharging their central place functions. This might also be contributed by the government policies particularly in the provision of infrastructure that link these towns with the hinterlands and other urban areas of the same or large size.

Drawn from the researcher's personal experiences the contexts of small towns (small town here is defined as a town which has a population size of less than 20,000 and has no *woreda*, zonal and other higher administrative functions for its hinterland population) are different from larger and intermediate towns. The majority of these towns are non-capital urban settlements and the government until very recently has no any policy and programme of guiding the growth of these towns. They are growing by themselves without or little government interventions unlike intermediate and large size towns. For example, eight per cent of the urban population received public transfers, against 12% of the rural population and much had gone to large size towns (Muzzini, 2008). Comparing the transfer to the poor, the same source revealed that 10% of the urban poor received public transfers, against 21% of the rural poor and still large proportion had gone to large towns (Muzzini, 2008). The provision of credit and employment creation through micro and small enterprises are also highly concentrated in large and intermediate towns. The boom of construction activities, private sector investment particularly in services, labour intensive infrastructure development like cobblestone and public investment are also highly concentrated in large and intermediate towns.

The majority of these towns have no municipalities to provide municipal services to their residents. On top of these, large firms and institutions which can generate employment opportunities in small towns are absent. They have also no annual budgets and the autonomy of "urban administrations" unlike towns of population size greater than or equal to 20, 000. Residents of these towns might have therefore limited livelihood opportunities mainly of self-employment because of the absence of all these necessities at the local level to create employment and help improve their livelihoods. Thus, households in these towns might be

trapped by multiple deprivations of poverty including livelihood insecurity and the poor might be highly insecure in several dimensions of livelihood security.

## **1.2. Statement of the Problem**

Poverty in Ethiopia is one of the pressing problems catching the attention of the government, development practitioners and researchers for more than two decades and will draw the attentions in the years to come. Poverty reduction strategy papers and different poverty intervention programmes of the government and other development practitioners in rural areas and large towns are some of the testimonies of this. Raising the productivity of agriculture through the provision of modern agricultural inputs and resettlement of food insecure households are some of the interventions in rural areas while employment creation through micro and small enterprises, provision of credit, subsidising food, integrated housing projects and organising consumers associations are some of the interventions in major urban areas of the country. These and other interventions by the government and development practitioners contributed a reduction in the incidence of income or consumption poverty in the country in general and in urban areas in particular. This is confirmed by the results of different years Household Income, Consumption and Expenditure Survey (HICES) and Welfare Monitoring Survey (WMS) of the Central Statistical Agency (CSA).

The results of the 1995, 1999, 2005 and 2011 HICES and WMS of CSA indicated that poverty in the country measured by per capita income/consumption was a head count index of 46%, 44%, 39% and 30% of the households respectively (CSA, 2012). Similarly, urban poverty account a head count index of 33%, 37%, 35% and 26% in the same years respectively. Tesfaye (2006) also noted that the incidence of urban poverty in Ethiopia was high with a head count index of 41% in 1994 and 43% in 2000. Even though the figures from these two sources differ, both show the high level of incidence of income or consumption poverty in urban Ethiopia. These figures have shown that the incidence of income or consumption dimension of poverty in the country and in urban areas is in an encouraging declining trend. For example, the percentage point decrease of the incidence of poverty from 1995 to 2011 in the country was sixteen while in urban areas it was seven. Likewise, the percentage point decrease of poverty both in the country and in urban areas from 2005 to 2011 was nine. A similar trend was also observed in Amhara

region. The incidence of income or consumption poverty in urban areas of Amhara region was 37%, 31%, 37% and 29% in 1995, 1999, 2005 and 2011 respectively accounting for eight percentage point decrease from 1995 to 2011 (CSA, 2012). According to MoFED (2014), the decline of urban poverty might have contributed by the boom in construction activities, increased private sector investment particularly in services, expansion of small and micro enterprises, improved access to credit, labour intensive infrastructure development like cobblestone which are largely concentrated in large urban areas of the country.

Despite an encouraging decline, the level of income or consumption dimension of urban poverty (26%) in the country is high and the rate of decline was not the same which was high in the country but low in urban areas even though the decline was equal from 2005 onwards. Moreover, the incidence of urban poverty (29%) in 2011 in Amhara region was higher than the national figure. Therefore, income or consumption dimension of poverty in urban areas is deep rooted, severe and caused by a multitude of factors. Moreover, non-income dimensions of poverty (which is deprivations of access to improved water, sanitation, housing, electricity, education, health, etc) are more severe than income or consumption dimension of poverty. Besides being income and consumption poor, the degree of livelihood insecurity of the poor might also be much worse since the formal sector of urban areas provides insufficient employment opportunities for their residents especially in small towns. Many residents of small towns find some kind of self-employment largely in the informal sector that is home based.

Available few studies on urban poverty argued that both income or consumption and non-income dimensions of poverty are greater in intermediate and small towns than large towns in the country regardless of variations in the cost of living which is relatively low in these towns. The previous few urban poverty studies suggest a slightly higher concentration of poverty in small/medium towns. For example, on the basis of the 1999 HICES and WMS Muzzini (2008) identified that 69% of the urban poor live in small/medium towns (towns of population less than 100, 000) and the remaining 31% of the urban poor live in large towns. The incidence of urban poverty was also higher in small/medium towns (50%) than in large towns (41%). In terms of access to infrastructure and services such as water, sanitation, housing, roads, electricity and education; small/medium towns are better than rural areas but worse than large urban areas. For example, 79% of the residents of small and medium towns were deprived of at least one service

(improved water supply, sanitation, overcrowding, etc) compared to 68% of the large towns (Muzzini, 2008). In many cases, poor urban people of small towns are no better off than poor rural people (UNFPA cited in ODI, 2010). These towns are, therefore, one of the urban spatial poverty traps of the country which call for scientific research. Small towns in the country are underserved in housing, transportation, piped water, waste disposal and other services. The high level of poverty in these towns clearly show that further disaggregation of urban poverty by size of towns undoubtedly gives a different level of incidence of poverty and access to infrastructure and basic services. This difference in the level of income or consumption dimension of poverty is also the reflection of differences in the causes of poverty and the degree of insecurity of the livelihoods of households. A higher level of incidence of poverty might be observed if the poverty of small towns, which is under-researched, is unfolded.

Most poverty studies on urban areas of Ethiopia were on large towns of the country and a few were on all urban areas drawing samples mainly from large and intermediate towns. Both the national and regional figures on urban poverty are masking the realities of the exact magnitude of poverty in small towns. Therefore, poverty study in urban areas must be disaggregated based on their sizes since the overall urban poverty incidence, gap and severity do not reflect and represent the poverty of different size of towns because of differences in their contexts as discussed in the previous section. The few existing studies on urban poverty are concentrated on urban poverty in relation to rural poverty and the federal, regional and zonal capitals of the country where public and private agencies are prevalent giving less emphasis to *woreda* capitals and non-capital small towns (Muzzini, 2008). Small towns are neglected from or pushed in the periphery of the research agenda in the country. Therefore, the incidence, gap and severity of poverty and livelihood insecurity of households in small towns need to be studied.

Above all, most studies in urban areas in general and large size towns in particular are concentrated on income or consumption dimension of poverty measured by either per capita income or household consumption expenditure (Tesfaye, 2006; CSA, 2012), causes of poverty (Kedir & McKay, 2003, Beaven & Pankhurst, 2008) and food security (WFP, 2009; Degefa, 2010; Hadley et al., 2011; Girma, 2012). In one way or another, these studies focus on one dimension of poverty (income or consumption) not on the multiple dimensions of poverty and the livelihoods of households derived from rural areas which might be significant in small urban

settlements. These studies also give no or little attention to the non-income dimensions of poverty, the livelihoods of households in relation to poverty and the contribution of rural asset-based activities to the livelihoods of urban households. This study, therefore, fills these research gaps by investigating multiple dimensions of poverty, the contribution of rural assets to the livelihood of households and the relationship between poverty and livelihoods of households in small towns.

### **1.3. Justifications**

Towns of East Gojjam are selected for the study because of two most important reasons. First and foremost, the researcher has personal experiences in the area. The researcher has known the area since his childhood. This, therefore, helped the researcher to explore and better understand poverty and livelihood of the residents of the selected towns and the relationship between poverty and livelihoods in the area. Secondly, Gojjam in general and East Gojjam in particular is a surplus producing area (Amhara Livelihood Zone Report, 2007) in which most agreed that towns in this area can benefit much from lower prices of the agricultural produce and creation of livelihood activities in the collection of the surplus agricultural produce and provision of agricultural inputs leading to a wrong speculation of low level of poverty in these towns without any empirical investigation. This wrong speculation might in turn affect the efforts of the government in these towns.

Small towns are selected because of their problems and lack of poverty research on them. According to ODI (2010), spatial poverty traps are now the major problems though the level of poverty declines in the world. There exists urban spatial poverty traps in large urban areas such as slums and squatters and at national level in small and medium sized towns due to low or no economic growth (ODI, 2010). Public investment is often concentrated in large cities and notably absent in small and medium-sized urban centers, discouraging private investment and making urban activities in general less efficient and productive in these areas (UN-Habitat cited ODI, 2010). Smaller towns can be characterized by more unaddressed problems and fewer human, financial and technical resources available to deal them (ODI, 2010). Consequently, the efforts in poverty reduction in these towns did not achieve their objectives. Capabilities in planning and implementation can be exceedingly weak in smaller towns (ODI, 2010). Therefore,

the problems of small towns must be identified through research and possible solutions to these problems must be suggested.

Poverty and livelihood are selected as issues of this research because poverty is not static and permanent and it is also not the same across space resulting from differences in economic, social and administrative contexts. Evidence suggests that there is not a single profile of poverty in urban Ethiopia. Instead, urban poverty is multi-faceted and spatially differentiated (Muzzini, 2008). Thus, studies on urban poverty at different times and in different hierarchies of settlements undoubtedly generate different results in terms of magnitude, depth and causes. Similarly, livelihood opportunities and asset constraints differ from place to place, group to group and across-income levels which require a research to unearth these livelihood opportunities and constraints (DFID, 2000). Likewise, towns differ in social, economic, governance and environmental contexts which affect the specifics of the nature of the poor's wealth and how they can make a living (Miekle et al., 2001).

Above all, the government of Ethiopia wages a war against poverty since two decades ago so that the researcher wanted to contribute to the efforts of the government towards poverty reduction through research in areas where the government and the academia gave less emphasis mainly emanated from the government's focus on extinguishing fire rather than protecting the problem from happening and lack of resources. This research is, therefore, intended to bring the government's and researcher's attention towards small towns.

#### **1.4. Objectives**

The general objective of the research was to understand and examine the extent of poverty and the link between poverty and livelihoods of households in small towns of East Gojjam. The specific objectives derived from this general objective were:

- To determine the depth, gap and severity of poverty of households in the study towns.
- To identify the livelihood opportunities, livelihood activities and vulnerabilities of households in the study towns.
- To explore the contribution of rural assets based activities to household's livelihood in the study towns.

- To determine the magnitude of the livelihood in/security of households in the study towns.
- To assess the relationship between consumption dimension of poverty and livelihood insecurity of households in the study towns.
- To identify the determinants of poverty of households in the study towns.

### **1.5. Basic Research Questions**

To be more focused in data collection and analyses and address the research objectives some basic research questions were set. The basic research questions posed and answered through this research design were:

- ❖ Are the depth, gap and severity of both consumption and multidimensional poverty of households high in the study towns?
- ❖ What are the livelihood assets, livelihood strategies and the main sources of vulnerability of livelihoods of households in the study towns?
- ❖ How do households draw livelihood strategies from rural assets and do rural asset-based activities have significant contribution to the livelihood of households in the study towns?
- ❖ Is the extent of livelihood insecurity status of households high in the study towns?
- ❖ Do the poor in the study towns have high insecurity of livelihoods than the non-poor households?
- ❖ In which dimension of the livelihood insecurity the consumption poor households of the study towns are highly insecure?
- ❖ What household head, household and community demographic and socio-economic characteristics are the most significant determinants of consumption poverty in the study towns?

### **1.6. Scope and Limitations**

The study was geographically delimited to three selected small towns of East Gojjam, which is one of the eleven administrative zones of Amhara Regional State. It assessed poverty and livelihoods of households in small towns of East Gojjam. This research is, therefore, different from the other researches in that the study was conducted in geographic areas which are overlooked by researchers and policy makers in any topic more specifically on the magnitude

and causes of poverty. Even though the study was on three selected small towns, the findings of the research can be generalized to all smaller towns in East Gojjam. This is because the study was mainly a quantitative study drawn from a sample size determined statistically and selected using probability sampling technique. These can ensure the representativeness of the sample to the larger population. In connection with this, the principal units of analysis for this study were households and the residents of the selected study towns. In addition, the unit of analysis was Amhara Region to some policy and price issues.

Poverty and livelihood are very wide and complex phenomena. This forced the researcher to focus on some aspects of them owing to limited research resources and time. The central phenomena of the study, therefore, were consumption and non-consumption dimensions of poverty, livelihood and livelihood in/security of households, the contribution of rural asset-based activities to the livelihood of households and the determinants of poverty of households in small towns. These central phenomena were looked using the lens of sustainable livelihoods framework by focusing on the basic components of the framework. To tackle the problem of poverty any poverty study must explain why the poor are poor. With regard to the livelihood security, the study was delimited to six dimensions of livelihood security such as economic, food, health, education, water and housing. The indicators of each dimension were identified from the various conceptual and empirical literatures of sustainable livelihood. The indicators selected for each livelihood in/security dimension were variables that can be quantified either in ratio and ordinal scale. The various dummy and continuous variables for the logistic regression analysis were measured in the field for this study.

This study is also different from the other poverty studies in that the livelihood insecurity of households was analysed using the quantitative method to understand the level of variation of livelihood insecurity of households in the study towns. It also identified the livelihood security dimension/s where households are highly insecure. This study is also different from others in that the study saw the contribution of rural-based assets to the livelihood of households and the multiple deprivations households faced using a new measure of poverty called Multidimensional Poverty Index (MPI).

The study addressed all the objectives set and answered all the questions raised. In due course of these, however, the researcher encountered a number of limitations in the methodologies, which need to be considered. For example, the study measured poverty. To do this, consumption data were collected using a onetime recall method so that households might forget the items and quality they consumed. Consequently, poverty in the study towns might be overestimated. Likewise, the conversion scale of households used significantly reduced large household size. Even though the average poverty rate cannot be changed, this method has a tendency to underestimate poverty rate of large household size than the average household size. The scale substantially reduces large household size than average household size (Haughton & Khandker, 2009).

The reported cost of each durable goods during the field survey was not used for the computation of the value of consumed durable goods due to the high measurement error. Since several respondents did not know when and how much they bought many of their durable goods the researcher was forced to calculate the depreciation value as if these durable goods were bought a year ago because this substantially reduces the measurement error of durable goods. This is a common method in the computation of the cost of consumption of durable goods in the absence of historical data. This might, however, decrease the incidence of poverty in these towns due to the high cost of the goods and the depreciations for the good were determined only for a year regardless of their service years.

Similarly, the livelihood security index is sensitive to the addition and omission of an indicator which reduces the comparability of the results with other studies of the same kind. Recognising the dynamic nature resulting from the interaction of a number of driving forces in any one place and at any one point in time, the results of livelihood security indices make no attempt to assess absolute livelihood security of households rather they attempt to assess the relative livelihood security of households. Since the indices show the relative livelihood security of households, the categorization is an arbitrary categorization. In addition, care has to be taken when we compare the results of this study with the results of the other studies with same methods. The indicators are not the national and regional standards. Therefore, the national or regional standard must be put for the analysis of livelihood security of households

## **1.7. Significance**

The audiences for this study are academicians, researchers, the government, NGOs and other development practitioners. All these audiences are from the academic and the non-academic world. The results and findings of the research will, thus, benefit all of these audiences. The research has some basic significances in both academic and policy arenas.

In academic areas, the research will add in the existing literature of poverty and livelihoods of households of urban areas of Ethiopia by unearthing the magnitude of poverty, multiple deprivations, livelihood of households, the link between poverty and livelihoods and the livelihood contribution of rural assets in small towns which are overlooked by the previous poverty studies. More specifically, the research will fill the knowledge gap on the livelihood insecurity and multidimensional poverty of households which are missing from the existing literature of urban poverty in Ethiopia. The study sheds light on the issues of poverty of households by measuring consumption poverty, assessing the livelihood security of households and identifying the multiple deprivations households faced through quantitative techniques. Moreover, the findings of this research will serve as a spring board for further studies since it identified the research gaps for future studies to further unfold poverty and livelihood insecurity in small towns.

In policy development and poverty reduction practice, the research pinpointed policy implications of poverty reduction and livelihood improvement programmes of the country because the study identified the main causes of poverty and livelihood insecurity and the multiple deprivations of households of small towns. The identification of the causes of poverty and the level of livelihood in/security and multiple deprivations will help development practitioners and the government to intervene in these towns by designing appropriate poverty intervention programmes. The livelihood insecurity indices of each dimension of the livelihood insecurity of households and the raw multidimensional poverty index as well as the identification of the determinants of poverty will help to monitor vulnerabilities and identify the development intervention areas or dimensions of livelihood insecurity in these towns. The residents of these towns will benefit from these interventions. This is because this research

identified the consumption poor, multidimensional poor and the livelihood insecure households as well as the indicators the majority of households are lacking.

## **1.8. Organization of the Dissertation**

This chapter is an introductory chapter which is the first chapter of the dissertation. It presented statement of the problem, objectives and research questions among others. The reminder of the research report is organized into eight chapters. The second chapter reviews the conceptual, theoretical and empirical literature as well as the conceptual framework of the research. The third chapter explains the research methodology which includes the philosophical foundation of the research, research design and research methods (data sources and types, instruments of data collection, sampling and sample size and techniques of data analysis and interpretation). The fourth chapter describes the study areas. It describes the location, physical setting, socio-economic characteristics and genesis of the study towns. The chapters from five to eight are results and discussions of the research. The fifth chapter describes the magnitude of consumption and multidimensional poverty and presents some poverty profiles in terms of sex, age, marital status and migration status of the household heads and household size. The sixth and seventh chapters attempt to present the results of the research on the livelihoods of households by following sustainable livelihood framework. The sixth chapter emphasized on the livelihood assets and the seventh chapter is concentrated on vulnerabilities, livelihood strategies, PIPs and livelihood outcomes. The nexus between poverty and livelihoods of households are also presented in chapter six and seven. The eighth chapter presents the contribution of rural-based assets to the livelihoods of households, livelihood insecurity of households and the determinants of consumption poverty in the study towns. The final chapter entertains conclusions, theoretical and policy implications and recommendations of the research.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **Introduction**

The purpose of this chapter is to review the existing literature on the research problem and identify the gaps in the literature. This chapter presents the conceptual, theoretical and empirical literature. The first section explains the debate on the meaning and measurement of poverty and livelihood and livelihoods insecurity. The second section entertains the theoretical framework of the study. The third section presents the empirical findings on poverty, livelihoods and livelihood security. The last section presents the conceptual framework of the study.

#### **2.1. Conceptual Literature**

##### **2.1.1. The Debate on the Meaning and Measurement of Poverty**

The understanding and relief of poverty has been the major task of humans. Recognizing poverty reduction as the best indicator of development, the world is striving to eradicate extreme poverty by 2030. The debate on the meaning and measurement of poverty is continuing since poverty reduction and elimination require better definition and measurement essential for poverty centered development policies and practices (Laderchi et al., 2006). There is no agreement on scholars, policy makers and practitioners on both the meaning and measurement of poverty. This resulted in different figures of the world's poor in different research results.

Different researchers, policy makers and practitioners defined poverty differently. Some defined poverty narrowly as deprivation of income and others defined it as deprivations of not only income but also other basic necessities such as shelter, health, water, etc. The concept of poverty, its measurement and curative measures are also changing through time and nowadays one can find a number of dimensions in the concept of poverty and different objective and subjective methods of the measurement of poverty. The dynamics of the concept of poverty and its measurement are discussed in the following consecutive two subsections. These two subsections actually contain more than one approach in the definition and measurement of poverty.

### **2.1.1.1. Subsistence and Basic Needs Approach**

Viewing poverty as lack of subsistence or nutritional insufficiency, the first scientific method of poverty measurement was developed in England by nutritionist Rowntree in 1901 as cited in Townsend (2006). The concept of subsistence was used to measure absolute poverty and the concept is related to the nutritional needs for physical efficiency or material needs for physical survival and efficiency (Townsend, 2006). Thus, nutritionists developed the minimum monthly income needed to cover the minimum nutritional needs of a household. According to Townsend (2006: 5) “families were defined to be in poverty when their incomes were not sufficient to obtain the minimum necessities for the maintenance of merely physical efficiency”. This works until the 1960s and the strategy to reduce income poverty during the period was economic growth or growth in GDP which leads in the raise in the per capita income of individuals and this actually results inequality between individuals (Fukuda-Parr, 2006). Later the method was strongly criticised since the method relegates human needs only to physical needs ignoring other needs more specifically social needs (Fukuda-Parr, 2006). The method did not also consider differences in age, sex, size, activities, metabolic rates and tests among people in the computation of the standard. Moreover, food availability and prices affect the income needed to secure the nutritional needs and poverty lines are often drawn up at the level of the household, disregarding how the intra-household distribution affects individual nutrition levels. All these suggest that it is not possible to draw up a unique poverty line based on nutritional requirements (Laderchi et al., 2006).

Consequently, there was a shift in the 1970s from subsistence to basic needs approach to define poverty. In this approach poverty was seen as not only nutritional insufficiency but also lack of access to education, shelter, health and other services and the focus was on integrated rural development to surmount poverty (Townsend, 2006). The concept of basic needs was introduced in the literature of poverty in the 1970s to overcome the shortcoming of the concept of subsistence in the definition of poverty and poverty reduction practices (Townsend, 2006). According to Townsend (2006:6), this is an extension of the subsistence concept and the concept included two elements in it.

*First, minimum consumption needs of a family: adequate food, shelter and clothing, as well as certain household furniture and equipment. And second, essential services provided by and for the community at large, such as safe water, sanitation, public transport and health care, education and cultural facilities. In rural areas, basic needs also include land, agricultural tools and access to farming.*

These are food and nonfood basic needs which nowadays are widely used to construct the absolute poverty line. Poverty was thus defined as lack of adequate income to meet minimum basic needs and the monetary approach was the most commonly used approach to measure poverty. Both subsistence and basic needs concepts rely on income as a proxy indicator to measure absolute poverty and the focus before the work of Sen was entirely on headcount ratio (proportion of poor) not on the depth and severity of poverty (Townsend, 2006). Following the critics of the method by Sen, he himself developed a method in 1976 which helps to analyse the degree of poverty and Foster-Greer and Thorbecke measurement method developed in 1984 to measure the depth and severity of poverty (Townsend, 2006). The later method of measurement is a method which is still working. A dollar a day on the basis of 1985 market values developed by the World Bank needed to be adjusted to inflation and national PPP has been used to identify the poor from the non-poor at the international level which is now raised to 1.25 dollar a day (Mowafi, 2004; UNDP, 2006) which is now 1.90 dollar. People are in poverty when their daily income is below 1.25 dollar per day. Historically, poverty is associated with income and mostly income or consumption is the center of poverty research and analysis and the measurement is money metric (Townsend, 2006). Countries also developed their own national poverty line based on this method.

As regards the meaning of poverty, Townsend (2006:5) defined poverty in that “People are said to be in poverty when they are deprived of income and other resources needed to obtain the conditions of life-the diets, material goods, amenities, standards and services-that enable them to play the roles, meet the obligations and participate in the relationships and customs of their society.” Thus, as stated in the 2002 WDR, to be poor “is to be hungry, to lack shelter and clothing, to be sick and not cared for, to be illiterate and not schooled”. Talking about the measurement of income poverty one has to differentiate first absolute poverty from relative poverty. Absolute poverty refers to the set of resources a person must acquire in order to

maintain a minimum standard of living. Absolute poverty is defined by two fundamental characteristics: 1) the acceptance of income (or consumption) as central to the understanding of poverty and 2) the sharp division of the income status of poor versus non-poor. Developed in the late 20<sup>th</sup> century relative poverty is concerned with how well off an individual is with respect to others in the same society in terms of income, resources, material and social conditions (Townsend, 2006). Most poverty studies and measurement largely concentrate on absolute poverty.

### **2.1.1.2. Multiple Deprivations Approach**

The dimensions of poverty added in the 1980s which increased the complexity of the meaning of poverty were the incorporation of the non-monetary aspects such as powerlessness and isolation, vulnerability and insecurity, capabilities and gender. The other dimension added in the meaning of poverty in the 1990s was lack of participation and social exclusion (Maxwell, 1999). Writers in the field realised that income is not the only indicator of poverty and income or consumption based measure of poverty is not a human-centered measure which can capture the deprivations directly and many suggest the inclusion of other dimensions such as education, health, etc for poverty measurement. Therefore, Human Development Index (HDI) and Human Poverty Index (HPI) were put forth in 1997 by the United Nations Development Programme (UNDP) to objectively measure different dimensions of poverty directly rather than using the proxy indicator income or consumption (Mowafi, 2004; UNDP, 2006).

Human Poverty Index (HPI), a measure of capability deprivation, creates a composite index using three main indicators: a short life, lack of basic education and living standard represented by the percentage of people with access to health services and to safe water and the percentage of malnourished children under five (Mowafi, 2004).

*In the human development dimension, poverty is the deprivation side of human development – the denial of basic choices and opportunities to lead a long, healthy, creative and free life; to enjoy a decent standard of living; and to participate in the life of the community including political freedom and cultural choices (Fukuda-Parr, 2006:8).*

The strategies of eradicating poverty are not only economic growth in this case but also improving access to education, health and other services. These methods of poverty measure came after the introduction of human capabilities in the literature of poverty in the 1980s by the economist Sen in his work on poverty using the capability approach, Chambers in the 1990s and Participatory Poverty Assessment results by recognizing the multidimensionality of poverty (Santos & Ura, 2008). In connection with this, Laderchi et al. (2006) and Chambers (2006) defined poverty as a failure to achieve certain minimal or basic capabilities such as skills, physical capabilities and self respect, that is, the ability to satisfy adequately certain crucially important functioning.

As a result of a growing criticism of a top-down approach of the definition and measurement of poverty the World Bank developed a participatory approach (example, PPA) to define and measure poverty at the end of the 1990s. As a result, the poor themselves defined poverty as lack of material well-being (lack of food, water, health, clothe and shelter), lack of productive assets such as land and housing, unemployment, powerlessness, voiceless, hopelessness, marginalization, relying upon charity, lack of access to infrastructure such as roads, electricity, education, health and water and market places (not only mere absence but also quality of infrastructure), insecurity (crime and theft) and inadequate sanitation. The majority of these components of poverty are also identified in Ethiopia by the PPA made by Ellis and Tassew (2005). In many of the participatory poverty assessment studies the poor identified assets such as physical, human, social and natural to measure poverty than income.

A recent development in the measurement of poverty is the Multidimensional Poverty Index (MPI) using the Alkire Foster method. MPI is an extension of the HPI. MPI and HPI target end of development than means and are a multidimensional measure of poverty on three dimensions such as health, education and living standard. The human development reports of UNDP from 1997 to 2009 through HPI which need country averages to reflect aggregate deprivations in health, education and standards of living. From 2010 onwards the human development report using HPI was replaced by MPI. The MPI is different from the HPI in that the MPI identifies the simultaneous multiple deprivations of a household, computation is based on data from households or individuals of multiple indicators and compute the contribution of each indicator to poverty unlike HPI (Alkire & Santos, 2011). It directly measures the multiple deprivations of

the poor than the means. The Oxford Poverty and Human Development Initiative (OPHI) developed the index in 2010 for 104 lower and middle income countries of the world through the Alkire-Foster method. The index is reported in every year since 2010.

The Alkire-Foster method can assess the headcount ratio or incidence, the intensity (the average number of deprivations each household faced), depth of poverty and inequality among the poor against multiple criteria at the individual or household level (Alkire & Santos, 2010a). The method is the basic complement of income poverty measures as it measures multiple deprivations directly and helps to identify the acute poor (Alkire & Santos, 2010a). The 2010 to 2015 human development reports of UNDP were on the basis of MPI unlike the previous reports. The reports were on three dimensions such as health, education and living standard. The first two dimensions were represented by two indicators each and the third dimension was represented by six indicators. Eight indicators were related to MDGs and two (floor and electricity) were rudimentary indicators of the quality of housing. Some of the indicators (sanitation, electricity, education as the educated may read to others, floor, etc) are common to household members and some such as nutrition and school attendance are not (Alkire et al., 2011). The selection of the indicators for each dimension was in consultation with experts in the field. Each dimension and indicator of a dimension was equally weighted. According to Alkire & Santos (2010a), MPI looks poverty at “high-resolution” lens and hence it is the most accurate tool for measuring poverty. It is the first objective measure which shows the number of deprivations a household faced at the same time and captures distinct and broader aspects of poverty. One of the qualities of the method is its flexibility in the selection of dimensions, indicators, weights and cutoffs (Alkire & Santos, 2010a).

Chambers (2006) grouped the various definitions and measurement methods of poverty including the definitions and measurement methods discussed above into five clusters of meanings and measures which have different implications for policy and practice in poverty. These clusters of poverty are income poverty measured by income or its proxy consumption; material lack or want which include lack of wealth, shelter, clothing, furniture, personal means of transport, radios and television, etc and no or poor access to services; human poverty which is related to life expectancy, education and health measured by HDI and HPI; capabilities deprivation referring to what we can or cannot do and can or cannot be; and participatory

approaches which is defined and measured by the people themselves. The first four clusters of the meaning of poverty and its measurements are constructed by development professionals. They reflect the perception, views, education, trainings and experiences of these professionals, but the last cluster hears the views of the poor who are believed to be marginalized, vulnerable and excluded (Chambers, 2006). The other cluster of poverty is social exclusion which is about the issue of the excluders and excludees in relation to the norm in a society. Social exclusion is a concept which describes marginalization and other deprivations of individuals and a group of people such as powerlessness and voiceless (Laderchi et al., 2006). It focuses on who excludes what and by whom, the processes and dynamics that allow deprivation to arise and persist and takes redistribution of opportunities and outcomes as a curative measure (Laderchi et al., 2006).

By looking the various definitions of poverty and its measurement in the literature it is possible to argue that one cannot be comprehensive in defining poverty and develops an algorithm agreed by many which best measures poverty. What is important is to state what the concept stands for and how it should be measured (Sepahvand, 2009). Many of the definition of the concept fall either in the welferist (defined well-being related to happiness, individual choices or preferences and capabilities) or non-welferist (defined well-being related to material possessions and achievements) approach. All of the researchers and policy makers at all levels of the world nowadays agreed that poverty is not a one-dimensional or two-dimensional concept rather it is a multi-dimensional concept which can be measured by different methods depending on the objectives of the research. What emerged is a multidimensional conception of poverty which cannot be objectively measured by any single method which can accommodate all dimensions of poverty (Fukuda-Parr, 2006). Recognizing the multiple dimensions of poverty researchers and academicians developed and are developing different objective measures of poverty even though all dimensions of poverty cannot be reasonably integrated together in a single method for a meaningful result. Therefore, a new measure of poverty is developed because not the older measure is obsolete and less important rather because of the change in the meaning of poverty by incorporating new dimensions in the older definition of poverty. The monetary approach (consumption or income) of the objective measure of poverty is the most common though the method has its own weaknesses and flaws.

Therefore, the meaning of poverty which was central to this study is lack of adequate income/consumption, the deprivations of basic necessities (food, cloth and shelter), access to services (health, education, water, electricity, roads, etc) and lack of productive assets. Deprivation of secure livelihood is a new addition to the definition of poverty where many of the definitions of poverty in Ethiopia do not take into account the issue of security of access and livelihood (Aklilu & Desalegn, 2002). Livelihood security is one of the basic dimensions of poverty to be investigated in any poverty study since all the poor might not have insecure livelihood. For example, a poor person with a secure source of income (for example, a low-paid civil servant) is relatively better off than another poor person with an insecure source of income (a casual laborer, an employee in the service sector, petty traders, etc.). Similarly, all the non-poor might not have secure livelihood and families that are comparatively more prosperous may be distinguished on grounds of whether their well-being is based on secure or insecure resources (Aklilu & Desalegn, 2002). Consumption dimension of poverty was independently analysed because of the difficulty of mixing with other dimensions of poverty for meaningful poverty analysis. This also helps to compare the extent of poverty of these towns with the extent of poverty of the regional and national urban areas. The multidimensionality of poverty is analysed using indicators from sustainable livelihoods framework. Since this framework helps to identify the number or percentage of households who are deprived something qualitatively a recently developed quantitative technique, the Alkire Foster method, is used to identify the proportion of households who have multiple deprivations. No other method of poverty measure is better than these measures.

### **2.1.2. Meaning, Origin and Development of Sustainable Livelihood**

The notion of sustainable livelihood originated in the mid 1980s in the report of an advisory panel of World Commission on Environment and Development (WCED) and the work of Chambers and the concept is further expanded by Chambers and Conway (1991) in their discussion paper of the Institute of Development Studies (IDS) of the University of Sussex by integrating the ideas of capability, equity and sustainability. Since then the idea is adopted and adapted by governments and NGOs to help improve the livelihoods of the poor and by researchers to better understand the factors that determine poverty and the livelihoods of the poor. In the last two decades and over, the concept is further developed and refined by other

researchers and organizations such as Scoones (1998), Carney (1998), Cooperative for Assistance and Relief Everywhere (CARE, 1999) and DFID (1999).

Earlier the concept was solely used for understanding rural poverty and livelihoods, but the concept was later adapted by researchers to better understand urban poverty and livelihoods of the poor and by urban development interventionists to reduce urban poverty and improve the livelihood of the poor in the mid 1990s (Mickle et al., 2001). The concept is increasingly important in the development interventions and research activities in both rural and urban areas to help improve the livelihoods of the poor and reduce poverty. Sustainable livelihood approach is equally applicable in rural and urban areas with the same principles, but in a different social, economic, governance and environmental contexts (Mickle et al., 2001).

The meaning of sustainable livelihood is, however, changing since its inception and its applications are diversifying. Earlier WCED cited in Chambers and Conway (1991:5) defined livelihood using food and cash such as “adequate stocks and flows of food and cash to meet basic needs” and sustainability as “maintenance or enhancement of resource productivity on a long-term basis”. These two definitions are, therefore, on the bases of the concept of basic needs and income poverty giving no emphasis in non-income dimensions of poverty and livelihood of the poor. Later the notion of sustainable livelihood as defined by Chambers and Conway (1991) encompasses the causes and other dimensions of poverty and the meaning is relatively more comprehensive than the earlier meaning of sustainable livelihood. Chambers and Conway (1991: 6) defined sustainable livelihood as:

*A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities, and assets and provide sustainable livelihoods opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global levels and in the short and long term.*

This definition entails four broad components. These are people (their livelihood capabilities), livelihood activities, assets from which a livelihood is drawn and gains or outputs (a living).

Assets are the core of livelihood. Chambers and Conway (1991) identified and categorized them as tangible and intangible assets. Tangible assets of a household include stores (food stocks, stores of values such as gold, jewellery and woven textile and cash savings) and resources (land, water, trees, livestock, equipment, tools and domestic utensils). On the other hand, intangible assets of a household include claims (demands and appeals for support and access) and access (the opportunity in practice to use a resource, store or service or to obtain information, material or technology, employment, food and income).

Using the four components of the meaning of livelihood discussed in the preceding paragraphs, Chambers and Conway (1991) developed a framework by showing the directions of the links between the basic components. All the first three components influence each other and together determine the fourth component, that is, gains or outputs of a household. Even though the meaning of sustainable livelihood is comprehensive, the framework developed by them was not detailed to assess and address various issues of poverty and livelihoods. A more detailed framework of analysis for sustainable livelihoods which can be used to assess and address various issues of poverty and livelihoods is developed by DFID (1999) and its applicability has widened in the last two and half decades. It can be applied at individual, household, village, regional and national level and can be used for designing and planning development and poverty reduction programmes, monitoring and evaluation of development interventions and framework of data collection and analysis for poverty and livelihood research at all levels (CARE, 1999; DFID, 2001). The meaning given above is the meaning of sustainable livelihood that this research is based.

## **2.2. Theoretical Literature**

The meaning of development and its measurement differs through time. Consequently, different theories of development are designed in different times in accordance with the meaning of development in the time that the theory is formulated. Development until the 1980s was perceived as economic growth measured by GDP, GNP or GNI. However, in the 1980s and onwards development was perceived by many as making a better life (at least meeting basic needs: sufficient food to maintain good health; a safe, healthy place in which to live; affordable services available to everyone; and being treated with dignity and respect) for everyone not only

economic growth (Peet & Elaine, 2009). As to them, though many agree that a better life for all is a desirable goal, they differ in the strategies of achieving this goal which caused the formulation of a myriad of theories about the causes of underdevelopment and way as well as means of development. Various economic growth and development theories are designed in different times in order to reduce inequality and end poverty in the North before the economic recession and Second World War and in Least Developed Countries (LDCs) after the events mentioned.

Any book of economic development categorized these theories classical and neoclassical theories. According to Cypher and Dietz (2002), the classical theories emphasized in the macro-economy and the neoclassical theories concentrated on the micro-economics especially in resource allocation and saving or the utility-maximizing behaviours of individuals and the profit maximizing actions of perfectly competitive firms. The classical theories of development laid the foundation for the neoclassical theories of development. There are countless theories. It is, however, very difficult to account all theories of development and to give the whole picture of each development theory reviewed in the present study. Nevertheless, the basic features of some theories where the present research is based are reviewed in the following paragraphs.

Adam Smith was the pioneer in designing a theory of development in order to explain how growth and accumulation of wealth can be attained and the number of poor can be reduced. The theory designed by Smith was that demand and supply mediated by the competitive market are the means of accumulation of wealth. He called these demand and supply the “invisible hand”. Smith as cited in Cypher and Dietz (2002) noted that the accumulation of physical capital, technological progress and specialization of labour which we call today assets are the sources of expanding economic wealth. As to Smith cited in Cypher and Dietz (2002), the driving forces to the accumulation of physical capital, technological progress and specialization (division) of labour are both competition and free trade and these are included in the policies, institutions and processes components of the livelihood framework. The other classical theory was a theory developed by Solow who was the contemporary of Smith. As Solow cited in Cypher and Dietz (2002); technology (the physical asset), labour force (the human asset and saving (the financial asset) determine the level of per capita income, which we call today the financial asset. All these have positive association with per capita income. The other factor put forward by Solow was rate

of population growth which negatively determines per capita income. This is included in the vulnerability context of the livelihood framework.

The neoclassical development theory which dominated the development thinking in the 1950s and 60s which come after the success of the Marshal Plan in Europe financed by USA was modernization and linear stage theories. These theories viewed the process of development as a series of successive stages of economic growth through which all countries must pass (Todaro & Smith, 2009). As to these people, the right quantity and mixture of saving (financial asset), investment (conversion of financial asset into other assets) and foreign aid (transfer of finance, technology and technical know-how) are necessary to bring long-run growth in LDCs. LDCs focus in development through following the western path like modernization theory designed in the 1950s by considering the causes of underdevelopment and poverty in these countries were internal which consist of lack of technologies, knowledge, skills, finance, etc. In other words, the level of the asset possession of the people and the government determine development in a country. The way out forwarded by these theorists are the transfer of these assets from the DCs to the LDCs. Industrialization and modernization were taken as the main strategies of growth believing that industry lifts other economic sectors and the location of these industries which can create employment opportunities was in some selected large towns (Cypher & Dietz, 2002). That is, small towns couldn't benefit from these development strategies. So that development in this period in LDCs was a skewed development. The theory promotes widespread investment either in various sectors or leading sectors of the economy in some areas mainly of large towns to get out of the vicious circle of poverty. All growth models in this period promoted the role of savings which now a day considered as a means to get out of poverty in LDCs. These theories argued that steady accumulations of financial, physical and human assets were among the necessary conditions for economic growth, apart from savings and investments.

The other neoclassical development theories which come after these in the 1970s were structural change theories and dependence theory. According to Todaro and Smith (2009), the former emphasized to bring internal structural change and the later viewed underdevelopment in terms of international and domestic power relations, institutional and structural economic rigidities and the resulting proliferation of dual economies and dual societies both within and among the nations of the world. Structural-change models concentrate on economic structural

transformation from a heavy emphasis on traditional subsistence agriculture to a more modern, more urbanized and more industrially diverse manufacturing and service economy (Todaro & Smith, 2009). The dependency theory, stresses in the unbalanced relationship between the developing countries and the developed ones through colonialism, capitalism, free trade, and globalization as the causes of underdevelopment and poverty in LDCs and these causes are mainly external. Dependent theories tended to emphasize external and internal institutional and political constraints on economic development (Todaro & Smith, 2009). As to these people, emphasis was given on the need for major new policies to eradicate poverty, to provide more diversified employment opportunities and to reduce income inequalities.

The strategy of development according to the dependency theory is import-substitution and temporary disassociation from the DCs until the economy of these countries and their bargaining power become strong. This theory is partly related to the theory of dualism (core-periphery) which is mentioned by many as the cause of underdevelopment of LDCs. This dualism is also observed within a country between the large (dominant) and small (dependent) towns within the same country. The distinctive role of small town is to be the center of its rural surroundings and mediator of local commerce with the outside world, collecting and exporting the local products, importing and distributing the necessary goods and services which the countryside demands. These towns, therefore, serve as the conduit of goods and services to large urban centers and rural areas. They are not producers of goods. They usually do not add values on goods imported from the rural areas and large towns. Consequently, accumulation of capital and employment generation in these towns is very slow. Moreover, the rich together with their wealth flow from small towns to the large towns. Large towns are taking the resources of small towns so that underdevelopment and the resulting poverty in these towns are prevalent in these towns.

The other development theory was a growth pole theory designed by Peroux in 1955 as cited in Cypher and Dietz (2002). This is a space-oriented development theory within the broad theory of modernization theory. As to this theory, growth can't appear everywhere rather it appears in some points or poles. Growth poles are the foci of economic growth (Hirschman cited in Willis, 2005). As to him, industrialization must be spatially concentrated. It is, therefore, from these points where growth spreads to other places through time. Because of this theory many LDCs emphasized to bring growth in these poles which are the major urban areas not small towns.

Because of these many small towns are trapped by poverty as growth couldn't trickle down as expected. As to Myrdal cited in Willis (2005), once growth in an area is attained it is very difficult to reverse this growth because of the cumulative causation. The growth poles are continued to grow at the expense of the resources of the backward regions as Myrdal called through "backwash effects" like small towns instead of spreading to these regions.

The other development theories are the balanced growth theory designed by Nurkse and unbalanced growth theory designed by Hirshman which stressed on the demand and supply sides Willis (2005). These are sector-oriented theories of development within modernization theory. As to the balanced growth model, market or lack of demand is the major cause of underdevelopment and as to the unbalanced growth model, lack of entrepreneurial skills are the causes for underdevelopment and get out of the vicious cycle of poverty. These models assumed that the economy of the LDCs is stagnant. Thus, the economy needs a big push to move it forward from its stagnancy. The former focused on investment in several sectors of the economy especially infrastructure to push the economy forward and the later required investment in the leading sectors of the economy in which others can be developed through backward and forward linkages with these leading sectors of the economy.

According to Todaro and Smith (2009), a new development theory which prevailed in the 1980s and 1990s was the theory of neoliberalism which is a new version of the theory of Adam Smith. This theory emphasized the beneficial role of free markets (institution), open economies and the privatization of inefficient public enterprises. According to this theory, the cause of underdevelopment is too much government intervention and regulation of the economy not due to the exploitative internal and external forces. All these factors suggested by this theory are treated in policies, institutions and process of the livelihood framework. However, theories before these stressed on the importance of strong government interventions in order to bring rapid development.

Todaro and Smith (2009) noted that each development theory has something to offer in explaining how development in LDCs can be achieved and poverty is reduced though each has its own weaknesses. Therefore, each complements the other in development discourse. The classical models inform the contemporary models of development and underdevelopment. None

of the growth models were not effective in bringing rapid development and reduce poverty in LDCs though each theory had its own contribution in explaining the causes of underdevelopment and means of development. Even though it is difficult to fully account all theories of development, the researcher did not want to adopt only one theory of development. This study is, therefore, based on different theories of development reviewed above. The best conceptual framework which is derived from the various theories of development and brings the various factors of development and poverty is sustainable livelihoods framework, which will be discussed in the last section of this chapter.

## **2.3. Empirical Literature**

### **2.3.1. Poverty in the World and Ethiopia**

The MPI revealed a different pattern of poverty than income poverty measures (Alkire & Santos, 2010c). A study on 5.6 billion people of 104 countries of the world showed that in 2010 about 1.7 billion people of the world was multi-dimensionally poor which was higher than the 1.3 billion poor using US \$1.25 poverty line of the World Bank (Alkire & Santos, 2010a). Of the world total MPI poor, over half (51%) live in South Asia and over a quarter (28%) in Sub-Saharan Africa though the proportion of multidimensional acute poor were 65% in Sub-Sahara and 53% in South Asia. Fifteen per cent of the multidimensional poor lived in East Asia and the Pacific, three per cent lived in Latin America and the Caribbean, two per cent lived in Arab States and one per cent lived in Central and Eastern Europe and the Commonwealth of Independent States (CIS). The incidence (65%) and intensity of poverty was greatest in Sub-Saharan Africa followed by South Asia (55%). These clearly show significant difference in terms of both incidence and intensity of MPI poverty in different geographic regions and countries. The poorest country from the Sub-Saharan Africa Niger, for example, had 93% MPI poor people and people on average deprived 69% of the indicators (Alkire & Santos, 2010a). A country may be highly deprived in one dimension and less in others. In Pakistan 51 per cent were MPI poor compared to 23 per cent extreme income poor.

The level and trend of poverty in urban and rural areas at the country level are presented in chapter one. Though the rate of urban poverty is in a declining trend, the urban poor almost

stayed constant between 2005 and 2011 which accounted for 3.2 million (WB, 2015). World Bank (2015) suggested that poverty rates fall and inequality increases as city size increases. According to the Bank (2015), in urban areas where wage employments are higher poverty rates are lower and the level of wage employment increases as city size increases. In other words, poverty is high in urban areas where self-employment is high.

The 2010 report of UNDP on the basis of the 2005 Demographic and Health Survey (DHS) data of Ethiopia on MPI indicated that 90% of the population was multidimensional poor which was very much higher than the figure of income poor which accounted for 39 per cent. The intensity of multidimensional poverty in the country during the same year was 65 per cent. The incidence of multidimensional poverty in 2013 for the country was 87% and the average intensity across the poor was 65 per cent. There was three percentage points decrease of multidimensional poverty from 2010 to 2013. The percentage of population vulnerable to poverty and in severe poverty was 7 and 71 respectively. In terms of regional patterns of multidimensional poverty in the country, the highest incidence of multidimensional poverty was observed in Somali (93%) followed by Oromia (91%), Afar (91%) and Amhara (90%). The least was observed in Addis Ababa (20%), Dire Dawa (55%) and Harari (58%). The intensity was high in Afar (73%) followed by Somali (70%) and the least was Addis Ababa (42%).

The incidences of deprivations in each indicator in Ethiopia for 2010, 2011 and 2013 were also reported, that is, respectively; 62%, 62% and 48% were deprived of schooling; 65%, 56% and 40% were deprived of child enrollment; 38%, 38% and 38% were deprived of child mortality; 21%, 21% and 56% were deprived of nutrition; 86%, 84% and 79% were deprived of electricity; 88%, 83% and 82% were deprived of sanitation; 54%, 52% and 65% were deprived of drinking water; 88%, 87% and 82% were deprived of floor; 90%, 89% and 88% were deprived of cooking fuel and 89%, 88% and 77% were deprived of assets (Alkire & Santos, 2010b; Alkire et al., 2011; OPHI, 2013). The multidimensional poverty incidences for the three years showed a substantial decrease for schooling and child enrollment while the incidence rises up for sanitation and nutrition and the change for the other indicators showed little progress. The deprivations in rural areas in all indicators are above the national average.

The 2011 and 2013 UNDP's reports were based on the same methods and data (OPHI, 2013). In the 2011 and 2013 reports a person was identified as poor if he or she was deprived in at least one third of the weighted indicators. Those identified as MPI poor were deprived in at least 33% of weighted indicators. Those identified as "Vulnerable to Poverty" were deprived in 20% - 33% of the weighted indicators and those identified as in "Severe Poverty" were deprived in over 50 per cent. What makes different from the 2010 report was that the cutoff point which rose to 33% and percentage of population vulnerable to poverty and sever poverty were calculated.

With regard to poverty in urban areas of the country, urban poverty in Ethiopia is high and deep rooted and large number of households is trapped by one or more dimensions of poverty. Before reviewing this, however, it is important to see the urban systems of the country. Accordingly, based on the 2007 housing and population census of Ethiopia the country had 973 urban areas (CSA, 2011). Out of this figure, the total number of small towns with population size less than 20,000 was 868. These towns accounted for 89 per cent of all urban areas of the country which dominate the national urban hierarchy in terms of proportion. The remaining 11 per cent had population size of 20, 000 and above. The population size of two thirds of towns did not exceed 5,000. The total population size of these towns was 5,146,807 which accounted for 37 per cent of the country's total urban population. Out of these small towns, non-*woreda*/zonal/regional administrative small towns accounted for 30 per cent. The total population of these towns was 1,137,301, more than one third of the population of Addis Ababa, which represented 8.3 per cent of the total urban population of the country. Therefore, the incidences of poverty in these different sizes of towns might be different.

In a study of four purposively selected small towns (Guder and Kemisse from grain regions and Seka and Wonago from coffee regions) of their population less than 20, 000 primary data from a sample of 800 household heads and 240 retailers collected in mid-2000 and secondary data from secondary sources Solomon (2006) identified that the incidence of poverty in these towns' increases as of 1991. For example, the proportion of the surveyed households whose monthly income less than Birr 100 was one third which raised nearly one half in 2000 which showed 43% increase in this income category during the period. The incidence of poverty was considerably higher in these towns which seem to suggest higher incidence of poverty in other smaller towns than larger towns due to the Structural Adjustment Programme by putting less qualified civil

servants out of work and the demobilization of at least 400,000 the Derg military (Solomon, 2006). He also noted that three quarters lived \$ 0.21 per person per day which indicates a high incidence of poverty in these towns. The measure of poverty was not of course by setting a local poverty line and using the national and international poverty lines and the study was not based on consumption data so that the results of this study cannot be compared with other studies.

With regard to the change in monthly income, nearly half of the households said that their income increases after 1991 in absolute terms though not significant, for example the average income before 1991 was Birr 236.87 and in the year 2000 was Birr 237.75 and the remaining proportion showed either increase or stagnation in monthly income (Solomon, 2006). According to Solomon (2006), even though half of the selected households showed a positive change in their income the change did not lift households from poverty because of the rise in living costs and insignificant change in their income. In the year 2000 nearly one half (50%) of the respondents in these towns had a monthly income of less than Birr 100 and nearly three quarters (74%) of them had a monthly income of less than Birr 300 (Solomon, 2006).

With regard to other dimensions of poverty than income, the 2011 WMS showed that 7 per cent of urban residents in Ethiopia had no access to safe water, 13 per cent had no toilet, 27 per cent had no access to sanitation and 56 per cent lived in rented and rent free houses and 44 per cent lived in a single room (CSA, 2012). The incidence of poverty differs in different size of towns in the country. Solomon (2006) also noted that 49% of households of the study towns were living in rented houses. As far as the quality and utility of houses is concerned, the vast majority (95%) of the residential houses was made from wood and mud and only 7% of the units were made from stone and bricks or hollow concrete blocks. About 76% of households lived in house with no ceiling of any kind and 77% of households lived in a mud floors while 24% lived in cement made floor. Half of the households lived in three rooms or less. Only 19% of households had separate kitchen rooms, 70% had private toilets, 21% have private water meter and 48% have private electric meter. Of all households, 20% had no toilet even shared, 72% lived in units without access to tap water and 28% had no access to electricity at all. Overall, nearly 70% of households in these towns lived in substandard houses (Solomon, 2006).

On the basis of the 1999 WMS of the country Muzzini (2008) come up with striking differences in the levels of poverty between large and small/medium towns in which the level was high in small/medium towns in multiple dimensions. For example, slum settlements were more prevalent in small towns than in major towns hence access to improved sanitation in these towns was relatively low. Access to water supply, electricity and waste disposal vehicles was 32, 58 and 7 per cents respectively and the figures were 59, 100 and 38 per cent for the large towns respectively. Moreover, 65 per cent of the poorest quintile of small/medium towns lived in overcrowded situation. However, the figure was 57 per cent for the large towns in the country.

The multidimensional poverty measurement also revealed that the incidence of deprivation in urban areas of the country for 2011 and 2013 respectively were 12% and 11% for school attendance, 11% and 15% for years of schooling, 17% and 20% for child mortality, 10% and 35% for nutrition, 10% and 13% for electricity, 30% and 41% for sanitation, 10% and 15% for drinking water, 29% and 37% for floor, 30% and 49% for cooking fuel, 30% and 30% for assets. The highest contributor of the indicators to MPI was years of schooling (18%), school attendance (17%) and child mortality (11%) for 2011 (Alkire et al., 2011). The contribution of these three a bit decreased in 2013 and the highest contribution from nutrition (16%), years of schooling (14%), school attendance (12%) and child mortality (11%) (OPHI, 2013).

With regard to the security dimension of poverty, urban residents in the country have insecure livelihood. On the basis of subjective indicators of livelihood security such as fears, expectations and attitudes of the individuals a study by Aklilu & Desalegn (2002) on 1,202 urban households of Addis Ababa, Debre Zeit, Mojo and Nazareth which are located along the development corridor and import-export trade line showed that the population was fearful and anxious about their sustenance, which was dependent on low and insecure income, inadequate social services and a shrinking labour market. According to Aklilu and Desalegn (2002), the great majority of households in these towns faced livelihood insecurity. There was a threat of impoverishment and loss of means for basic sustenance. The study revealed a great deal of pessimism about one's basic security, about employment opportunities and the chances for self-improvement.

The same study focused on the dimensions of livelihood security and work was at the center of livelihood security. These are labor market security, employment security, job security, skill

reproduction security, work security, income security and representation security. Basic security, a function of basic needs such as food and health, is measured by income sufficiency. Thus, 52 per cent and 55 per cent of the households had no sufficient income to meet their food and health needs respectively and 43 and 30 per cent was in the borderline. Labour market security as a function of income earning and employment opportunities was measured by asking them the opportunities of getting a new job if they lose the current one and as to Akililu & Desalegn (2002) many agreed they couldn't. These people pinpointed that employment security which is related to employees' protection from unfair dismissal and the satisfaction of them with the income they earned, the work they are doing and the benefits they are receiving most of them had no written agreements and the majority have no satisfaction (74% and 70% were dissatisfied with the income they were earning and the work they were doing). "People's perceptions about the chances for self improvement, for access to better skills and income, and future prospects have a bearing on job satisfaction and hence job security" and only 30 per cent received skills trainings. This is very much related to skill reproduction security. Work security is related to workers safety and health at work and a considerable number of respondents were victims of work related accidents. Income security is related to the level, adequacy and stability of earning income and the majority dissatisfied with all of them. Representation security is related to membership to any organizations that represents their interests in which many of them are members but are passive.

However, the analysis on the dimensions of livelihood security was not a detailed analysis. Only one or two indicators of livelihood security was measured to determine the livelihood security of households and income was used as an indicator for some dimensions and the indicators selected for some such as job, work and reproduction security were also the same. Therefore, multiple dimensions were not used to measure the security of households and above all the subjective measure they used did not identify the livelihood security dimension which was largely affecting the majority of the population in these towns. Studies of livelihood security need an objective measure to identify the dimension where households are insecure most.

### **2.3.2. Urban Livelihood in Ethiopia**

Urban residents in Ethiopia derive their income from different activities such as agriculture, self-employment and wage employment. For example, 7 per cent of urban dwellers in Ethiopia rely

on agriculture as their primary source of income and 30 per cent derives part of their income from agriculture (Muzzini, 2008). When disaggregated by size the figure was high in small/medium towns which accounted for 10 per cent against 1 per cent of the major towns (Muzzini, 2008). Similarly, 41 per cent in small/medium towns derive part of their income from agriculture while 9 per cent of the residents of major towns derive part of their income from agriculture (Muzzini, 2008). Reliance on wage income was 28 per cent in small/medium towns and 53 per cent in major towns and reliance on self-employment was 39 per cent for small/medium towns and 24 per cent for large towns. In short, urban residents in Ethiopia derive their income from self-employment, wage employment and agriculture. However, the proportion of households in each category differs in different size of towns where wage employees are high in large towns and self-employment is high in small towns.

According to Solomon (2006), larger proportion of households in smaller towns has intermittent incomes that come from different sources and only very few have regular incomes. The main income source of households in his study towns was trading (mainly retail trade) which accounted for 42% followed by wages/salaries (30%) and farming (10%) of the households and the secondary sources of income for about 20% of the households was trade and farming. The market-oriented reforms do not benefit these small towns because economic liberalization did not trickle-down in a scale that could create employment opportunities (Solomon, 2006).

The missing gap in these two studies was that the contribution of agriculture to the household income was not calculated from the total monthly household income. Moreover, the sources of income was not analysed in terms of the place of origin of income. No other studies in the livelihoods of households are found. However, there are other studies on the role of small towns and the implications of the findings of these studies are that the livelihoods of households in these towns are associated with their roles they are playing. As far as my exposure to the existing literature is concerned, the studies in these towns did not investigate the problems of these towns they are facing. Bihon and Gebremedhin (2011) studied the role of small towns in the improvement of rural livelihoods in three randomly selected small towns and the surrounding rural areas of central zone of Tigray region on data collected from both primary (225 randomly selected households and group discussants) and secondary sources.

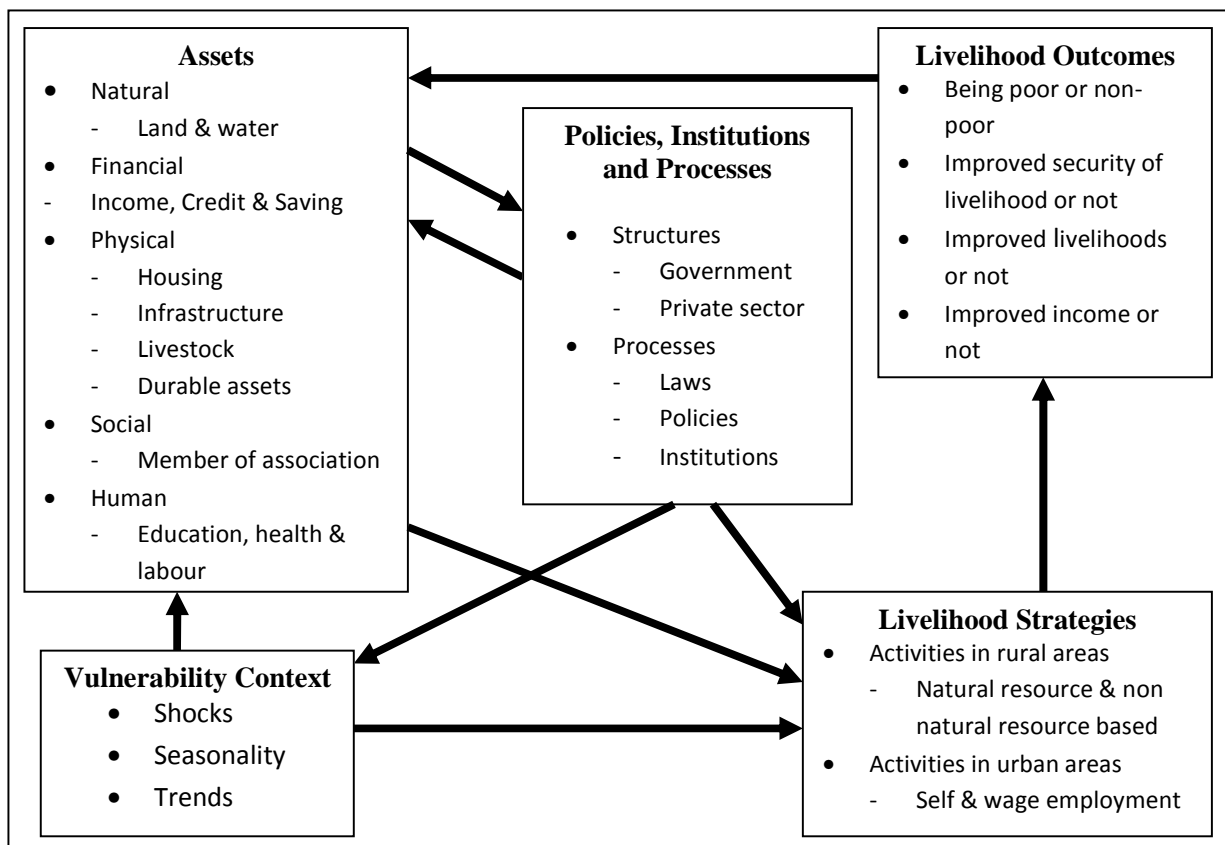
Accordingly, about 86 per cent of rural households obtained agricultural inputs such as selected seed, new breed, fertilizer, pesticide, herbicide and agricultural tools from the respective nearby small towns (Bihon & Gebremedihn, 2011). More than 90 per cent of households market their agricultural produce in these market towns. The primary buyers are urban consumers of these towns followed by traders both retailers and wholesalers. These towns serve as market intermediaries between the rural people and higher size towns. They channel industrial products of higher level towns to rural buyers and the rural products to the higher level town buyers. Most of the population of rural areas near these small towns were obtaining educational (9-10), health (health center), credit, infrastructural (telephone and electricity) and administrative services from these towns. These studies did not examine poverty and livelihood of the residents of small towns and all the study towns had administrative function for the hinterland population so that employment creation and market opportunities from this function in these towns are not available. Moreover, no study measures the level of poverty in order to analyse the livelihoods of households on the basis of their poverty status. This helps identify the productive asset possession of the poor and the non-poor households.

#### **2.4. Sustainable Livelihoods Framework: A Conceptual Framework of the Study**

A more detailed framework of analysis for poverty and sustainable livelihoods is developed by DFID (1999). The model brings different factors together that determine the livelihoods of the poor grouped into five usually named as components of the framework (see Figure 2.1). The framework brought different factors of poverty suggested by different development theories. Therefore, sustainable livelihoods framework is a tool which helps to improve an understanding of the causes of poverty and the livelihoods of the poor as well as the link between the two by incorporating components which were not considered in the conventional approach of poverty study (CARE, 1999; DFID, 1999). The sustainable livelihoods framework provides a broad and systematic understanding of the factors that constrain or enhance livelihood opportunities and shows how they relate to each other (DFID, 1999; Krantz, 2001).

This framework is, therefore, a framework of data collection and analysis for this study. It is useful to understand the multiple dimensions of poverty and livelihood of households in small towns of East Gojjam since the various factors which enhance or constrain livelihoods and

aggravate or reduce poverty are well organised in the framework. Moreover, the framework is flexible which gives the freedom for researchers to measure the outcome they want and incorporate any new elements in each component. The framework can also be applied in any context including the study towns. Sustainable livelihood framework, however, is an analytical framework, not a research or information collection or gathering methodology (DFID, 1999; Farrington et al., 2002). It is a checklist of information gathering for a research in poverty (DFID, 1999). Therefore, the sustainable livelihood analytical framework requires both quantitative and qualitative information which in turn require quantitative and qualitative data gathering tools (DFID, 1999; Farrington et al., 2002; Rakodi et al., 2002; Prowse, 2008).



Source: Adopted from CARE (1999) and DFID (1999).

**Figure 2.1: Sustainable Livelihoods Framework**

As depicted in the figure, the framework has five major components which include assets, vulnerability context, PIPs, livelihood strategies and livelihood outcomes and each component

has backward or forward links with one or more other components of the framework. Each major component of the framework has subcomponents. In the generic sustainable livelihood framework, emphasis was given to data of aspatial attributes in all components giving less emphasis on the where questions to generate data of spatial attributes. Thus, data of spatial attributes were generated for assets, vulnerability context and livelihood strategies components of the framework for this study since the livelihood of households of small towns are derived from both urban and rural areas. Each of the five major components and the subcomponents and their interrelationships are discussed in the following paragraphs in detail.

Even though the framework is not linear and consensus is absent on from where to start the discussion and the analysis, the discussion of the components of the framework for this study starts from the livelihood assets and ends up with the livelihood outcomes. According to Rakodi (2002) livelihood approach require a clear understanding of the assets first in order to identify the opportunities they offer and the constraints to livelihoods as many agreed assets are the core of livelihoods. Starting a discussion and the analysis from what households have and have not in terms of asset will help to better understand multiple dimensions of poverty. Since assets are the core of livelihoods the discussion of the components in this research report starts from the livelihood assets by reflecting on their relation with other components followed by vulnerability context and PIPs which have positive and negative effects to these assets. The discussion of livelihood strategies and livelihood outcomes comes later since these are the results of livelihood assets.

### **A) Livelihood Assets**

Livelihood assets are vital for the livelihood strategies and outcomes of the poor households, that is, livelihood strategies and outcomes are absolutely dependent on livelihood assets (Chambers & Conway, 1991; Scoones, 1998). Livelihood assets are resources that people use for constructing their livelihood and these assets augment income (Rakodi, 2002). Different architects and modifiers of the sustainable livelihoods framework like Chambers & Conway (1991), DFID (1999) and UNDP cited in Carney et al. (1999) suggested different numbers and types of livelihood assets. However, assets identified by DFID (1999) are the human assets, natural resources, social assets, physical assets and financial assets. These assets can be stored,

accumulated, exchanged or depleted and put together to generate income or other benefits (Rakodi, 2002).

**Human Assets-** include the skills, knowledge, availability of labour force and ability to labour, good health and physical capability of individuals or members of households including size of the household, age and sex of household members. The quantity and quality (skills & knowledge) of labour in the household are the most important assets of the poor for both productive and reproductive tasks (Rakodi, 2002). These together enable the poor to engage in different livelihood activities and meet the livelihood outcomes. The ability of households to manage their labour assets to take advantage of livelihood opportunities depends on the levels of education and skills and the health status of the household members (Rakodi, 2002). Since the poor in urban areas sell their labour, farmers and petty traders are hawkers, their health and physical capability is an important asset to pursue their livelihoods. The elements of human asset differ from household to household, that is, the number and quality of labour is not the same across households. Human assets are useful not only in its own but also in its contribution in the mobilization of other assets to achieve positive livelihood outcomes.

**Physical assets-** consist of physical resources such as equipment and tools, jewellery and durable domestic goods, housing, livestock and infrastructure (affordable transport, road, adequate water and energy supply, sanitation, communications, banking and education) which are usually essential for sustainable livelihoods. Households in small towns who engage in both agricultural and non-agricultural activities have productive farming and non-farming equipment and tools which can enhance their labour productive capacity and directly generate income through renting. Housing is an important asset in urban areas which can be used for both productive (renting and workshop) and nonproductive activities in addition to shelter (Moser as cited in Mickle et al., 2001; Rakodi, 2002). Likewise, infrastructure can enhance the productivity of labour, for example, through the provision of fertilizer and health services and increase the mobility of goods and interaction between individuals (Rakodi, 2002). Physical assets which contribute for human and social assets are either owned or rented.

**Natural Assets-** include the natural resource stocks such as land, soil, water, air, trees, forests, pasture, wildlife and wild foods from which resource flows and services are useful for

livelihoods. These natural resources which are vital for rural livelihoods are also useful for urban livelihoods. Households of small towns may directly or indirectly depend on the natural resources of both urban and rural areas (Rakodi, 2002). For example, households may rely on forests found in rural areas for firewood, graze their animals in the rural grazing land and rent agricultural land to produce cereals for household food consumption and cultivate vegetables in homesteads. The natural resource in the framework is strongly linked with the vulnerability context in which natural resources are mainly destroyed by fire, flood, earthquake and others as well as PIPs in which access to these resources is either facilitated or constrained by laws.

**Social Assets-** include the social resources such as vertical (patron/client) or horizontal (individuals of shared interests) networks and interconnectedness, relatives, friendships, neighborhoods, partnership and collaboration and membership of formal and informal associations/groups such as *idir*, *ekub*, *mahiber* and *senbetie* from which people drawn in the pursuit of their livelihood outcomes. Relationships of trust, reciprocity and exchanges facilitate co-operation, reduce transaction costs and may provide the basis for informal safety nets amongst the poor (DFID, 1999). The networks of households of towns are with individuals and groups within and out of the town. Social assets have a direct impact on other livelihood assets. It can improve people's income and rates of saving through improving economic efficiency, the management of common resources and maintenance of public goods and facilitating innovation, development and sharing of knowledge (Rakodi, 2002). The poor can obtain information about employment opportunities and constraints from their social assets (Miekle et al., 2001). However, social assets are sometimes a source of vulnerabilities through its obligation. Thus, social capital is a two edged sword (Farrington et al., 2002).

**Financial Assets-** include financial resources such as financial stocks (income from productive activity or employment and sale of labour, credit, cash and savings) and transfers (from government such as pensions and family such as remittance) which are essential in the adoption of livelihood strategies and achieve livelihood outcomes (DFID, 1999). Credit and remittances in small towns might be from relatives and friends who are living in rural and urban areas. Financial assets can be converted into other types of assets (house, car, land, etc) and can be used for direct achievement of outcomes (when food is purchased to reduce food insecurity). This assets, however, is the least available assets to the poor. The ability of households to recover

from shocks in urban areas largely depends on the financial stock of the household (Rakodi, 2002).

Therefore, individuals or households combine two or more assets in pursuing their livelihood strategies (Chambers & Conway, 1991; Scoones, 1998; DFID, 1999). However, they have ownership and control over and access to some of the assets but not access and control over to some of them (Mickle et al., 2001; Farrington et al., 2002). For example, individuals and households have access to infrastructure and common property resources but not control over or owned these assets. Access to different assets is determined by different PIPs (Mickle et al., 2001). In addition, one livelihood asset alone is a source of other asset/s. For example, a physical asset house can be used as collateral for financial loan (DFID, 1999).

Livelihood assets have enormous positive and negative relationship with other components of the framework (DFID, 1999). Assets are both destroyed and created as a result of factors of the vulnerability context. PIPs create assets (government policy to invest in basic infrastructure yielding physical asset or technology generation yielding human asset), determine access (ownership rights) and influence rates of asset accumulation (taxation policy) (DFID, 1999). Individuals and groups then influence PIPs. Assets also influence the livelihood strategies, that is, individuals or households who have a greater range of assets can pursue diverse livelihood strategies and can shift from one strategy to another to secure their livelihoods and yield the desired outcomes (DFID, 1999). To achieve the desired livelihood outcomes different assets are required for the poor.

## **B) Vulnerability Context**

Moser cited in Mickle et al. (2001) defined vulnerability as “insecurity in the well-being of individuals, households and communities in the face of changes in their external environment (ecological, social, economic and political) in the form of sudden shocks, long-term trends or seasonal cycles”. The concept of vulnerability best measures the dynamics of poverty in the household through tracing the history of household vulnerabilities (Moser cited in Rakodi, 2002). Vulnerability has both external and internal aspects (Chambers & Conway, 1991; DFID, 1999). The external aspect of the vulnerability context is the external environment in which people exist

and people have limited or no control of the external aspect of the vulnerability context. Stresses and shocks faced by households are the external aspects of vulnerability. The poor are highly exposed to risks, shocks and stress and they have little capacity to recover quickly from these (Rakodi, 2002). The livelihoods of households are vulnerable to stresses and shocks. Stresses are continuous and cumulative pressures which are predictable, for example, seasonal shortages and rising population or declining resources while shocks are sudden impacts which are unpredictable; for example; fire, floods, pests, storms, droughts, theft, loss of a job, death of a household member and illness (Chambers & Conway, 1991). DFID (1999) also identified three subcomponents of external vulnerability context which include shocks (human health, natural disaster, economic, conflict and crop/livestock health, death of household member or relative, breaking of machines/tools, etc), seasonality of (prices and employment opportunities, production, health, water supply, activities, etc) and trends (demographic, environmental, economic, governance and technologies).

The capacity to cope or defenselessness caused by lack of ability and means to cope with the external aspect of vulnerability is the internal aspect of vulnerability which is also termed as households' resiliency (DFID, 1999). The internal vulnerability is related to the asset entitlements of households and ability to transform those assets into income, food or other basic necessities by intensifying existing and developing new or diversifying their strategies (Moser cited in Rakodi, 2002). In other words, the capacity of households to cope vulnerabilities is related to the asset endowments of households and the ability of households to mobilize assets to exploit opportunities and resist or recover from the negative effect of the changing environment (Chambers & Conway, 1991; Rakodi, 2002).

The risk management strategies available to vulnerable households are, therefore, *ex ante* (taking precautions to reduce the probability of the risky event) and *ex post* (mitigating the impact or reacting to an event) (Siegel & Alwang cited in Rakodi, 2002). Households who have better assets and ability of asset mobilization are less vulnerable than those who have few assets. Therefore, all factors mentioned in the vulnerability context have a direct impact upon people's livelihoods and asset status (DFID, 1999). Shocks destroy assets directly, for example, floods and pests and deplete assets gradually, for example, illness. Likewise, trends and seasonality influence the livelihoods of the poor. However, all the seasonality and trends listed above are not

negative even though the poor are unable to benefit from them due to lack of assets and supporting institutions (DFID, 1999). Any of the assets are vulnerable to stresses and shocks.

In the context of livelihood the idea of vulnerability is contrary to sustainability. Vulnerability is a threat to sustainability. Vulnerable livelihoods and sustainable livelihoods can be viewed as two ends of the continuum that have contrary characteristics. According to Chambers and Conway (1991), sustainability has social (internal capacity of livelihoods to withstand outside pressures) and environmental (external impact of livelihoods) components and sustainability is a function of how assets and capabilities are utilized, maintained and enhanced so as to preserve livelihoods.

### **C) Policies, Institutions and Processes**

PIPs within the framework are the most important factors that shape livelihoods of the poor. PIPs which contain political, social, environmental and economic factors may constrain or enhance access to different types of assets, livelihood strategies and decision bodies and operate at all levels from the household to the international arena (Scoones, 1998; DFID, 1999; Farrington et al., 2002). They also determine access to the terms of exchange between different types of assets and returns to any given livelihood strategy (Scoones, 1998; DFID, 1999; Farrington et al., 2002). PIPs are keys in determining access to the various types of assets in pursuing the livelihood strategies either through acting as conduits to make assets available to them, or as barriers to their access (Farrington et al., 2002).

Policies affect trends both directly, for example, fiscal or economic trends and indirectly (population and health trends) and have a direct impact on the livelihood outcomes through the provision of infrastructure where the poor's life improves the sense of well-being and social safety nets to reduce vulnerability (Farrington et al., 2002). Policies are macro, sectoral, redistributive and regulatory. Thus, sectoral policies of both urban and rural areas such as agricultural, industrial and MSEs influence the livelihood of households in small towns. Institutions are markets and 'rules of the game' within structures such as norms, values and rules that shape behavior and culture (social norms and beliefs) and power relations (gender, age and class)(DFID, 1999). Intentionally or unintentionally, they all influence entitlements and also

constrain access (Rakodi, 2002). In addition, markets and legal restrictions influence the extent to which one asset can be converted into another, the scope for which influences people's ability to manage their portfolio to withstand shocks and stresses and take advantage of opportunities (Carney, 1998; Scoones, 1998). Processes in the framework refer to the processes of change in policies, institutions and organizations which determine the interaction between individuals and organizations. Processes provide incentives and grant or deny access to assets.

Structures are both private (for example, commercial, civil, NGOs, etc) and public (for example, political, legislative and governmental) organizations that set and implement policy and legislation, deliver services, purchase and trade and perform all manner of other functions that affect the livelihood of individuals (DFID, 1999). They are the hardware in the framework and exist at different levels which impact the livelihoods of the poor and processes are software that determines the way in which structures and individuals operate and interact (DFID, 1999). The presence or absence of structures or organizations in an urban area affects the delivery and availability of services and also people's ability to influence the government. If the structures are absent the community is less able to influence since they are found far from them. Processes are formal and informal which include policies, laws and incentives. PIPs are dynamic. They are continually evolving.

#### **D) Livelihood Strategies**

Livelihood strategies are activities that lead to the desired outcomes. Scholars in the field categorized livelihood strategies in many ways. However, the most widely recognized categorization is the one presented in Scoones (1998), Mickle et al. (2001), Krantz (2001) and Farrington et al. (2002). These are coping and adaptive strategies which are reactive and proactive livelihood strategies respectively. Coping strategies also named as survival strategies are a short-term response to shocks or immediate pressures and adaptive strategies are a long-term change in behavior patterns as a result of a stress and shock (Scoones, 1998; Krantz, 2001; Mickle et al., 2001). Different empirical researches identified different livelihood strategies that can be listed under these broad categories. Coping strategies include cutting of expenditure and income raising activities and adaptive strategies include investment in health and education, migration and buying of physical asset. In general, livelihood strategies denote the range and

combination of activities and choices that people undertake in order to achieve livelihood objectives depending on the asset they have (DFID, 1999; Rakodi, 2002). These include productive activities, investment strategies, reproductive choices, substitution of one asset for another, selling of assets, working long hours, obtaining assistance from social network, etc. In order to pursue livelihood strategies the poor in urban areas may combine different assets from urban and rural areas.

Different types of strategies require different combinations of financial, human, social, physical and natural resources which are found in either rural or urban areas or both (Scoones, 1998; DFID, 1999). In other words, the livelihood strategies of the poor have linkages with other livelihood strategies of households in rural and urban areas. For example, petty traders in small towns buy agricultural products from rural markets and sale in urban areas. Livelihood activities derived from a combination of different assets of rural areas have a contribution to the household income of small towns. A livelihood strategy of a household either negatively or positively determines the livelihood activity of other households or individuals and households may pursue different strategies in different times. Livelihood strategies have seasonal patterns and they are also socially differentiated (Krantz, 2001).

The livelihood strategies of the poor depend on the assets they have and the poor have lack of choice to these (Rakodi, 2002). The poor require access to different assets for the choice of livelihood strategies but their choice is limited. DFID (1999) explored that some activities require particular skills and labour (human asset), start-up (financial asset) or good physical infrastructure for the transport of goods (physical asset), land and water as a basis for production (natural resources) and access to a given group of people achievable through existing social connections (social asset). Different activities require different combinations of assets and in principle those who have ample asset endowments have wider choices of livelihood activities and greater ability to withstand, adapt and recover from shocks and stresses (DFID, 1999). The poor engaged in livelihood activities that contributes their survival but not to improve their welfare (Rakodi, 2002).

In addition, the choice of livelihood strategies by the poor is also shaped by PIPs, households' objectives and the context that determine the availability of assets (DFID, 1999; Mickle et al.,

2001). PIPs determine livelihood strategies positively through facilitating labour and goods mobility, attracting investment, providing infrastructure and negatively by restricting access to land, reducing the mobility of labour and goods, etc (DFID, 1999). Livelihood strategies are also intimately connected with livelihood objectives or outcomes. Diverse livelihood strategies more likely reduce the vulnerability of households (Rakodi as cited in Miekle et al., 2001).

### **E) Livelihood Outcomes**

Livelihood outcomes are outputs or results of livelihood strategies and these outcomes are diverse and are the result of a combined effect of other components of the framework more specifically the assets and livelihood strategies (DFID, 1999; Farrington et al., 2002). The poor need to increase their income, well-being and livelihood security or sustainability by reducing vulnerability and improve food security without degrading/depleting their assets. The poor may focus to achieve one or more outcomes and different households may focus on different outcomes. There are trade-offs between some outcomes, for example, working to increase income may deter the quality of the natural environment. The outcomes may be positive (desirable or sustainable) or negative (undesirable or unsustainable) and have forward relations with other components of the framework. For example, a positive achievement would lead to the development of asset and livelihood activities and negative outcomes leads to the depletion of asset and thereby increasing vulnerability (DFID, 1999; Farrington et al., 2002). Because of the difficulty of assessing all the livelihood outcomes this study will focus on poverty and the livelihood security of the households.

Livelihood security is one of the outcomes of livelihood strategies. In its simplest definition, household livelihood security is defined as “adequate and sustainable access to income and resources to meet basic needs including adequate access to food, potable water, health facilities, educational opportunities, housing, minimal income, time for community participation and social integration” (Frankenberger & McCaston, 1998). If any of these basic needs is not met in a household this household is living in absolute poverty (Frankenberger cited in Lindenberg, 2002). Household livelihood security is also defined as “a family’s or community’s ability to maintain and improve its income, assets and social well-being from year to year” (Frankenberger cited in Lindenberg, 2002). Household livelihood security grew out of a food security

perspective, but is based on the observation that food is only one basic need among several and households may sacrifice adequate food consumption to meet other important needs (Frankenberger et al., 2000). Secure or sustainable livelihood requires the possession of and access to asset and the existence of livelihood strategies that are acceptable to the society (Drinkwater & Rusinow, 1999). The constraints to households' well-being, as well as their assets and opportunities of livelihood security are the focus of any livelihood study (Lindenberg, 2002). To provide an even clearer profile of the constraints to households, livelihood security index can be constructed.

The household livelihood security index which is first developed by CARE (1999) is an eight component or dimension measure focused directly on the constraints to household and community well-being. The dimensions of livelihood security suggested by CARE include income and assets, food and nutrition, education, participation, water, sanitation, primary health, and reproductive health. The index of each of the dimensions can be shown separately and an aggregate or composite measure of livelihood security of households can be constructed. The composite measure is based on an equal weight of each of the eight subcomponents where each subcomponent contributes equally to the overall index even though each major component is comprised of a different number of subcomponents and the index allows the integration of diverse indicators or variables (Hahn et al., 2009). The index quantifies multidimensional issues using indicators as proxies and helps to identify the coping mechanisms households use to combat poverty and scarcity (Hahn et al., 2009). Therefore, unlike other measures of poverty which directly or indirectly rely on income, livelihood security index is crucial in understanding multiple dimensions of poverty or multiple deprivations of households including income deprivations.

Therefore, in order to identify the multiple deprivations of households the dimensions of livelihood security which are given emphasis by this study are economic security, food security, health security, education security, water security and housing security. Each dimension is the subcomponent of the five assets except food and economic security. For example, health and education securities are from the human assets. Thus, households may be better secure in one dimension and less secure in others. This is mainly associated with asset ownership, access to asset and livelihood activities of households. The more assets and activities people have, the less

insecure they are whereas the greater the erosion of people's assets & activities, the greater their insecurity (Moser as cited in Miekle et al., 2001). Poverty, the change in the livelihoods of households and livelihood insecurity are the undesirable outcomes this study focused on.

## **Summary**

The purpose of this chapter was to review the evolution of the meaning and measurement of poverty, the theoretical and empirical literature and identify the literature gaps. Earlier poverty was viewed as lack of subsistence and basic needs, but now poverty is seen as not only lack of basic needs but also lack of freedom of speech. Consumption based measure of poverty which views poverty unidimensional using poverty line and multidimensional poverty index which views poverty multidimensional are the most common poverty measures existed today. The former is being used by the World Bank and many countries of the world and the later is being used by UNDP and some courtiers of the world.

Various classical and neoclassical development theories are reviewed. Some of them identified saving and investment as the basic factors of development and poverty reduction. Some theories like growth pole are spatial-oriented and some others like balanced and unbalanced growth theories are sector-oriented.

The empirical evidence showed that poverty in the world especially in the developing world is one of the major problems affecting the life of millions of people. The empirical evidences showed that 1.3 and 1.7 billion people of the world were consumption and multidimensional poor in 2010. South Asia and sub Saharan Africa are areas where the rate of poverty is the highest. The level of poverty in Ethiopia based on the World Bank report was 39 per cent in 2013. The income of residents of urban areas of Ethiopia is derived from different sources such as self-employment, wage labour, agriculture, etc.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **Introduction**

The previous chapter presented review of related literature and identified the literature gaps. This chapter explains the philosophical foundation of the research and the research methodology. The chapter is organized in four main sections. The first section explains the philosophical foundation of the research. The second section entertains the research design. The third section deals about the research methods which include sources and types of data, instruments and procedures of data collection, sampling and sample size and techniques of data analyses and interpretations. The poverty line construction method and aggregate measures of poverty, the Alkire Foster method of multidimensional poverty index construction and the method of livelihood insecurity index construction are explained in detail in the analysis section of this chapter. The last section looks ethical considerations.

#### **3.1. Philosophical Foundation of the Research**

In any research design the researcher has to clearly set up the ontological, epistemological and theoretical perspectives before the selection of a research design or methodology which is informed by these perspectives adopted (Crotty as cited in Gray, 2009; Creswell & Plano Clark, 2011). Each perspective informs the other next to it, for example, ontological perspective informs the theoretical perspective to be selected. To put in other words, the research methodology stems from the theoretical perspective and the theoretical perspective is derived from the epistemological perspective which in turn stems from the ontological perspective. Ontology is the study of being (the nature of existence of reality). “While ontology embodies understanding what is, epistemology tries to understand what it means to know” (Gray, 2009:17). Researchers throughout the world so far are in one of the two different and opposing ontological positions or perspectives which are ontology of being and ontology of becoming. The ontological perspective of this research is being ontology which gives an emphasis on a permanent and unchanged reality. The assumption of being ontology is that reality is being composed of clearly

formed entities with identifiable properties represented by symbols, words and concepts as opposed to formlessness and chaos of becoming ontology (Gray, 2009). Poverty and livelihoods are existed in the world and these realities have some forms which can be identified by their properties such as lack of access to basic necessities, capabilities, etc.

The epistemological perspectives of this research which stem from the ontology of being are objectivism and constructivism. The position of objectivists about reality is that reality exists in the external world independently of human consciousness and this reality is single (Gray, 2009). Therefore, the process of research is discovering this reality through adopting a design that fits with objectivism. The theoretical perspective closely linked to objectivism which is adopted for this study is positivism. This is because positivism is congruent with objectivism. The core argument of positivists is that the social world or reality exists independent of the researcher and the properties of the social world can be measured directly through observation like the natural world (Creswell, 2009; Gray, 2009). Reality in positivism is what is available to our senses and the human sciences deal with facts like the natural sciences (Gray, 2009). Positivists further argued that the social world is governed by laws or theories like the natural world and these laws or theories must be discovered, tested and refined through scientific inquiry (Creswell, 2009; Gray, 2009). The process of research in positivism is deductive or top down which focuses on testing theory. It moves towards hypothesis testing from a theory, after which the principle is confirmed if the data supports, refuted or modified if the data not supports (Gray, 2009; Creswell & Plano Clark, 2011). This hypothesis testing is value and context free. This process of research is, therefore, strongly associated with quantitative research approach. So poverty was objectively measured and the determinants of poverty were identified through this approach. Other quantitative techniques like  $X^2$  square test, independent t-test and ANOVA were also used.

The position of constructivists about truth and reality in the social world is that realities do not exist in the external world rather they are created by the subject's interactions with the world we live and work and realities are multiple (Creswell, 2009; Gray, 2009). So meaning is constructed not discovered and even in relation to the same phenomena subjects construct their own or subjective meaning in different ways (Creswell, 2009; Gray, 2009). Therefore, the goal of the researcher is investigating the socially and culturally influenced multiple views of research participants and the process of interaction among individuals (Creswell, 2009). The theoretical

perspective closely linked to constructivism is phenomenology. “Phenomenology holds that any attempt to understand social reality has to be grounded on people’s experiences of that social reality” (Gray, 2009:22). This theoretical perspective focuses on the ‘life-world’ of humans and the investigation of a particular phenomenon is not influenced by the investigator’s preoccupations to find new meaning, fuller meaning or renewed meaning of the phenomenon (Gray, 2009). The key is gaining the subjective experience of the subject, sometimes by trying to put oneself in the place of the subject and of course the interpretation of the meaning is influenced by the researcher’s personal experiences and background (Creswell, 2009; Gray, 2009). The intent of the researcher is, therefore, to develop patterns through interpreting the meanings of participants on the phenomenon which is an inductive process of research (Creswell, 2009). The inductive process of research is a bottom-up process which focuses on generating theory through interconnecting broader themes developed from multiple views of participants (Gray, 2009; Creswell & Plano Clark, 2011). In this process, plans are made for data collection, after which the data are analysed to see if any patterns emerge that suggests relationships between variables and from these observations it may be possible to construct generalizations, relationships and even theories (Gray, 2009). This process of research is associated with qualitative research approach. The process of investigation is value-laden, context embedded, and subject-object interdependent of multiple realities (Creswell, 2009; Gray, 2009; Creswell & Plano Clark, 2011).

Even though the two epistemological perspectives seem to have irreconcilable assumptions they are under the umbrella of ontology of being (Chia as cited in Gray, 2009). Crotty as cited in Creswell & Plano Clark (2011) stated that these two different stances are not ‘watertight compartments’. They can be combined and brought together in a single study with an explicitly stated use of each stance (Creswell & Plano Clark, 2011). This study, therefore, combined these two stances to address the research purposes set and answer the questions posed because the research design requires these two stances. The purpose of mixing these two stances is to validate, substantiate and complement the quantitative results of the research with the qualitative findings. Positivism which stems from objectivism is selected because the indicators and variables were identified to measure objectively in the field and determine the status of poverty, livelihood insecurity, determinants of poverty and the relationship between poverty and

livelihood in small towns since the concern of positivism is on the causes which determine the outputs such as poverty. Phenomenology which stems from constructivism is selected for this study to validate, explain and complement the quantitative findings of the research. In addition, phenomenology is selected because there are issues in this research that are not captured by independent of the researcher such as vulnerability and policy. As positivism focus more on the outputs or effects, phenomenology focus on the process of the occurrence of the outputs these two, therefore, can complement each other.

This research is, therefore, based on a mixed methods research approach. Both inductive and deductive processes were combined in this research to better understand the research problem since the problem calls no single process of research. These two research processes are also not mutually exclusive. Both of them can be used in a single research, that is, it is possible to test and at the same time build a theory in a single research process to address the research objectives (Gray, 2009). The type and procedures of mixed method design are clearly discussed in the design and methods section.

### **3.2. Research Approach and Design**

A mixed methods research approach was used for this study. Even though the approach requires both quantitative and qualitative skills and time to collect and analyze data which is a challenge of the enquirer, the importance of mixed methods approach is highly recognized by researchers in social sciences particularly for research in poverty and livelihoods (DFID, 1999; Farrington et al., 2002; Rakodi et al., 2002; Barrett, 2005; Njeru, 2005; Prowse, 2008). A mixed methods research approach is “a procedure for collecting, analyzing, and mixing both quantitative and qualitative data and methods in a single study or a series of studies to understand a research problem comprehensively” (Creswell, 2009). Mixed methods studies meeting this definition of mixed methods research approach include at least one quantitative strand and one qualitative strand (Creswell & Plano Clark, 2011). “A strand is a component of a study that encompasses the basic process of conducting quantitative or qualitative research: posing a question, collecting data, analyzing data and interpreting results based on that data” (Teddlie & Tashakori as cited in Creswell & Plano Clark, 2011).

Mixed research approach was used for this study because effective research on poverty and livelihood and successful livelihood analysis using a livelihood framework make use of both quantitative and qualitative research approaches on the bases of quantitative and qualitative philosophical foundations of research respectively (DFID, 2000; Murray as cited in Prowse, 2008). In other words, the nature of the problem of poverty and livelihood cannot be comprehensively addressed by using either quantitative research approach which is based on positivism theoretical perspective or qualitative research approach which is based on constructivism theoretical perspective alone (Barrett, 2005; Njeru, 2005). Either quantitative or qualitative data are not sufficient to address all the objectives set or answer all the questions raised in this research. The objectives set and the research questions raised require both quantitative and qualitative evidences and using mixed method, therefore, will help the researcher for a comprehensive understanding of the research problem and addressing the research questions. In addition, the findings or answers for one objective using one approach can be cross-validated using another approach if the two methods are used which can raise the credibility of the findings of the research.

Among the various types of mixed method designs embedded design is selected for this study. This is a mixed method design which combines the collection and analysis of both quantitative and qualitative data within a design of traditional quantitative research approach or qualitative research approach when emphasis or priority is given to either on quantitative or qualitative data (Greene as cited in Creswell & Plano Clark, 2011). In this study, the qualitative strand was embedded in the quantitative strand which is a survey design. In this design the qualitative data set had a supportive secondary role and these data was collected and analysed during the implementation of the data collection and analysis procedures. The purpose or reason of selecting embedded mixed method design for this study was to corroborate, confirm or cross-validate the quantitative results and qualitative findings of the study (triangulation) and complement (to look different facets of livelihood of households using different methods) the findings of the research using the two approaches and enhance the quality of the interpretation of the quantitative strand. Quantitative methods were used to address all specific objectives of this research except the second objective and the results of these objectives were cross-validated and supported by the qualitative findings. This design was also selected to complete the research

project within a given time frame and financial resources since this design focuses on collecting both types of data in one field visit and one phase of the research.

How quantitative and qualitative strands relate to each other in this study was the question to be raised and answered after the design was selected. Creswell and Plano Clark (2011) noted that a persuasive and strong embedded mixed methods design addresses the decisions of level of integration, priority, timing and mixing of quantitative and qualitative strands of the research. Therefore, the interaction between the two strands of this research was a direct interaction in which the two methods were mixed before the final interpretation (that is, interactive during the analysis). The quantitative strand was given priority or more weight to play a role in addressing the research problem and the qualitative strand was given a secondary and supportive role. The timing or pacing or implementation of the quantitative and qualitative strands for this research was concurrent timing which is a strategy of implementing both quantitative and qualitative strands in a single phase of the research in order to provide comprehensive analyses of the research problem (Creswell, 2009). Quantitative and qualitative strands of the research were mixed or integrated in the design, collection (group discussion and key informant interview were made to design the survey questions) and analysis and interpretation stage of the research.

### **3.3. Research Methods**

#### **3.3.1. Sources and Types of Data**

The necessary data for the research were obtained from different sources which can be categorized as primary and secondary sources. The primary sources of data were household heads, key informants (such as the elderly who lived for a long in the area, various experts, government officials and traders) and focus group discussants. Data sources were triangulated to help ensure the validity of quantitative and the trustworthiness of qualitative strands of the research (Creswell, 2009). The types of data which were generated through the various data collection instruments from these sources were quantitative and qualitative primary data. Quantitative data were collected from the household heads and qualitative data were collected from the household heads and all the other three primary data sources. The data were a cross-sectional data which were collected at one point in time.

Secondary sources of data were government policy documents and reports, poverty and livelihood research reports from the research journals, Ethio-GIS, books and magazine, policy documents and working and discussion papers of various institutions. These secondary sources were available in different government institutions of Ethiopia, various libraries of AAU and various web sites. The data collected from these sources were secondary data. These data were on the depth, width and causes of income and non-income poverty, livelihood activities and coping strategies of the nation, region and urban areas of the country. Other secondary data such as rainfall and temperature, producer and consumer prices across the year, demographic data, health data (morbidity), location and socioeconomic data were obtained from these sources. These data were quantitative and qualitative data useful to describe the study areas and compare with the quantitative and qualitative results of this study and complement primary data as well.

### **3.3.2. Sampling, Sample Frame and Sample Size**

The sampling technique for this study was two-stage sampling. Towns were selected first followed by households for both quantitative and qualitative strands of the study in which the sampling units were towns and household heads respectively. Out of the total small towns of East Gojjam zone, six were non-capital towns. These were Wojel, Yetmen, Felege Birhan, Woyin Wuha, Keranio and Side. Their population size in 2011 was 2836, 2938, 7300, 1207, 1879 and 2963 respectively. Out of these six small towns, three were purposively selected on the basis of their population size and location in relation to the main roads to see the effect of size and road on the livelihood of households in these towns. Towns' of population size greater than or equal to 2,000 and towns located far from the main roads and along the main roads were selected. Thus, the selected towns on the bases of these criteria were Wojel (found along all weather asphalted road), Yetmen (found along all weather gravel road) and Felege Birhan (found far from the main road). Therefore, samples of households for both strands of the research were drawn from these selected small towns of East Gojjam.

The households were finite in which the total number of each town were known and obtained from *kebele* and health extension offices. The household sizes in 2014 were 617, 621 and 992 in Wojel, Yetmen and Felege Birhan respectively. The total household size of the study from which the sample was drawn was 2, 230. The sampling frame or lists of households were obtained from

*kebele* administrative and health extension offices of the respective town. The two lists were more or less the same, but new additions were found in the registration documents of the health extension offices. This new additions were households who are living in each town without *kebele* identity cards by renting houses. The lists of households in the health extension offices were registered in 2006 for zitromax vaccination sponsored by Lions Carter Center in collaboration with Amhara Regional Government Health Bureau and revised in 2014 for the same vaccination of the 2014. The lists were, therefore, up-to-date. After the identification and determination of the sampling frame, households for the quantitative strand and participants (key informants and group discussants) for the qualitative strand were selected.

Households for the household questionnaire survey were selected using simple random sampling technique after the determination of the appropriate size using objective method. De Vaus (2002) and Kothari (2004) suggested that the required sample size for any quantitative research depends on the degree of accuracy required for the sample, heterogeneity or homogeneity of the population, size of the population and research budget. They also suggested that in the absence of population standard deviation two statistical concepts such as sampling error and the level of confidence must be specified for the determination of the size of the sample. In other words, the amount of error to be tolerated and the level of confidence for generalizations from the sample must be decided to identify the required sample size. Here, the precision or sampling error is decided in terms of proportion or percentage rather than mean because according to Kothari (2004), the precision value using mean requires population standard deviation which is not available in this case. The size of the sample for any finite population can be determined by the formula specified below (Kothari, 2004). Therefore, the size of the sample for this study was determined on the basis of this formula. This method of sample size determination is known as determination of sample size through the approach based on precision rate and confidence level (Kothari, 2004).

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

Where

$p$  = proportion agreeing,  $q = 1 - p$ ;

$z$  = the value of the standard variate at a given confidence level;  
 $n$  = size of sample;  
 $e$  = the desired margin of error;  
 $N$  = total population.

$P$  here is proportion agreeing and  $q (1 - p)$  is proportion not agreeing for questions of a survey in a random sample study which is the assumption this formula is based. To put in other words, since there is no previous poverty research in the selected areas  $p$  here is those households who are poor and  $q$  are those who are not poor. Using  $p = 0.50$  is always a safe way to calculate the needed sample size in studying a new research topic because  $pq$  (variance) is at its maximum possible value when  $p$  and  $q$  both equal 0.50 and  $pq = 0.25$  (Kothari, 2004; Ary et al., 2010). Using population estimates of  $p = q = 0.50$  in the formula, the researcher can be confident that the margin of error is as small as or smaller than the value specified (Ary et al., 2010). The maximum sample size can be obtained when the desired margin of error is lowest and  $p$  is 0.5. However, collecting data from this size takes much time and money. Given the limited resources the sample size for this study was determined based on 5 (0.05) per cent margin of error at the 95 per cent level of confidence of  $z$ -score 1.96 for a hypothesized  $p = 0.5$ ,  $q = 0.5$ . The margin of error 5 per cent here means that there is a 95 per cent probability that the population parameters falls within sample statistics plus or minus 5 per cent times the  $z$ -score (1.96).

The required sample size ( $n$ ) from 2, 230 total households of all selected towns by substituting all these requirements in the formula was 328 households. A sample was selected proportionally from each town and the sizes of the sample were 91, 91 and 146 households from Wojel, Yetmen and Felege Birhan respectively. Accordingly, members of the sample were selected proportionally from each stratum or *ketena* of the towns. The sample size from *ketena 1*, *ketena 2* and *ketena 3* of Wojel were 32, 28 and 31 respectively. About 28, 18 and 44 households were selected from *ketena 1*, *ketena 2* and *ketena 3* of Yetmen respectively. Similarly, the size of the sample from *ketena 1*, *ketena 2*, *ketena 3* and *ketena 4* of Felege Birhan were 47, 32, 29 and 37 households respectively. The size of the sample selected using this method was large. This increases the representativeness of the sample to the larger population (Ary et al., 2010). The results and findings of this research from the sample, therefore, can be generalized to all households of small towns of East Gojjam. Thus, the design has external validity.

Therefore, members of the sample of this size for the household survey were obtained through a simple random sampling technique since this technique gives an equal chance of selection for every member of the population. The lists of households for each *kebele* of towns were renumbered and a random number table was obtained from a statistics book. Then from the list of numbered households, members of a sample were drawn from each town by using the procedures of simple random sampling technique. This sampling technique also ensures external validity of the research as it gives equal probability of selection of all members of the population and it enables to draw a representative sample (Ary et al., 2010). Therefore, from the selected sample generalizations were made for the larger population from which the sample was selected.

Similarly, a sample was selected for the qualitative strand of the research by using purposive sampling technique. Experienced and knowledgeable personnel, leaders, experts, traders and teachers and school principals were selected for the key informant interview and group discussion. Seven key informants and 5 group discussants from each town were selected. A total of 21 key informants and 15 group discussants were selected to collect qualitative data for the study. A group of five members of discussants from different social and age groups was organized for each town because the purpose of group discussion was to identify the vulnerability context and assess the effect of PIPs on the livelihoods of households. This is, therefore, the reason that members of different social and age groups were brought together for discussion on these issues.

As discussed earlier, the total number of households surveyed was 328. However, the analyses on many of the variables were on 323 households because the food consumption of five (four from Felege Birhan and one from Yetmen) of the sampled households were not properly filled. The non-response rate was, therefore, 1.5 per cent. The multidimensional poverty was analysed on 326 households because the Alkire and Foster method allows the analysis of the household using the existing indicators by adjusting their weights (one from Wojel and one from Felege Birhan was not included for the analysis of multidimensional poverty since these households had no data on some important indicators related to housing).

### **3.3.3. Instruments and Procedures of Data Collection**

#### **3.3.3.1. Instruments of Data Collection**

Since mixed methods approach was used to achieve the objectives and sustainable livelihoods framework was used to guide the data collection and analysis both quantitative and qualitative data collection instruments were employed as the sustainable livelihoods framework lends itself to mixed data collection methods (DFID, 2000; Farrington et al., 2002). Quantitative techniques allow capturing quantitative data on the livelihood assets, livelihood activities and others. Qualitative data collection techniques were used because the techniques allow the collection of qualitative data on the vulnerability, social assets or institutional processes and relations that affect the livelihoods of the poor which are difficult to quantify.

To collect both quantitative and qualitative data various quantitative and qualitative data collection techniques were employed. The various data collection methods extracted from DFID (2000), Sanderson and Westley as cited in Rakodi et al. (2002) and Farrington et al. (2002) were used to generate both quantitative and qualitative data. Like the sources of data, instruments of data collection were triangulated to ensure the trustworthiness of qualitative and the validity of quantitative parts of the research (Creswell, 2009). The various quantitative and qualitative data collection techniques employed and the attributes on which data were collected through these techniques are discussed below.

#### **A) Questionnaire**

Questionnaire was used to generate data from the survey households. Household questionnaire survey was carried out to generate largely quantitative data from the selected household heads. Quantitative data were generated on economic information (production levels, income and consumption levels), assets (productive assets, quality and tenure of shelter, land and livestock, access to infrastructure, access to training and education, skills, household labour availability, membership in community groups, financial services such as savings and access to credit), livelihood strategies (number and type of activities, remittances received, migration patterns, income by source, access to rural assets and seasonal variation in strategies) and the impact of shocks on the household (loss of assets, illness and unemployment), indicators of livelihood

security and demographic characteristics of households. In addition, qualitative data were obtained from the household heads on the vulnerabilities and impact of shocks on household's livelihoods, livelihood outcomes and reasons for the livelihood outcomes.

Consumption data were collected to measure poverty. Consumption includes both goods and services that are purchased and those that are provided from one's own production (in-kind), received as gifts, results of assets and durables owned. Consumption is accepted as the best indicator of poverty (Rakodi, 2002; Haughton & Khandker, 2009; MoFED, 2012). According to Haughton & Khandker (2009), consumption is relatively stable throughout the year than income and people are relatively free to tell their consumption expenditure than income. Even though households underreport the expenditure on luxuries or illicit items such as alcohol and tobacco, they are more willing to tell what they spent than what they received and moreover consumption better reflects households' ability to meet basic needs (Haughton & Khandker, 2009; MoFED, 2012).

Consumption reflects the ability of household's access to credit, remittance and saving at times when their income is very low. Hence, consumption reflects the actual standard of living (welfare). Note that to collect data on per capita consumption the one-time recall method for three recall periods was used. Shorter recall period (seven days) for the high-frequency consumption items or food items, medium recall period (one month) for the non-food or low-frequency items such as mach, electricity, water, etc and longer recall period (one year) for medium-and long frequency items like clothes and durable household furniture were employed. This method is highly recommended by poverty studies of many developing countries including Ethiopia as the method helps to minimize the possibility of forgetting some expenditures or consumption.

Before the development of structured questions for the household survey, focus group discussions were conducted on unstructured questions in the selected towns in the month of December, 2013. These were valuable in the development of the questions and help the researcher understand how people talk about the survey issues, which were helpful in choosing vocabulary and in phrasing questions and include unrecognized alternatives to closed-ended

questions. Focus groups can often suggest issues, concerns or points of view about the topic that the researcher had not considered (Ary et al., 2010).

After these focus group discussions, a detailed questionnaire was designed to collect both quantitative and qualitative data from the households. The questionnaire consisted of both close and open-ended questions to generate both types of data on the attributes of the variables mentioned in the preceding paragraph. The questionnaire was organized in 13 sections. The first section was about the demographic characteristics of households and education, the second section was about health, the third section was about housing, the fourth section was about domestic assets, the fifth section was about seven days food consumption of the household, the sixth section was about intermediate and long year nonfood expenditure of the household, the seventh section of the questionnaire was about food insecurity of households, the eighth section was about livelihood activities and income, the ninth section was on social assets, the tenth section was about shocks, the eleventh section was about good governance and access to infrastructure, section twelve was about saving and credit, the thirteenth section was about other incomes and the last section was on the household livelihood outcomes (see Appendix E).

After the development of the questionnaire, a pilot survey was carried out before the actual survey to refine the questions both in terms of language, alternatives to close-ended questions and reduce the possible miscommunication between the interviewer and interviewee so that appropriate data were elicited during the actual survey. In short; ambiguities, misunderstandings, or other inadequacies of the questions were identified and corrected through this method. The pilot survey also helped to improve the reliability of the questions by purposely repeating the same questions. That is, purposefully repeated questions produced the same responses which indicate the internal reliability or consistency of questions. To ensure the construct validity (whether they are really measuring what they are supposed to measure) of the questions were given to another person who was familiar with the research issues.

The questionnaire was pilot-tested from November 14 to 20, 2013. Ten respondents three from Yetmen, three from Wojel and 4 from Felege Birhan were interviewed to test the questionnaire. The researcher himself did the interview for pilot testing. The researcher faced during the interview that the questionnaire took too much time, that is, not less than three hours to complete

interviewing a single respondent. In addition, some questions related to domestic assets ownership were found less relevant since all respondents during the pilot-test confirmed that all domestic assets belong to the household head and the wife/husband. Moreover, some questions related to access to health and education services and the distance from home to the infrastructure were excluded since secondary education and health center are available in all the study towns. During the pilot test some questions were also found double barreled and these questions were divided into two. Some alternatives were also added in some close-ended questions since the alternatives provided were not adequate enough to capture the respondents' response. Some vague terms were replaced by others since respondents did not understand them and some questions were reordered after the pilot-test. These data generated from the households for the pilot-test were excluded from the analysis. Some of the secondary and primary data on the descriptions of the study area was also collected during this period. A checklist was used to collect these data.

Therefore, the actual survey was carried out after the questions were corrected. The questionnaire was administered using a face-to-face interview for the collection of both types of data from the household heads. Even though expensive and time consuming, a face-to-face interview was employed because of its advantages over other administration methods in its high response rate besides the chance which gives to explain vague questions, collect additional information, observe the respondent and minimize missing data (Ary et al., 2010). Moreover, face-to-face interview is one of the best ways of data gathering methods from the household heads who do not read and write.

## **B) Interview**

This was one of the instruments of primary data collection for the present study. Interview was employed to collect qualitative data mainly on stress or shocks, seasonality of price, market, employment and labour, causes of poverty, benefits of social capital, adult education and night programmes from the key informants. Besides to these, information on the existence of trends and sources of vulnerabilities, usage of latrine, land redistribution, school and health center problems were collected through this method. Sources of income for the local institutions, their challenges and capacities were also collected through this technique. Semi-structured questions

were used to collect data from the key informants and the interview was face-to-face interview. Key informant interview was also employed to triangulate data collected through the other techniques such as questionnaire and group discussion. The interviews were conducted by the researcher himself. All the conversations between the interviewer and the interviewees were taped.

### **C) Group Discussion**

This was one of the major instruments of primary data collection from one of the primary data sources, that is, the group discussants. The themes of the discussion were vulnerabilities (shocks, seasonality of poverty, food prices, market and income) of households; shelter for animals; sources of wealth accumulation; process of participation; livelihood strategies; migration of resources; the benefits of social asset; uses of the borrowed money; the causes of poverty and the impact of the absence of the seat of *woreda* administration, master and site plans on poverty in the study towns. The other issues for the discussion were on the livelihoods of households and the challenges to improve the quality of housing units. Group discussions on these topics were made in every study town. The discussions were chaired and facilitated by the researcher. The whole discussion in every study towns was taped.

### **D) Observation**

This was another method employed to collect primary data for this study. The activities of some households, the working sites, housing and some utilities, market areas in the periodic and non-periodic market days were observed and photographed. In addition, observation was used to collect data on the situation of the market of some businesses in the periodic and non-periodic market days.

#### **3.3.3.2. The Procedures of Data Collection**

With regard to the collection procedures of the data; first, secondary data were collected from different libraries of AAU, CSA and other secondary sources before the collection of primary data. Secondly, group discussions and key informant interviews on the central themes of the research were made in the study areas after the literature review was exhaustively accomplished

in order to find inputs for the development of the questionnaire. Thirdly, primary data collection instruments were designed, that is, questionnaire for the household survey and questions for the key informants were prepared and topics for the group discussion were identified. Fourthly, pilot survey was administered in the study towns. This was accompanied by the collection of primary and secondary data for the descriptions of the study towns. Fifthly, six enumerators were recruited and trained for the administration of the household questionnaire survey. These enumerators were trained on the purpose of the research, survey questions and good interview procedures. Training on good interview procedures consisted of learning how to contact respondents, introduce the study and provide instructions of each question item during the interview, ask the exact question, procedures for recording answers to open-ended and closed-ended questions, completing the interview within the time allocated, not interjecting personal opinions into the interview and maintaining confidentiality about the interview (Ary et al., 2010). The purpose of this training was to administer the household questionnaire survey in a uniform and standardized way by having a common understanding of the survey questions and interview procedures. Finally, primary data were collected from the household heads, key informants and group discussants at the same time from January to March, 2014.

The collection of data took place at home in the evenings and mornings for the household questionnaire survey and key informants unless the selected household head is not available at these times except experts who were interviewed at office. When the selected household was not available during the first visit a second visit was made and when the head was not available for the second time a replacement was made using a simple random sampling technique. Seven from Yetmen and four from Felege Birhan were replaced through this method. The role of the researcher during data collection was the supervision of enumerators and collection of data from the key informants and group discussants. Group discussions were taken place at schools in selected days which were convenient for all group discussants.

Audiotape and interview protocol were used to capture data from the key informants. Similarly, audiotape was used to record data during the focus group discussions. After the collection and analyses of data, all recordings of the data such as audiotapes and interview protocols including photographs and recordings of the responses of household heads were kept safely for auditing.

### **3.3.4. Techniques of Data Analysis and Interpretation**

Mixed methods, that is, quantitative and qualitative methods of data analyses were employed in this research. Quantitative methods were used for quantitative data collected from the household heads and qualitative methods were employed for the qualitative data collected from key informants, group discussants and household heads through open-ended questions. The major unit of analysis for the study was households. The most important steps for quantitative and qualitative data analysis are preparing the data for analyses, exploring the data, analyzing the data, representing the analysis and interpreting the analysis (Creswell & Plano Clark, 2011).

Therefore, to analyse the quantitative data firstly, the collected raw data from the field were coded, classified and edited to make ready for analyses. Statistical Programs for Social Scientists (SPSS) took care of the majority of all these activities for the quantitative data. To classify, recode, compute new variables and analyze; quantitative data were entered into SPSS version 20 software. The data were prepared for analyses through data cleaning techniques to reduce errors of data resulting from different sources. The errors detected through data cleaning were column shift of data, that is, the data for some variables were found entered in adjacent variable and cells were left empty in the data editor window though the raw data were available due to coding errors. These errors were detected using descriptive statistics (such as frequencies for categorical variables, maximum and minimum values for ordinal and likert variables, mean and standard deviation), histograms for ordinal and continuous variables, scatter plots for continuous variables and crosstabulations. In addition, frequencies and histograms were used to check the normality of the distribution of the data together with skewness and kurtosis and standard deviation and scatter plot were used to detect outliers or nonsense values. The errors detected were corrected by looking the raw data before analyses. Likewise, qualitative data were organized (organize documents and visual data) and transcribed text of audiotapes. The accuracy of these transcripts was checked with the text written during the interview and group discussion.

Secondly, the data were explored to see the general trends and distribution of quantitative data through conducting descriptive analysis and understand the qualitative data through repeated reading and writing memos of the initial thoughts in the margin of transcripts and field notes.

Thirdly, the data were examined to address the research questions. To do this, different descriptive and inferential statistical techniques were employed for the quantitative data. From the descriptive statistical measures frequencies, percentages, mean, cross-tabulations and livelihood security index were used. From the inferential statistical measures chi-square test, independent sample t-test, ANOVA and logistic regression were employed. All the necessary assumptions were tested for each inferential statistics.

The procedures of analyses for this study were that firstly; the depth, gap and severity of poverty were measured. Secondly, the livelihoods of households were assessed. Thirdly, the contribution of rural assets to livelihoods was examined. Fourthly, livelihood insecurity of households was determined. Lastly, the determinants of poverty were identified. The missed values were not analysed whenever the total size is smaller than the sample size for a variable in the analyses there existed missing value/s, that is, the variable did not applicable to some of the households and some household heads left with answering the question for the variable. The following section discusses how the poverty line was constructed and poverty was aggregated, MPI and livelihood security index were constructed.

With regard to analyses for the qualitative data, paraphrasing, direct quote of words, matching patterns of words and experiences of study participants were employed. Data analyses of the qualitative strand of the research were in the perspectives of social, economic, environmental and institutional contexts. Fourthly, tables, graphs, statements and maps were used to present and display data. Lastly, the meanings of the results of the study were interpreted by explaining how the results of the quantitative strand and the findings of the qualitative strand address the research questions together and the results and findings were compared with past literature, prior explanations for both strands and the researcher reflected on the personal meaning of the findings and set questions based on the findings for the qualitative strand. Finally, the quantitative results and qualitative findings were merged in every chapter of the results and discussions by presenting the results of the quantitative strand followed by the supportive qualitative findings which is named by Creswell and Plano Clark (2011) as side-by-side comparison.

### **3.3.5. Methods of Poverty and Livelihood Security Measurement**

#### **3.3.5.1. The Method of Poverty Line Construction**

Poverty line is the minimum expenditure for basic food and non-food needs of an adult person to lead a healthy and normal life. It is the minimum expense required to meet a given level of utility which can be derived from a vector of goods and prices of these goods. According to Ravallion cited in Haughton & Khandker (2009), the poverty line for a household may be defined as “the minimum spending or consumption (or income, or other measure) needed to achieve at least the minimum utility level, given the level of prices and the demographic characteristics of the household”. Poverty line for the present study was constructed using the cost of basic needs or cost of buying a basket of goods (because the indicators are more representative as it accounts the cost of basic consumption of food and non-food items) method. The line has both food and non-food components. A list of food items of households around the poverty line (that is, the second and third quintiles consumption of food items of the study households which is the most common and widely used method at the international and national levels of policy and academic researches) was used to set the food poverty line. The cost of acquiring enough food for the predetermined adequate nutrition for a healthy or normal life by Ethiopian Nutrition and Health Research Institute (EHNRI), 2,200 calories per adult person per day, was estimated for these quartile groups. In order to set the non-food poverty line, the food share of the poorest quartile group was used. The cost of other essentials such as clothing, shelter, durable assets, health, education, etc per adult person per day of this group of households adjusted for size and composition was estimated.

Different individuals in a household have different needs. A young child typically needs less food or calorie than an adult and similarly the need of women differs from men. Second, there are economies of scale in consumption, at least for such items as housing and food. It costs less to house a couple than to house two individuals separately and a large family size may benefit in price from bulk purchase (Haughton & Khandker, 2009). These differences in household size and composition for the present study as well as the gusts in a week were normalized or adjusted by using a scale presented below. This gave the adult equivalent of a household and adjusted the economies of scale. Though not agreed by all, this economy of scale which is widely used in East Africa including Ethiopia and other developing countries written as:

$$AE = (N_{adults} + (0.7 * N_{children\ below\ 15\ years}))^{0.8}$$

*AE* refers to adult equivalent and *N* is number. From the formula, 0.7 is the cost of a child relative to an adult presumably reflects the lower needs (for food, housing space and so forth) of children and 0.8 compares the effects of economies of scale, which significantly reduce the size of large size households.

Before the setting of the poverty line, the daily per adult equivalent energy intake of households was calculated. To do this, seven days food consumption data (both pattern and quantity) were collected and the daily energy consumption for a household was determined using the quantity of food items obtained from households and the energy assigned to each food item taken from EHNRI (1997) food composition table (see Appendix A1). The amount of calorie per 100 gram of some food items such as biscuit, spaghetti, macaroni, etc, which were not available in EHNRI food composition table were obtained from the packages of the manufacturer of each food item. The average energy was used for the item consumed in different forms (raw and cooked) by the household. Besides, the different types of an item, for example, *teff* (such as white, red and mixed) consumed by a household was considered. These two make this research different from others. The quantity of food items measured by local measurement units and units different from the measurement of weight were converted into kilogram/gram.

The real daily food consumption per adult equivalent was computed from the seven days food consumption data. Firstly, the total quantity consumed within seven days was divided by seven to find the daily food quantity consumed by the household. Secondly, these daily total quantity was divided by the adult equivalent size of the household including gusts to find the daily adult equivalent consumption assuming that gusts are available throughout the week. Thirdly, the daily adult equivalent consumption was multiplied by the adult equivalent size of gusts and the number of days they consumed in the household in order to know the total food quantity consumed during their stay in the household. Then in order to get the households real consumption, this amount was subtracted from the total quantity a household consumed in seven days proportionally from the total quantity of each food items by assuming that gusts consume from every item the household consumed in the seven days. Finally, the real households seven

days consumption was changed into daily per adult equivalent. This was valued by the local average prices of the food items of the three study towns (see Appendix A1).

To measure the non-food expenditure of households the unusually large expenses for holidays, marriage and other ceremonies were excluded since these expenses are irregular which do not reflect households' usual welfare. In addition, inputs (such as fertilizer, seeds, labour, tools, machines, etc) and investment expenditure were excluded from the calculation of households' expenditure since these do not contribute to the utility of households. Religious payments and payments and services to *idir* were also excluded from the computation because these expenditures are not for the utility of the households as well. Public and publicly supplied goods such as public education, police, road, etc are excluded because of the difficulty of computations. The consumption value of durable goods of households was computed by taking 10 per cent depreciation and the interest of the money locked up in a year using the annual interest rate of the Commercial Bank of Ethiopia (not-inflation adjusted) in 2014. The total yearly and monthly expenditures of the non-food items were converted to daily expenditure and this daily household non-food consumption was divided by the size of the adult equivalent of the household to get the daily per adult person non-food expenditure of the household.

A bundle of food items of the second and third quartiles or the middle 50 per cent of the households were used to build the food poverty line, on the grounds that these households were close to the poverty line because these groups consumption is assumed to be around 2,200 Calories per adult person per day. Therefore, 45 food items which are grouped into thirteen from this quartile group's food consumption were selected. The quantity of each food item which can generate 2,200 kcal was determined by taking the proportion of energy of each food item out of the total energies of the food items consumed by an adult person per day of all households of these quartile groups. The total energy of each food item consumed by an adult person per day of all households was scaled down and the quantity of each food item was then calculated from these energies (see Appendix A3). These quantities of the food items for the 2,200 kcal were valued at average local food prices of each food item during the time of data collection (see Appendix A1).

The average prices of the three towns for different food items were used due to the absence of significant difference among the prices of food items of the three towns as confirmed by ANOVA (2 & 153) = 0.016,  $P = 0.985$  test. Tukeys's HSD and Games-Howell tests which can be used for equal sample size of groups and treat one group as a control and compare all other groups against it confirms the absence of significant difference of food prices among the three towns (see Appendix A2). In connection with this, the Tukey's and Ryan-Einot-Gabriel Welsch Range tests put the three towns in one group which means that the average prices of these towns were close to each other. The descriptive statistics of food prices of the three study towns also show that the mean prices of the three study towns were close to each other. These tests were made after the assumptions of ANOVA were checked. That is, the Levene's test statistic (2 & 153) = 0.036,  $P=0.964$  shows the existence of homogeneity of variances on food prices of the three study towns which is one of the assumptions of ANOVA. The independency and normality assumptions were checked where the three towns or price groups are independent and the distribution of the food prices is close to normal.

The non-food poverty line was also constructed from the food consumption data of households. Researchers adapt different techniques to determine the non-food poverty line though the most used method is the Orshansky or food share method. Ayalneh et al. (2005) divide the cost of food poverty line to the average per capita consumption of households below the food poverty line to set a non-food poverty line for three rural districts of Ethiopia. CSA cited in MoFED (2012) used the share of food of the poorest 25 per cent or the poorest quartile of the population. USA identified the non-food poverty line by multiplying food poverty line by three since a third of income in USA is devoted in food (Haughton & Khandker, 2009). For the purpose of this study, to account for the non-food expenditure, the food share method was used. The food share of the poorest 25 per cent of the households was used to construct the non-food poverty line for this study like CSA to compare the results of this research with the CSA poverty estimates of urban areas of Ethiopia and Amhara Region (see Appendix A4). About 41 food items grouped into 12 were used for this purpose.

The food and the nonfood poverty lines were added to get the total poverty line for the study areas. Total poverty line (the aggregate measure of poverty that takes into account both the food and non-food requirements) is the sum of food poverty line and non-food poverty line. The

robustness of the total poverty line was checked by the inclusion and exclusion of some food items from the basket of foods. As a result, the difference of the different poverty lines constructed was very minimal. The price of the adjusted per adult person consumption expenditure was then compared with the total poverty line to determine whether the adult person is living below the threshold or not. After the construction of the poverty line and the identification of the poor and non-poor households, the next step in poverty analysis is aggregating poverty using suitable aggregate poverty measures.

### **3.3.5.2. The Method of Aggregating Consumption Poverty**

Given the consumption per adult equivalent and the poverty line, the next step in poverty analysis is the selection of appropriate measures of poverty (Haughton & Khandker, 2009). According to Sen cited in Foster et al., (1984), a rigorous and valid poverty measure should satisfy the monotonicity and transfer axioms and must be additively decomposable. The monotonicity axiom requires increase in the level of poverty when income or consumption of a person decreases and vice versa. The transfer axiom demands that the transfer in income or consumption from the better-off to the poor must decrease the level of poverty or from the poor to the non-poor must increase poverty. Ravallion added the third axiom which is the focus axiom where the increase in income of the non-poor could not change the level of poverty. Even though a number of aggregate poverty measures satisfy one or more of these axioms, they fail to satisfy additive decomposability (Foster et al., 1984).

The method which satisfies these axioms and the additive decomposability is Foster et al. (1984) aggregate measure of poverty. The index satisfies monotonicity axiom when  $\alpha > 0$  and transfer axiom when  $\alpha > 1$ . The FGT is additively decomposable to different sub-groups of sample households (the total poverty is the weighted average of poverty level of sub-groups satisfies sub-group monotonicity axiom, that is, the sub-group change keeping other sub-groups fixed requires the sub-group and total poverty to move the same direction) with population share weights and the contribution of each sub-group to the total poverty can be computed (Foster et al., 1984). Thus, a change in the level of poverty in any sub-group should bring a change in the total poverty (Foster et al., 1984). This method also satisfies the two properties in weights suggested by Sen. According to Sen cited in Foster et al. (1984), weights must be based on the

notion of relative deprivations of the poor and poorer households must have higher weights. Because of its validity the method is being used by many countries of the world including Ethiopia and this study, therefore, used the FGT class of poverty index because of its qualities and properties discussed above. This class of poverty index is expressed as:

$$P\alpha = \left(\frac{1}{N}\right) \sum_{i=1}^q [(Gi/z)]^\alpha, (\alpha \geq 0)$$

Where  $\alpha$  is the measure of the sensitivity index to poverty which is indicator of “aversion to poverty inequality”: a larger  $\alpha$  gives higher weight to the poorest of the poor,  $N$  is the total number of households,  $q$  is number of the poor,  $z$  is the poverty line,  $G_i$  is the poverty gap poverty shortfall of a household  $i$  obtained by subtracting consumption per adult equivalent  $c_i$  of the household from the poverty line ( $z-c_i$ ). The parameter  $\alpha$  determines the type of the aggregate measure of poverty. When  $\alpha$  is 0 the index is the headcount ratio ( $P_0$ ) which measure the proportion of the poor from the total population, when  $\alpha$  is 1 it is the poverty gap index ( $P_1$ ) which measure the average income shortfalls of the poor from the poverty line and when  $\alpha$  is 2 it is the poverty severity index ( $P_2$ ) which measures income inequality between the poor. The weights are the actual deprivations or income shortfalls or a distance between the actual income and the poverty line ( $z-c_i$ ) and this weighting method gives more weight to the poor.

### 3.3.5.3. The Method of Multidimensional Poverty Measurement

The Alkire Foster method noted as  $M_o$  is a family of the measure of multidimensional poverty developed by Alkire and Foster in 2007 which can be used to measure multidimensional poverty (simultaneous multiple deprivations of households) when one or more dimensions considered are ordinal or has no cardinal meaning (Alkire & Santos, 2010c). The method is a counting approach suited for categorical or binary data which is widely used for UNDP human development reports of developing countries starting from 2010 by constructing Multiple Poverty Index (MPI) and national governments (such as Mexico, Bhutan, India and Uganda) to measure the headcount ratio and intensity of poverty in terms of multiple deprivations (Alkire & Santos, 2010c). The literature and the academic interest on the concept and applicability of the method are growing since the method allows deeper analysis of multidimensional poverty through a magnifying lens. MPI is a high resolution lens on poverty: it can be used as an analytical tool to identify the most

prevalent deprivations (Alkire & Santos, 2010c). It is a method based on the selection of dimensions, indicators, weights and cutoff points to measure poverty.  $M_o$  measures poverty of a population  $n$  using selected  $d$  dimensions by developing  $n \times d$  matrix where the rows represent the individuals or persons and columns represent dimensions and their indicators (Alkire & Santos, 2010a).

For a single-dimensional analysis, people are identified as poor as long as they fail to meet a threshold called the ‘poverty line’ and non-poor otherwise. Unlike the unidimensional poverty, two different kinds of cutoff are used to identify the multidimensional poor, one is the indicator cutoff and the other is the poverty cutoff where the indicators deprivation cutoffs noted as  $Z_j$  and the poverty cutoff as  $K$  (Alkire & Santos, 2011). A person is deprived in indicator  $j$  if the achievement of that person in this indicator is below the cutoff  $Z_j$ . Therefore, all individuals who are deprived in any indicator have to be identified first. Indicator  $j$  is assigned 0 if the person is below the cutoff  $Z_j$  or has no deprivation and 1 otherwise. Next score ( $C_i$ ) of deprivations of each person has to be calculated by taking the sum of the product of indicators deprivation and their weight to identify the poor, that is,  $C_i = w_{1j_1} + w_{2j_2} + \dots + w_{nj_n}$ .  $C_i$  represents the sum of weighted deprivations suffered by person  $i$ . The weighted score of deprivation of a person ranges from zero to one, where zero indicates no deprivation from the selected indicator and one indicates deprivation in all indicators.

After the determination of the score of each person a poverty cutoff which is defined as “the share of weighted indicators or the deprivations a person must have in order to be considered multidimensionally poor” must be determined. To do that one has to select this cutoff  $k > 0$  and apply it across the score. This means that an individual or household is identified as multidimensional poor if he/she is deprived in at least  $K$  dimensions. So, a person is considered as poor if the score is greater than or equal to the poverty cutoff. The next step is the assignment of 0 for persons whose score is below the poverty cutoff  $K$  to compute the aggregate index even though the person is deprived of one or two indicators. Scores of households above the cutoff  $K$  were taken as they are. This is a censored deprivation score denoted as  $C_i(K)$  so the name given to  $M_o$  as adjusted headcount ratio (Alkire & Santos, 2011). This matrix contains the weighted deprivations of all persons who have been identified as poor and excludes deprivations of the non-poor. From this censored matrix it is possible to construct the censored vector of deprivation

counts  $C_i(K)$  which differs from vector  $C_i$  in that it counts zero deprivations for those not identified as multidimensional poor.

$M_o$  is the weighted sum of the deprivations the poor experience divided by the total number of people times the total number of dimensions considered. The  $M_o$  is also the product of the multidimensional headcount ratio represented by  $H$  and the intensity of multidimensional poverty represented by  $A$ . “ $H$ , which represents the *incidence* of multidimensional poverty, is simply the proportion of people who are poor. That is,  $H = q/n$  where  $q$  is the number of poor people and  $n$  is the total population. To understand  $A$ ,  $C_i(K)/d$  indicates the fraction of weighted indicators in which the poor person  $i$  is deprived. The average of that fraction among those who are poor ( $q$ ), is precisely  $A$ , where its expression is given by  $\sum_{i=1}^n C_i(K)/dq$ ” (Alkire & Santos, 2011). Thus, the measure satisfies dimensional monotonicity by adjusting the incidence of multidimensional poverty by intensity, that is,  $M_o$  increases as a poor person deprives in additional indicator.

Once the  $M_o$  is computed it can be decomposed by population subgroups, dimensions and indicators and intensity of poverty (using cutoff). Thus, the censored headcount ratio of each indicator can be known and compared with the raw headcount ratio. In addition, the contribution of each indicator to the total deprivation can be computed. The censored headcount ratio is obtained simply by adding up the number of people who are poor and deprived in that indicator and dividing by the total population. The sum of the product of the censored headcount ratio and the weight of indicator is the  $M_o$ . The contribution of indicator  $j$  to multidimensional poverty can be expressed as  $contri_j = w_i CH_i / M_o * 100$ , where,  $w_i$  is weight of indicator  $i$  and  $CH_i$  is censored headcount ratio (Alkire & Santos, 2011). The contribution to poverty of a certain indicator may widely exceed its weight indicating a relative high deprivation in this indicator in the study population. The poor are more deprived in this indicator than in others. Alkire & Santos (2011) noted that adding up the contribution of each indicator within the dimension gives the contribution of each dimension (see Alkire and Foster, 2009 & Alkire & Santos, 2010c for more details of the algorithm).

#### **3.3.5.4. The Method of Construction of Livelihood Security Index**

The livelihood security index was constructed by the formula adopted from Costa cited in Development Data Consultants (nd), Hahn et al. (2009) and Akter and Rahman (2010). These people used the formula to calculate the livelihood security index. Index is an aggregate or composite indicator that has been calculated from several different weighted components and livelihood security index is a powerful tool in assessing whether the livelihood of households is secure or not by selecting, integrating and weighting different indicators or variables (Hahn et al., 2009; Akter & Rahman, 2010). Development Data Consultants (nd) applied the method to examine the vulnerability status of households affected by HIV/AIDS in the region of South Africa, Akter and Rahman (2010) used this formula in the analysis of livelihood security in poor settlements of Bangladesh and Hahn et al. (2009) used this in vulnerability analysis in Mozambique. This method is a powerful tool to identify the absence and presence of livelihood security and the tool is based on the assumption that each indicator has equal weight to construct the dimension index which can be taken as one of its basic limitations (Lindenberg, 2002). However, for the purpose of this study instead of assigning equal weight to all variables, weights for each indicator were determined using the principal component analysis (PCA) as Temesgen et al. (2008), Workeneh et al. (2011) and Madu (2012) did for the construction of vulnerability indices to assess and determine vulnerability status of households, the community and regions to climate change.

PCA is frequently used in research that constructs indices for which there are no well-defined weights for indicators, such as asset-based indices used for the measurements of wealth across different social groups and vulnerability of households to climate change (Sahn & Stifel as cited in Madu, 2012; Madu, 2012). The argument here is that as with indicators of the asset-based indices for wealth comparison and vulnerability indices for determining the vulnerability status, there are no well-defined weights assigned to the indicators used to construct livelihood security indices. Therefore, PCA helps to generate the weight of each indicator, the assumption being that there is a common factor that explains the variance in the livelihood security. Intuitively, the first principal component of a set of variables is the linear index or weight of all the variables that captures the largest amount of information common to all the variables regardless of the number of components on which the variables are loaded (Temesgen et al., 2008; Workeneh et al., 2011;

Madu, 2012). Therefore, the scores of unrotated first component matrix were taken as weights of the indicators for this study to construct livelihood security index of each dimension as many of the indicators of highest scores are loaded in the first factor. Weights were extracted using PCA for unstandardized indicators and the inverse of the indicators for those which have negative relations was used for their weight determination. The weights of indicators were extracted for each dimension of livelihood security. In other words, the weight of each indicator of a particular dimension was extracted instead of extracting weights of all indicators in a single PCA (see the weight of each indicator in Appendix C2). This is because indicators are more loaded in a dimension which they represent than the composite one.

The extent of insecurity of each household was computed. Total household insecurity index was build after the selection of six dimensions and different indicators for each dimension. The selected dimensions and indicators are discussed in chapter eight. The composite livelihood security index was calculated in three procedures. First, since indicators of a particular dimension were measured by different units of measurement each indicator of the dimension of livelihood security was standardized using the formula:

$$SV_{x_i} = \frac{VHHx_i - Minx_i}{Maxx_i - Minx_i} \dots\dots\dots (1)$$

Where  $SV_{x_i}$  is standardized value of indicator  $x_i$ ,  $VHHx$  is the household recorded original value of indicator  $x_i$ ,  $Maxx_i$  is the maximum value of indicator  $x_i$  of the sample households and  $Minx_i$  is the minimum value of indicator  $x_i$  of the sample households. The minimum and the maximum values were used to transform an indicator into a standardized index (see the values in Appendix C1). The numerator of the formula above is the difference between the minimum value of indicator  $x$  of a sample households and the actual value of a household of that indicator and the denominator is the difference between the maximum and minimum values of indicator  $x$  of sample households. The procedures and techniques of standardizing indicators are the same with the procedures of human development index (HDI) developed by UNDP. For example, life expectancy index in HDI can be calculated as a ratio of the actual life expectancy and the range of predetermined or preselected minimum and maximum life expectancy.

Secondly, once each indicator representing a particular livelihood security dimension was standardised, then the relevant household livelihood security index for a particular dimension was constructed by averaging the standardised indicators or taking the weighted mean of the standardized indicators of a dimension using the formula:

$$HLSID_i = \frac{\sum Wx_i * SVx_i}{\sum Wx_i} \dots\dots\dots(2)$$

Where  $HLSID_i$  is Household Livelihood Security Index of a Dimension  $i$ ,  $SVx_i$  is the standardized value of indicator  $x_i$ ,  $Wx_i$  is the weight of indicator  $x_i$  used to construct the index determined by PCA and  $x_i$  ranges from 1 to  $n$  (the total number of indicators for a particular dimension).

Lastly, once the index for each dimension of livelihood security was calculated the composite overall Household Livelihood Security Index (HLSI) for the household was constructed by using the formula:

$$CHLSI = \frac{\sum w_i HLSID_i}{\sum w_i} \dots\dots\dots(3)$$

Where,  $w_i$  is the weight of a dimension determined by the number of indicators used to construct  $HLSID_i$ . Instead of assigning equal weights to each dimension used to construct CHLSI, a relative weight of each dimension was given based on the total number of indicators that constitute each dimension. Weight of a dimension of livelihood security varies between households because of household level variation in the number of indicators.

Thus, for the calculation of the livelihood security indices the inverse of the values of the indicators which had a negative relationship with livelihood security was used to give more weight to lower values since these values indicate better security of households and conversely less weight to higher values as Akter and Rahman (2010) did in their study. The weights for these indicators for the calculation of the index were determined using the inverse values.

The value of the indices ranges from 0 to 1 which indicates variations in the level of livelihood security of households. A value nearer to 1 indicates a relatively highly secure livelihood and a

value closer to 0 indicates a relatively highly insecure livelihood. Generally, households were considered livelihood insecure if their composite index was below the average which was 0.45 in this case and secure otherwise. Each insecure household was categorized into highly insecure ( $<0.23$ ), moderately insecure (0.23-0.33) and low insecure (0.34-0.44). Similarly, livelihood secure households were categorized into low secure (0.45-0.55), moderately secure (0.56-0.66) and highly secure ( $>0.66$ ). These were done by adding 1, 2 and 3 times standard deviation (0.10) on the mean value. For example, those households whose index was within mean plus one times standard deviation was low secure and those whose index was mean minus one standard deviation was low insecure. The percentage of households who falls in each category was calculated. Both the dimensions and the aggregate indices of households were analysed. The indices of these dimensions were crosstabulated with major livelihood activities in order to know the livelihood strategies of households who are highly insecure. Similarly, the livelihood security of households was crosstabulated with consumption poverty in order to answer the question who is the livelihood secure household.

### **3.4. Ethical Considerations**

Issues of the research ethics were considered at all stages of the research. Permissions were obtained from *woreda* and *kebele* administrators to get access to the study site and participants before the commencement of data collection. To protect the participants from danger or harm different measures were taken. A covert study was not carried out in the field. Thus, a letter was obtained from the university which declared the researcher's engagement in the research activities and the data collectors read this letter to the participants of the research. Besides, this letter created trust and creditability of the researcher by the research participants. Trust and respect with the participants were also established during the pilot survey, which was carried out to check the validity and reliability of the questionnaire. The letter was also a means of entrance to various offices in the study sites.

In addition, the purpose of the research, duties and responsibilities of the participants and the risks of participation were discussed with the participants to obtain unwritten or implied or oral informed consent. For those participants who did not offer the consent a replacement by other randomly selected participant was made. Similarly, names were not mentioned for the qualitative

study to keep anonymity and confidentiality and oral consent was obtained from the research participants to record their voice and present their images in the research report. All field notes and other documents of participants' responses were kept personal.

## **Summary**

The purpose of this chapter was to present the philosophical foundation, design and methods of this research. The ontology where this research is based is being ontology and the epistemological perspectives of this research which stem from this ontology are objectivism and constructivism. Therefore, the theoretical perspectives are both positivism and phenomenology. The approach for this study was a mixed methods approach and the design was concurrent design. More weight was given to the quantitative part of the research. The research was based on primary and secondary data generated from primary and secondary sources. The instruments of data collection from the primary sources were questionnaire, interview, group discussion and photograph. Purposive and simple random sampling techniques were used to identify the sample for the qualitative and quantitative parts of the research respectively. The size of the sample for the household survey was objectively determined through the method developed by Kothari (2004). Both descriptive and inferential statistics were used to analyse quantitative data whereas direct quotation, paraphrasing and pattern matching were used to analyse qualitative data. The basic needs method was used to draw the poverty line and FGT method was employed to aggregate consumption poverty. Similarly, the Alkire and Foster method was employed to measure multidimensional poverty.

## CHAPTER FOUR

### DESCRIPTIONS OF EAST GOJJAM ZONE AND THE STUDY TOWNS

#### Introduction

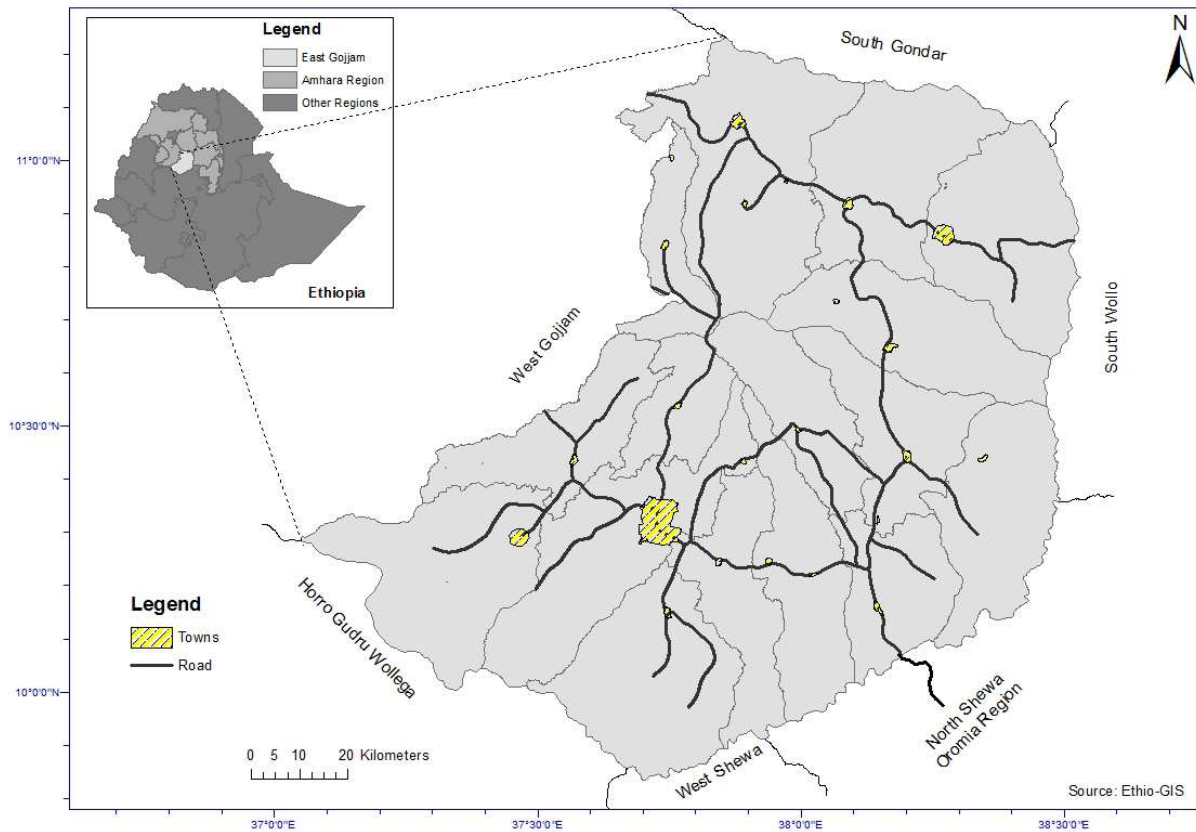
The purpose of this chapter is to give contextual background information on East Gojjam and the study towns. This chapter, therefore, presents the basic features of East Gojjam Zone in general and the study towns in particular. These include location, physical setting and demographic features of East Gojjam and the study towns as well as genesis and development, socio-economic, infrastructures and periodic markets of the study towns. The descriptions of the study areas are on the bases of both secondary and primary data generated from secondary and primary sources respectively. Understanding and recognizing these basic features can facilitate the analyses of the research by linking the research findings and conclusions of the study with these basic features of the study towns.

#### 4.1. East Gojjam Zone

East Gojjam Zone is approximately located  $9^{\circ}49'$  North and  $11^{\circ}13'$  North latitude and  $37^{\circ}5'$  East and  $38^{\circ}31'$  East longitude (see Figure 4.1). The zone is located in Amhara National Regional State of the Federal Democratic Republic of Ethiopia. It is one of the eleven administrative zones of the region (others are North Gondar, South Gondar, North Wollo, South Wollo, North Showa, Oromia, East Gojjam, West Gojjam, Awi, Waghimra and Bahir Dar Zuria). As shown in Figure 4.1, the adjacent zones of East Gojjam are West Gojjam to the west, South Gondar to the north and South Wollo to the east from the Amhara Region and North Shewa, West Shewa and Horo Gudru Wollega to the south from the Oromia Region. The bend of the Abay River defines the zone's northern, eastern and southern boundaries with North Gondar, South Wollo and the three administrative zones of Oromia Region mentioned. The capital of the zone is Debre Markos.

The total area of East Gojjam is 14,004.5 square kilometers which accounted for 9.1 per cent of the total area of the Amhara Region. This makes the zone the fifth largest of all zones of the region. The zone is structured into 17 administrative *woredas* and 415 *kebeles* including the urban *kebeles* of the zone. The three selected study towns are found in three administrative *woredas* of the zone. Wojel is located in Awabel *Woreda*, Yetmen is located in Enemy *Woreda*

and Felege Birhan is located in Enarj Enawga *Woreda*. The average elevation of East Gojjam is 2,769 meters above sea level. Its highest point is Mount Choqa (also known as Mount Birhan) with the height of 4,100 meters above sea level. The average annual rainfall and the monthly average temperature in the zone are 1,500 millimeters and 21 degrees Celsius respectively.



**Figure 4.1: Map of East Gojjam Administrative Zone**

On the basis of the 2007 Housing and Population Census, the total population of East Gojjam zone in 2011 was estimated to be 2,351,855 which accounted for 13 per cent of the Amhara region’s total population making the zone third ranked next to North Gondar and South Wollo in the region. The crude population density of the zone in the same year was 167.9 persons per square kilometer which was greater than the region’s crude population density (121.9 persons per square kilometer). The total urban population of East Gojjam was 262,462 in 2011 which accounted for 10 per cent of the region’s total urban population making the sixth largest in terms of the size of the urban population of all zones of the region. The urban population of the zone

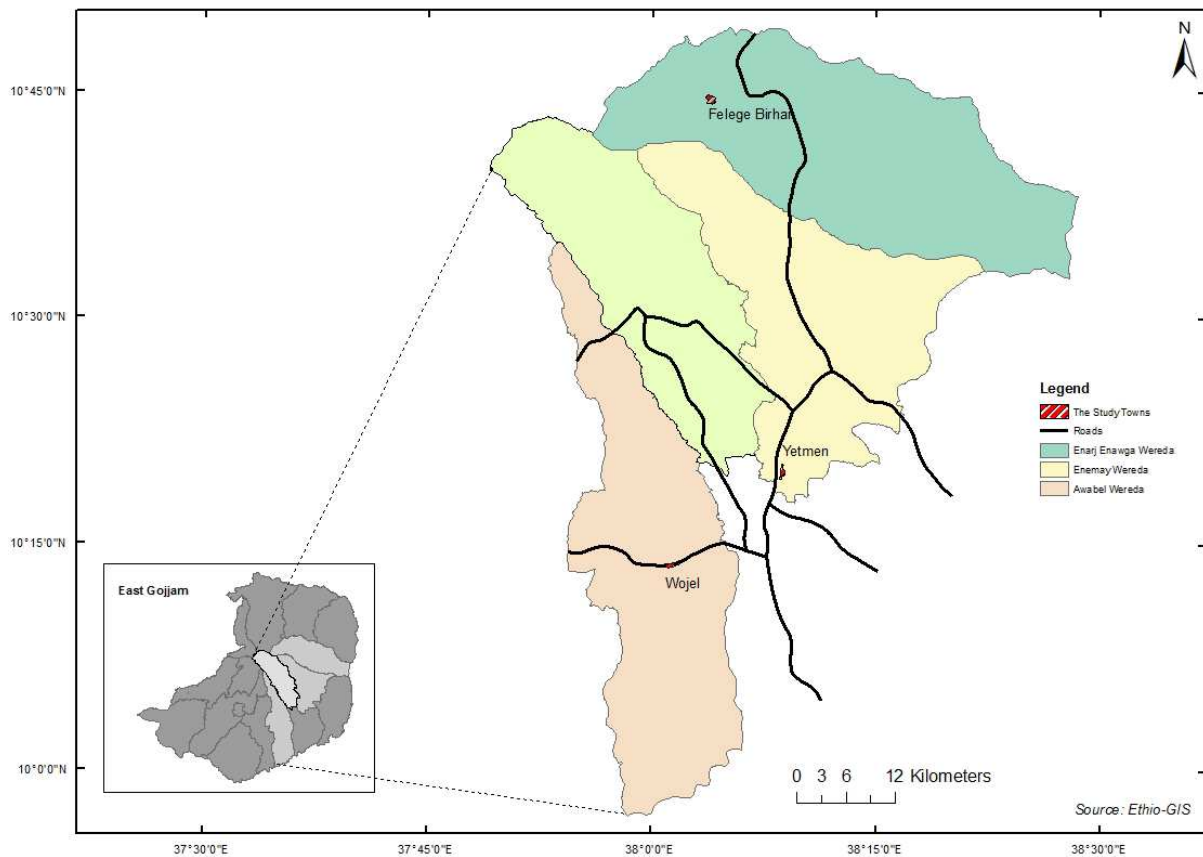
accounted for 11 per cent of the zone's total population. This was less than the regional and national level of urbanization which accounted for 14 and 17 per cents respectively in 2011. The population size of urban areas in East Gojjam ranges from 1, 207 to 68,502. The smallest population size was for Woyin Woha and the largest population size was for Debre Markos.

Based on the 2007 Housing and Population Census data, there were twenty-three towns in East Gojjam. This number of urban areas was based on the definition of CSA using diverse criteria. According to CSA (2012), urban areas in Ethiopia include all "localities with 2,000 or more inhabitants" as well as (i) all administrative capitals (regional, zonal and *woreda* capitals), (ii) settlements with urban dwellers' associations which are not administrative capitals and (iii) all other settlements whose inhabitants are primarily engaged in non-agricultural activities. Out of the twenty-three towns in East Gojjam, twenty-one (91%) towns are small in size, while the remaining two towns, Debre Markos & Motta, are intermediate size towns. The overwhelming majority of these towns were administrative capitals for different levels of the government. Out of the twenty-three towns of East Gojjam, seventeen are *woreda* capitals and six are *non-woreda* and non-zonal administrative capitals. Debre Markos, Mota and Bichena are urban administrations which have the autonomy of self-administration, besides to the seat of zonal or *woreda* administration. These three towns in the zone have more than one administrative function. Debre Markos is a zonal and *woreda* capital and the other two towns are *woreda* capitals. Therefore, all except six towns in East Gojjam have been centers of administration for the hinterland population. Out of the six non-capital towns, three of them such as Wojel, Yetmen and Felege Birhan are study areas of this research. The other non-capital towns were Woyin Wuha, Keranio and Side.

#### **4.2. Location, Size and Shape of the Study Towns**

It is true that the location of any place can be described in absolute and relative terms. Therefore, the locations of the study towns are described in absolute and relative terms. The exact location of Felege Birhan is 11° 88' North latitude and 37°04' East longitude. Relatively, Felege Birhan is found approximately seven kilometers West of Addis Ababa-Motta-Bahir Dar all weather gravel road in Enarj Enawga *Woreda*, 315 kilometers North West of Addis Ababa (the seat of the government of the Federal Democratic Republic of Ethiopia) and 166 kilometers South East of

Bahir Dar (the seat of the government of Amhara National Regional State) through Addis Ababa-Motta-Bahir Dar road (see Figure 4.2). Therefore, Felege Birhan is a pocket town which is not crossed by any major road unlike the other study towns. Felege Birhan is found 137 kilometers North East of the zonal capital Debre Markos and 21 kilometers North West of the *woreda* capital Debre Work.



**Figure 4.2: Location Map of the Study Towns**

The absolute location of Wojel is 10°30' North latitude and 37°45' East longitude. Relatively, Wojel town is found along Addis Ababa-Debre Markos-Bahir Dar asphalted road in Awabel *Woreda*, 251 kilometers North West of Addis Ababa and 314 kilometers South East of Bahir Dar. Relative to the zonal and *woreda* capitals, the town is located 48 kilometers South East of Debre Markos and 10 kilometers East of Lumame respectively.

The astronomical location of Yetmen is 11°42' North latitude and 37°04' East longitude. Relatively, Yetmen is located along Addis Ababa-Motta-Bahir Dar all-weather gravel road in Enemay *Woreda*, 247 kilometers North West of Addis Ababa and 238 kilometers South East of Bahir Dar. The town is located 78 and 18 kilometers South East of Debre Markos and South West of Bichena respectively.

All the study towns are found within South East *Woyna Dega Teff* livelihood zone of Amhara Region (Amhara Livelihood Zone Reports, 2007). According to these reports, this livelihood zone is a surplus producing zone and has good road access which can be taken as good opportunities for the livelihoods of the residents of these towns. Consequently, these towns are collection centers of the surplus agricultural products and the livelihoods of the majority of residents of these towns are strongly associated with the surplus agricultural products of the livelihood zone. Residents of these towns engage in either in the collection of the surplus agricultural products for export and distribution of various agricultural inputs. Relative to each other, Felege Birhan is found 89 kilometers North of Wojel and 59 kilometers North West of Yetmen. Likewise, Wojel is found 89 kilometers South of Felege Birhan and 30 kilometers South West of Yetmen and Yetmen is found 30 kilometers North East of Wojel and 59 kilometers South East of Felege Birhan.

With regard to size, all the study towns are very small in terms of area. Relatively, Felege Birhan is the largest town followed by Yetmen. The total areas of Felege Birhan, Yetmen and Wojel were 881, 449; 615, 191 and 595,665 square meters respectively (see Figure 4.2). The total area of Felege Birhan, Yetmen and Wojel were 75, 107 and 111 times less than the total area of Debre Markos respectively. Concerning their shape, the shape of all the study towns is linear except Felege Birhan. Almost all residential and business houses of these towns were built along the main road. Though not extended much, a few numbers of residential and business houses were built along the main gates from the rural areas. Consequently, the shape of Wojel and Yetmen will become cross-like in the near future since the expansion is along the two main gates of each town from opposite directions. As shown in Figure 4.2, the shape of Felege Birhan is compact. This is because the town is a pocket town which is not crossed by any main road affecting its pattern unlike the other study towns. The town has been expanded along the main gates from the rural areas in different directions which is the main cause for its compactness.

### 4.3. Physical Setting of the Study Towns

The altitude of Felege Birhan is 2,790 meters above sea level. It has 365 and 815 meters altitudinal differences from Yetmen and Wojel respectively. Its topography is not plain rather rugged unlike the other study towns. The average annual rainfall of the town is 1,175 millimeters and the monthly average temperature is 14 degrees Celsius. On the basis of the traditional climatic classification, the climate of this town is *Dega*. The town is not crossed by either a perennial or an intermittent river; however, there is a river near to the town in the south flowing from North to South.

The altitude of Wojel is 1,975 meters above sea level which is lower than the other study towns. The difference between the lower and the higher altitude in the town is 60 meters indicating the plainness of the topography of the town. There is no river which crosses the town. Moreover, there is no perennial river found near to the town except the intermittent ones which are found at the ends of the settlement along the main road. The mean annual rainfall and the mean monthly temperature of the town taken from Dejen weather station are 1,158 millimeters and 18 degrees Celsius respectively. The town, therefore, lies within *Woyna Dega* traditional climatic zone.

The altitude of Yetmen is 2,425 meters above sea level. Its topography is plain and no river crosses the town but Muga River, the tributary of Abay River, is found approximately at a walking distance of half an hour round trip from the center in the west and south of the town. Likewise, Yegurfin, an intermittent river and a tributary of Muga, is found approximately at a walking distance of 10 minutes round trip from the center to the east. These two rivers are useful to some of the residents of the town for small scale irrigation as well as for their livestock. The average annual rainfall of Yetmen is 1,063 millimeters and the monthly average temperature is 16 degrees Celsius. The climate of the town is, therefore, *Woyna Dega*.

During the field survey, the researcher observed the non-existence of natural forests in and around the study towns as well as within short ranges of distance from the respective towns. Eucalyptus trees which were the source of income and firewood for some urban residents were rather widely found in and around these towns. Of course, the owners of the eucalyptus trees around these towns are largely people from the adjacent rural areas.

#### 4.4. The Genesis and Development of the Study Towns

##### 4.4.1. The Genesis and Development of Felege Birhan

Felege Birhan was established in 1949 due to the selection of the rural *kebele* to become a seat of Motta and Bichena *Awrajas* and Enarj Enawga *Woreda* administrations during the time of Emperor Haile Selassie (Enarj Enawga *Woreda* Culture & Tourism Office, 2013). The establishment and development of Felege Birhan was, therefore, associated with the establishment of the seat of political administrations in the town. The same source revealed that the reasons for the selection of Felege Birhan for the seat of *awraja* and *woreda* administrations were mainly its strategic position or hill top location to control bandits of *Qolla* and *Dega* areas, the presence of abundant water resources mainly of rivers and springs around the town and its central location between Motta and Bichena *Awrajas*. The town had become the seat of Motta and Bichena *Awraja* administrations from 1949 to 1957 for about nine years and Enarj Enawga *Woreda* administration until 1980. The seat of *awraja* administrations was shifted to Motta and Bichena by late 1957 and the seat of *woreda* administration was moved to Debre Work by the end of 1980s (Ibid, 2013).

The document of the office also showed that the settlement as the center of religion has been existed since 1570 during the rule of Atse Serste Dingle (1563-1597). Before 1949 the center was named as Mog Eyesus taken from two names Mog and Eyesus. *Mog* means *tikil dingay* or standing stones or stelae available in more than two places near the town and Eyesus is the name of the church which means Jesus founded in 1570. Since the area was known for bandits owing to the dense forest around the settlement, there were insecurity problems in the area. The bandits had been killing different individuals and looting their properties indiscriminately and repeatedly for a long period of time. As a result of lack of security in the area, the village was also nicknamed as *Jib Dur* which means home of hyenas by considering the bandits as 'hyenas'. Because people in the town gained relative peace and security after the establishment of the seat of *awraja* and *woreda* administrations, residents named the town Felegin Birhan which means we are searching light. This Felegin Birhan was later changed to Felege Birhan by Emperor Haile Selassie from the 44 springs found around the town flowing towards the east according to emperor Haile Selassie's understanding in search of light. The Geez word Felege means *minch*

which means spring and *Birhan* means light. Hence, Felegin was replaced by Felege and now the name of the town is Felege Birhan.

The town had a municipality from 1949 to 1957 and its growth was guided by a master plan (Enarj Enawga *Woreda* Culture & Tourism Office, 2013). Felege Birhan was expanded in all directions when it was the seat of *awraja* and *woreda* administrations. But, its growth declined because of the shift of the seat of both level of administrations accompanied by the absence of main transport root that crosses the town. Because of the shift of the seat of administrations all administrators and civil servants moved to the other towns (Bichena, Motta and Debre Work). This, therefore, contributed for its decline immensely. To make matters worse, farmers who were living around the town had a strong desire to scramble the land for farming in 1976 (immediately after the 1974 revolution) due to the absence of town administrators who can control and administer the land under its jurisdiction. Farmers desire was also partly attributed by the fear of lose of their agricultural land resulting from its expansion. From 1980 to 2010 the town was at the level of *kebele*. However, Felege Birhan was raised to a status of sub-town in 2010 and later sub-municipality in 2011. During the field survey, the town had one *kebele* administration divided in to four *ketenas*. The sub-municipality, however, was not fully functioning because of lack of budget and the required staff both in terms of quantity and quality.

Concerning its development, the town has some basic infrastructures and services. These include education, health, water, electricity, communication, financial and security. These are useful for the residents of the town and rural areas around the town. According to Enarge Enawga Culture and Tourism Office (2013), these infrastructures and services were provided by the government and the participation of the residents of the town in different times. With regard to education infrastructures, the town has an elementary school founded in 1949 exactly in the year of its establishment and this was upgraded to elementary and junior secondary school in 1982. A secondary school was established in the town in 2008. Concerning the health infrastructures, the town had a government clinic from 1963 to 2009 and this clinic was upgraded to a health center in 2009. The health center is providing services since 2009. The town has also one private clinic. Health extension services started in the town in 2007. The town obtained safe drinking water from 1999 to 2003 from bono or hand pumped water points. The town had no supply of pure drinking water from 2004 to 2007 for about four consecutive years because of the dried up of the

source of drinking water. The town regained pure water supply in 2008 from the underground. This time water is distributed through pipe in every house who can afford that is far better than the previous one. The town has 24 hour hydro electric power supply since 2007. The town had a long line copper wire telephone line from 1949 to 1975 which was distracted by the conflict between the *Derg* and some militants who oppose the *Derg* which occurred from 1975 to 1976. The town had a wireless telecommunication from 2006 to 2008 and this was upgraded to digital telecommunication in 2009. According to the information obtained from the office, the town's telecommunication had 83 fixed line subscribers in 2014. The town has no postal agent unlike the other study towns. The town has police service since 2008. With respect to the financial infrastructure, Amhara Credit and Saving Institution (ACSI) launched its services in the town in 2006. The institution is providing credit, saving and transfer services to the residents of the town and the surrounding nine rural *kebeles* since its inauguration.

According to the information obtained from the respective offices, some branch *woreda* administration offices are established in the town. In connection with this, the town is being the seat of Micro and Small Enterprises Development Office for a cluster of settlements consisting of Felege Birhan and nine rural *kebeles* found around the town since 2013. Besides, the town has been serving the people in this cluster being the center of moving court (*tezewawari chilot*) of Enarj Enawga *Woreda* Court. However, these institutions are not providing the necessary services expected from them.

#### **4.4.2. The Genesis and Development of Wojel**

Wojel was established in 1960. According to a master plan study of the town by Amhara Urban Development and Construction Bureau (2012), oral traditions indicate that the primary cause for the establishment of the town was the establishment of quarrying site during the Addis Ababa-Debre Markos road construction. According to these sources, two persons built a house near this quarrying site and began to sale tea and bread to the labourers of the quarrying site and the road construction which later attracts other businessmen in the area. The completion of the road construction and the establishment of the periodic market in the place in the later days further strengthened the concentration of people in three areas: near the quarrying site, market place and along the road. Especially, the establishment of the periodic market changed the town to the most

important trading center for the agricultural produces and manufacturing goods so that cereal crop collectors and exporters as well as manufactured goods retailers concentrated in the town and their number increases through time. This hugely contributed for the growth and expansion of the town. Likewise, the establishment of different government institutions like schools and clinic contributed for the growth and development of the town.

The name Wojel was given to the town from the story of crime occurred between two rural *kebeles*. According to the oral traditions, the dead body of a person was found between the present day Taba and Wojel rural *kebeles* near Abaya River at the South West and both *kebeles* were accountable to the death of a person and told to pick up the body by the local administrators. Taba *kebele* refused and Wojel picked up the body thus many agreed that this rural *kebele* who picked the body committed *wonjel* meaning crime. Therefore, the name Wonjel was given to the then rural *kebele*. It is believed that through time, people pronounce it *wojel* instead of *wonjel*. Thus, the rural *kebele* was named Wojel and the town retains its name from the rural *kebele* which is currently found adjacent to the town. The town's administration was separated from the surrounding rural area in 1980 and the town began to administer itself from 1980 onwards. During the field survey, the town had one *kebele* administration divided in to three *ketenas*. Wojel has a status of emerging town which is responsible to the leading municipality and embracing *woreda* administration.

Concerning its development, various infrastructures and services were provided in Wojel by the government and through the participation of the local people. According to the key informants from each institution, these infrastructures and services were set up in the town in different times. Education infrastructures existing in the town are one elementary and junior secondary school founded in 1972, one kindergarten established in 2004 and one high school established in 2012. These are providing services since their establishments. Health infrastructures available in the town are one health center realized in 2005, one private clinic and two private drug stores. Health extension service began in the town in 2007. The town has pure drinking water supply since 1997 from the underground. The population of the town had access to pure drinking water from six public taps and thirteen private water vendors. However, during the field survey the researcher observed that the town had no piped water unlike the other study towns and the six public taps were not working but two hand pumped water points located a bit far from the town

are serving the town's population. A 24 hours hydroelectric power service began in the town in 2005. Digital telecommunication was established in the town in 2006. According to the office, the total fixed line subscribers in the town during the field survey were only twenty-three. The town has one post agent founded in 2009. Police service in the town began in 2008. The town has Amhara Credit and Saving Institution (ACSI), a microfinance institution, established in 2013. This institution was five months old during the field survey so that it didn't give all the services expected from the institution. Different from the other study towns Wojel has no sub-municipality and its associated rudimentary services. Awabel *Woreda* court has been giving its moving court (*tezewawari chilot*) in Wojel.

According to a master plan study document made by Amhara Urban Development and Construction Bureau (2012), the area and settlement of Wojel did not expand rapidly due to three basic reasons. Firstly, farmers living around the town during the Derg regime need the land for agriculture and want to destroy the town because of fear of further loss of agricultural and grazing land resulting from the expansion of the town. Consequently, most people did not prefer to build houses and live in Wojel town. Secondly, land or soil in the western and northern parts of the town is not suitable to build houses. The soil cannot support buildings in these parts of the town. The soil is black soil so that it is sticky and holds water during the rainy season and cracks during the dry season. Thus, the researcher observed that most houses built in these parts of the town either sank down or tilted to fall. Finally, land distribution was prohibited in the town.

#### **4.4.3. The Genesis and Development of Yetmen**

According to the key informants, Yetmen town was established in 1969. The causes for the establishment of the town were the opening of Motta-Bahir Dar road in 1957 and establishment of a Swedish-built elementary school in 1969 which was later upgraded to elementary and junior secondary school. The opening of the road and elementary school contributed the shift of the seat of local administration and the periodic market to Yetmen in 1970. The seat of local administration and the periodic market was in Zebch (found at a short distance North East of Yetmen) before the opening of this road. Since the rural *kebele*, Yetmen, was found close to this road, people from this *kebele* began to build their residential houses along the road and near the school with a belief to improve their life (Berihun et al., 1996). Besides, the shift of the seat of

local administration and the periodic market in 1970 from Zebch to Yetmen further strengthened the concentration of people along the main road. The periodic market which took place once in a week was not only one of the causes for the birth of the town but also the cause for the growth of the town like many other towns of Ethiopia. Farmers who engaged in non-farm activities more specifically on retail trade around Yetmen migrated towards this town in order to exploit the market opportunities resulting from the expansion of the town.

According to some oral traditions, the name Yetmen was given to the rural settlement from the Geez word *temen* which means large snake or python. This name was given to the rural settlement because the large snake was frequently seen in this area coming from the River Muga, tributary of Abay River, which is found close to the town. The town, therefore, retains the name of the rural area which is found adjacent to it. Yetmen, therefore, means a place of python where large snake or python lives predominantly. During the field survey, the town had one *kebele* administration divided into three *ketenas*. The town is a sub-municipality town and the sub-municipality was established in the town in 2012. However, the sub-municipality was not fully functioning during the field survey.

According to the key informants from the respective offices, Yetmen has shown some development though not rapid since its establishment. Some basic infrastructures (education, health, water, electricity, etc) and services were established in the town in different times by the government and the participation of the local people through the contribution of money and labour. Concerning education infrastructures, the town has one elementary and junior secondary school established in 1969 and one high school founded in 2012. Health infrastructures provided in the town include a health center and private medium clinic established in 2002 and 1993 respectively. In addition, the town has two privately owned drug stores for human beings established in 2008. Health extension service has been delivered in the town since 2012. The town has one animal clinic established in 1999 and one drug store. These are providing services for both the urban dwellers and farmers who are living in rural Yetmen. Pure piped water was provided in the town in 1996. The source of water is from the underground. A 24 hour electric power supply was provided in the town in 1999. The town has one digital telecommunication established in 2010 which had 126 fixed line subscribers during the time of data collection. This has been giving services to the residents of the town and the surrounding rural areas since its

establishment. The town has no a post agent unlike Wojel. Police station and policing services in the town are established in 1992. Amhara Credit and Saving Institution (ACSI) was established in the town in 1997. This micro-finance institution is delivering saving, credit and transfer services to the residents of the town and the surrounding rural areas.

Though not functioning properly, Yetmen has a sub-municipality established in 2012 which is directly responsible to the leading municipality and embracing *woreda* administration. The town's master plan was developed and approved in 2008 but was not implemented during the time of data collection. Consequently, the town's growth was not properly guided by its master plan. Some branch *woreda* administration offices were opened in the town. In connection with this, Micro and Small Enterprises Development Office of the *woreda* has been providing its services for a cluster of settlements which consists of Yetmen and some rural *kebeles* around Yetmen in the town since 2006. Besides, the *woreda* court has been delivering its moving court (*tezewawari chilot*) in the town.

#### **4.5. Demographic and Socio-economic Characteristics of the Study Towns**

##### **4.5.1. Demographic Characteristics**

Table 4.1 demonstrated data on the population size of the study towns in three different years. As depicted in the table, the total population size of the three study towns was 14, 649 which accounted for 5.6 per cent of the total urban population of East Gojjam zone in 2011. Females constituted about 53 per cent of the total population in these towns. The disaggregated data by towns show that the population size of Felege Birhan was larger than the other study towns. The population size of this town was 8,197 of which 4,000 were males and 4,197 were females giving a male-female sex ratio at birth of 95 per cent. The population size of the town accounted for 4.5 per cent of the total population of Enarj Enawga *Woreda* and half (50%) of the total urban population of the *woreda*. The population size of Wojel was 3,176 of which 1, 492 were males and 1,684 were females giving a sex ratio of 89 per cent. The total population of Wojel accounted for 2.4 per cent of the total population of Awabel *Woreda* and less than a quarter (22%) of the total urban population of the *woreda*. The population size of Yetmen was 3,276 of which 1,455 were males and 1,821 were females giving a sex ratio at birth of 80 per cent. The

total population of Yetmen accounted for 1.8 per cent of the total population of Enemay *Woreda* and 14 per cent of the total urban population of the *woreda*.

Therefore, females in all the study towns make up over half of their total population. These results are consistent with the sex composition of the urban population of Ethiopia and Amhara region which accounted for 99 and 94 per cents respectively in 2011. However, the proportion of females in Wojel and Yetmen were higher than the proportion of males than the national and regional ones. The high proportion of females in these towns is an indication of large number of female-headed households who engaged mainly in selling foods and drinks. The large majority of these females are migrants from the surrounding rural areas. As data from the key informants revealed that the other most important reason for the high proportion of females in these towns is that males, especially youths are out migrating from these towns than females. Moreover, the percentage of female migrants in these towns is higher than male migrants (see Table 4.2).

**Table 4.1: Population Size of the Study Towns by Sex**

Town	1994			2007			2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Felege Birhan	830	1,131	1,961	3,255	3,415	6,670	4,000	4,197	8,197
Yetmen	727	949	1,676	1,184	1,482	2,666	1,455	1,821	3,276
Wojel	678	855	1,533	1,214	1,370	2,584	1,492	1,684	3,176
<b>Total</b>	<b>2,235</b>	<b>2,935</b>	<b>5,170</b>	<b>5,653</b>	<b>6,267</b>	<b>11,920</b>	<b>6,947</b>	<b>7,702</b>	<b>14,649</b>

Source: Central Statistical Agency (1998, 2010 and 2011)

The population size of the study towns increases from time to time resulting from the natural growth rate and migration. The percentage increase of population between 1994 and 2007 was 240.1 in Felege Birhan, 69 in Wojel and 59 in Yetmen. To put in other words, on the average the population size of Felege Birhan, Yetmen and Wojel between the two census years increased by 362, 76 and 81 persons per year respectively. Assuming the exponential growth of population, the growth rate between 1994 and 2011 was 8.4 per cent in Felege Birhan, 3.9 per cent in Yetmen and 4.3 per cent in Wojel. As the growth rates in the three towns show there was a rapid increase of population in these towns for the last twenty years because of the combined effect of the natural growth and migration. The rate of growth in Felege Birhan was much higher than the other study towns might be reclassification of rural settlement in this town. The rate of

population growth in each town was far larger than the country (3.9%) and Amhara region (4.2%) urban population growth rates between the same years except the population growth rate of Yetmen which is equal to the national and less than the regional urban population growth rates.

Regarding the age structure, Table 4.2 depicted that the age group less than 15 years constituted over a quarter (34%) of the total population of the study towns, while the economically active age group (15-64 years) form 63 per cent. The proportion of females (30%) in the former age group was less than the proportion of males (38%), whereas the percentage of females (67%) in the later age group was higher than the percentage of males (59%). The number of females in each age group was greater than the number of males (see Table 4.2). The average dependency ratio in these towns was, therefore, 59 per cent. This implies that hundred economically active persons in these towns need to support 59 economically inactive persons. The dependency ratio in the study towns was smaller than the urban dependency ratios of Ethiopia and Amhara Region accounting for 64 and 66 per cents respectively. These dependency ratios were on the basis of the 2014 urban employment unemployment survey results. The dependency ratio in urban areas of Ethiopia in 2011 was 59 per cent (CSA, 2012) and this was equal to the average dependency ratio of the study towns.

With regard to the age structure of individual study town, the proportion of less than 15 years age group during the field survey was 40 per cent in Felege Birhan, 34 per cent in Yetmen and 24 per cent in Wojel. The results in Table 4.2 also showed that the percentage of females in this age group in all the study towns was less than the percentage of males. The economically active age group, 15-64, was relatively highest in Wojel (69%) followed by Yetmen (63%) and Felege Birhan (60%). As can be seen in the table, the proportion of females in this age group in all the study towns was higher than the proportion of males. On the other hand, the percentage of the economically inactive age group was high in Felege Birhan which accounted for 41 per cent followed by Yetmen (38%). Consequently, the crude dependency ratio was high in Felege Birhan followed by Yetmen and Wojel which accounted for 69, 60 and 44 per cents respectively. This implies that hundred economically active persons were responsible to take care of themselves and other 69, 60 and 44 economically inactive persons in Felege Birhan, Yetmen and Wojel respectively.

**Table 4.2: Broad Age Structure and Migration Status of the Population of the Study Towns by Sex**

Age Group	Wojel						Yetmen						Felege Birhan						All Towns					
	Female		Male		Total		Female		Male		Total		Female		Male		Total		Female		Male		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<15	31	20.4	36	27.9	67	23.8	47	30.7	57	37.0	104	33.9	104	35.3	114	44.4	218	39.5	182	30.3	207	38.3	389	34.1
15-64	114	75.0	85	65.9	199	70.8	102	66.7	90	58.4	192	62.5	185	62.7	142	55.3	327	59.2	401	66.8	317	58.7	718	63.0
>64	7	4.6	8	6.2	15	5.3	4	2.6	7	4.5	11	3.6	6	2.0	1	0.4	7	1.3	17	2.9	16	3.0	33	2.9
<b>Total</b>	<b>152</b>	<b>100</b>	<b>129</b>	<b>100</b>	<b>281</b>	<b>100</b>	<b>153</b>	<b>100</b>	<b>154</b>	<b>100</b>	<b>307</b>	<b>100</b>	<b>295</b>	<b>100</b>	<b>257</b>	<b>100</b>	<b>552</b>	<b>100</b>	<b>600</b>	<b>100</b>	<b>540</b>	<b>100</b>	<b>1140</b>	<b>100</b>
<b>Place of Birth</b>																								
Rural area	58	38.9	43	33.6	101	36.5	80	52.3	74	48.1	154	50.2	140	47.5	110	42.8	250	45.3	278	46.6	227	42.1	505	44.5
This town	85	57.0	80	62.5	165	59.6	68	44.4	76	49.4	144	46.9	145	49.2	140	54.5	285	51.6	298	50.0	296	54.9	594	52.3
Other town	6	4.0	5	3.9	11	4.0	5	3.3	4	2.6	9	2.9	10	3.4	7	2.7	17	3.1	21	3.5	16	3.0	37	3.3
<b>Total</b>	<b>149</b>	<b>100</b>	<b>128</b>	<b>100</b>	<b>277</b>	<b>100</b>	<b>153</b>	<b>100</b>	<b>154</b>	<b>100</b>	<b>307</b>	<b>100</b>	<b>295</b>	<b>100</b>	<b>257</b>	<b>100</b>	<b>552</b>	<b>100</b>	<b>597</b>	<b>100</b>	<b>539</b>	<b>100</b>	<b>1136</b>	<b>100</b>

Source: Field Survey, 2014

As to the migration status, considering first generation migrants only, the proportion of migrants in each town were considerably high. The results in Table 4.2 showed that migrants constituted nearly half (48%) of the total population in the study towns. The percentage of migrants in these towns was close to the percentage of migrants in urban areas of Amhara region in 2011 which accounted for 53 per cent (CSA, 2007). Migration is, therefore, one of the major causes of the growth and expansion of these small towns. The disaggregated data by sex show that the female-migrants (49%) were quite higher than male-migrants (45%). This reflects that small urban centers are important destination centers for female migrants from the surrounding rural areas and these female migrants mostly engage in low cost entry businesses like selling tea and local drinks like *tella* and *areki*.

Out of the total migrants in the study towns, greater than 90 per cent were from the surrounding rural areas. On the contrary, the percentage of migrants originated from the other towns in all the study towns was very small. These results showed that small towns are primary destinations of migrants from the surrounding rural areas. They are centers of rural migrants' destination. The data by individual town showed that out of the total population, 53 per cent in Yetmen, 48 per cent in Felege Birhan and 41 per cent in Wojel were migrants, while the remaining percentages of the population of these towns were non-migrants. In all the study towns, the proportions of female-migrants (39% in Wojel, 52% in Yetmen and 48% in Felege Birhan) were larger than the

proportions of male-migrants (34% in Wojele, 48% in Yetmen and 43% in Felege Birhan) by some margin.

With respect to the distance of place of birth of migrants from their residence, Table 4.3 revealed that the majority of migrants in all the study towns came from a distance of less than or equal to one hour on foot (**note:** distance given by car travel was converted to walking distance by using the average walking distance of a person in one hour which is 7 kilometers). Out of the total migrants, 42 per cent in Wojele, 44 per cent in Yetmen and 31 per cent in Felege Birhan were from a walking distance of less than an hour. As can be seen in Table 4.3, the place of origin of the overwhelming majority (91% in Wojele, 87% in Yetmen and 90 % in Felege Birhan) were from a walking distance of less than or equal to four hours. Out of the total migrants from rural areas, the majority (43% in Wojele, 47% in Yetmen and 30% in Felege Birhan) were from a walking distance of less than one hour. The percentage of migrants generally declines as the distance increases but sharply declines after a walking distance of three hours except in Felege Birhan. In general, over 90 per cent of the migrants in all the study towns were from a walking distance of four hours radius from each urban center. The average walking distance that the migrants traveled was 2:06 hours in Wojele, 4:42 hours in Yetmen and 2:55 hours in Felege Birhan. The average walking distance in Yetmen was high because of the high proportion of migrants from long distances in this town than the other study towns.

**Table 4.3: Distance from the Town to the Birth Place of Migrants**

Distance in Minutes	Wojele						Yetmen						Felege Birhan						All Towns	
	Rural		Urban		Total		Rural		Urban		Total		Rural		Urban		Total		N	%
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%				
<61	20	42.6	2	33.3	22	41.5	34	46.6	0	0.0	34	44.2	28	30.4	2	33.3	30	30.6	86	37.7
61-120	13	27.7	0	0.0	13	24.5	21	28.8	0	0.0	21	27.3	18	19.6	1	16.7	19	19.4	53	23.2
121-180	7	14.9	0	0.0	7	13.2	8	11.0	1	25.0	9	11.7	18	19.6	0	0.0	18	18.4	34	14.9
181-240	4	8.5	2	33.3	6	11.3	3	4.1	0	0.0	3	3.9	20	21.7	1	16.7	21	21.4	30	13.2
241-300	1	2.1	0	0.0	1	1.9	1	1.4	0	0.0	1	1.3	3	3.3	1	16.7	4	4.1	6	2.6
301-360	1	2.1	1	16.7	2	3.8	1	1.4	1	25.0	2	2.6	1	1.1	0	0.0	1	1.0	5	2.2
>360	1	2.1	1	16.7	2	3.8	5	6.8	2	50.0	7	9.1	4	4.3	1	16.7	5	5.1	14	6.1
<b>Total</b>	<b>47</b>	<b>100</b>	<b>6</b>	<b>100</b>	<b>53</b>	<b>100</b>	<b>73</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>77</b>	<b>100</b>	<b>92</b>	<b>100</b>	<b>6</b>	<b>100</b>	<b>98</b>	<b>100</b>	<b>228</b>	<b>100</b>

Source: Field Survey, 2014

The results, therefore, indicate that the places of origin of the majority of the migrants in these towns are the surrounding rural areas. Migration of the rural people to the nearest small towns has at least two paramount significances to the migrants themselves and families left behind. First and foremost, migrants do not immediately lose the various assets more specifically the social assets they developed in rural areas. In other words, the social assets they developed in rural areas might not be broken-down at least for some years so that this can be used as insurances in time of emergencies. Second, the migrants can also monitor their agricultural land and perennial crops very closely and sometimes contribute labour and advice to their families left behind when the need arises.

Migrants were also asked about the causes of their migration. As depicted in Table 4.4, the major causes of migration for the majority of the migrants were in search of better job (68%) followed by the need to expand their small businesses (20%) they started in rural areas as non-farm activities. Out of the total migrants, the reason of migration for nearly three fourths (74%), one half (48%) and three fourths (74%) in Wojel, Yetmen and Felege Birhan respectively was in search of a job. Of the migrants of all the study towns, the reason of migration over two thirds (68%) was to find a job probably due to the lack of agricultural land in rural areas emanating from the absence of land redistribution policy. The other causes of migration were the pulling factor marriage and pushing factor shocks they faced in the place of origin. Shocks include conflict, divorce, ill health and destruction of residential house through fire and death of a partner. The major causes of migration in the study towns are inconsistent with the findings of Tegegne (2011) where the major reason of migration to small towns is family related reasons.

**Table 4.4: Primary Causes of Migration in the Study Towns**

Primary Causes	Wojel		Yetmen		Felege Birhan		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
To find a job	41	77.4	37	48.1	77	78.6	155	68.0
To expand business	7	13.2	30	39.0	9	9.2	46	20.1
Shocks	2	3.8	4	5.2	9	9.2	15	6.6
Marriage	1	1.9	5	6.5	3	3.1	9	3.9
Not stated	2	3.8	1	1.3	0	0.0	3	1.3
<b>Total</b>	<b>53</b>	<b>100</b>	<b>77</b>	<b>100</b>	<b>98</b>	<b>100</b>	<b>228</b>	<b>100</b>

Source: Field Survey, 2014

Generally, migrants came to these towns to improve their livelihood through new jobs and expanding their small businesses in these towns and to escape from or reduce the vulnerabilities they faced in the place of origin. Migrants who aimed to expand their business had developed physical assets such as a house in the nearby town when they were in rural areas. According to the key informants, these people earned a living from both agriculture and non-farm activities in rural areas. They usually buy agricultural products from the rural periodic markets and sell to the collectors in these urban centers. They then moved to these towns after they accumulated wealth in order to collect and export agricultural products mainly to the national market.

#### **4.5.2. Socio-economic Characteristics**

Some socio-economic features such as religion, literacy and economic activities of the study towns are described in the following paragraphs. With regard to religion of the population of each study town, the data obtained from the respective administrative *kebele* offices revealed that Felege Birhan and Wojel were home of both Orthodox Christians and Muslims in varying proportions unlike Yetmen in which Orthodox Christians predominantly exist. Out of the total population in Felege Birhan, 86 per cent were Orthodox Christians and the remaining 14 per cent were Muslims in 2013. The overwhelming majorities of the population of this town were Orthodox Christians. Similarly, of the total population in Wojel, 63 per cent were Muslims and the remaining 37 per cent were Orthodox Christians in the same year. The vast majority of the population of this town was, therefore, Muslims unlike Felege Birhan. Yetmen is different from the other study towns in terms of the religion of the population of the town. Almost all the population of the town was Orthodox Christian. The town's population was, therefore, homogeneous in terms of religion.

Regarding the illiteracy status, the study found that illiteracy rates in all the study towns were high. As depicted in Table 4.5, those who did not read and write in the study towns constitute 28 per cent of the population, while the literates in these towns makeup 72 per cent of the population. The results in the table also showed that the percentage (37%) of females who did not read and write in the study towns was much higher than the percentage (17%) of their counterpart in this category. In contrast, the proportion (83%) of literate males in these towns was much larger than the proportion (63%) of literate females. Compared to the urban illiteracy

rates of Ethiopia and Amhara region, the illiteracy rate in these towns was larger than the national and regional urban illiteracy rates which accounted for 18 and 22 per cents respectively in 2014 (CSA, 2014). The disaggregated data by towns showed that 31, 28 and 25 per cents of the population in Felege Birhan, Wojel and Yetmen respectively did not read and write, whereas the remaining overwhelming majority of the population in all the study towns was literates. The illiteracy rate in the respective towns was also larger than the national and regional urban illiteracy rates though the illiteracy rate of Felege Birhan was much larger than the illiteracy rate of the other study towns and the national and regional illiteracy rates. Therefore, much work has to be done to reduce illiteracy rates in these towns through adult education programme. The implication to poverty is the low employability of persons in these towns.

**Table 4.5: Literacy Rates of the Study Towns Aged 10 Years and Above by Sex**

Town		Female		Male		Total	
		N	%	N	%	N	%
Wojel	Not Read & Write	43	32.6	21	21.2	64	27.7
	Literate	89	67.4	78	78.8	167	72.3
	<b>Total</b>	<b>132</b>	<b>100</b>	<b>99</b>	<b>100</b>	<b>231</b>	<b>100</b>
Yetmen	Not Read & Write	37	29.4	22	19.3	59	24.6
	Literate	89	70.6	92	80.7	181	75.4
	<b>Total</b>	<b>126</b>	<b>100</b>	<b>114</b>	<b>100</b>	<b>240</b>	<b>100</b>
Felege Birhan	Not Read & Write	104	43.7	27	14.3	131	30.7
	Literate	134	56.3	162	85.7	296	69.3
	<b>Total</b>	<b>238</b>	<b>100</b>	<b>189</b>	<b>100</b>	<b>427</b>	<b>100</b>
<b>All Towns</b>	Not Read & Write	184	37.1	70	17.4	254	28.3
	Literate	312	62.9	332	82.6	644	71.7
	<b>Total</b>	<b>496</b>	<b>100</b>	<b>402</b>	<b>100</b>	<b>898</b>	<b>100</b>

Source: Filed Survey, 2014

Concerning the economic activities, people in all the study towns engage in different economic activities. Some of the major economic activities of people in these towns are retail trade (collecting and exporting local agricultural products and importing manufactured goods from large towns and distributing to the local people), services (bars, restaurants and teashops), agriculture and handcrafts. Modern manufacturing industries are nonexistent in these towns. However, handcrafts such as weaving, pottery and carpentry are available in these towns. Some residents of these towns depend on these traditional manufacturing activities for a living. Since

each town is located in the South East *Woyna Dega Teff* livelihood zone of Amhara Region which is a surplus producing and good road access livelihood zone the economic activities of the majority of residents of these towns are directly and indirectly related to agriculture. Most of the residents of the study towns are undertaking their activities either in their compound or home (see Chapter 6). In other words, the majority of residents of each town do not separate their livelihood activities from their residence. Most specifically, those who engage in the selling of food and drinks do not separate their residence from their work place. As a result, the two major land uses such as commercial and residential uses are no separated from one another in these towns.

#### **4.6. Infrastructures and Services of the Study Towns**

According to Tegegne (2011), “the administrative status helps towns to get access to services and infrastructures.” Capital towns of different administrative levels of the government are enjoying better access to infrastructure and services than non-capital towns. In fact, the growth and development of urban areas in Ethiopia is mainly associated with their political administrative role they are playing. During the field survey, all the study towns were in the same level of infrastructural provision and development. Felege Birhan is not crossed by any main all weather road in contrast to the rest study towns. Felege Birhan is a pocket town which is found seven kilometers West of Addis Ababa-Motta-Bahir Dar all weather gravel road. Yetmen is crossed by Addis Ababa-Motta-Bahir Dar all weather gravel road. Similarly, Wojel is crossed by Addis Ababa-Debre Markos-Bahir Dar asphalted road. The town is also connected with Lega rural market center through secondary gravel road constructed by Swedish International Development Agency (SIDA). With regard to the inner roads, each study town has no constructed and planned inner roads usable for vehicles.

All the study towns have some other basic infrastructures such as education (one elementary and junior secondary school and one high school), health (one health center for each and private clinics), water supply (except in Wojel), 24 hours hydroelectric power supply, digital telecommunication and post agent. These infrastructures are, therefore, providing services in these towns beginning from their establishment. However, it was observed during the field survey that all the study towns had no street lights, drainage and solid waste management

system. Above all, these towns had no basic soft infrastructures like banks. These towns had neither government nor private banks and other financial institutions except the microfinance ones. Furthermore, these towns had no public amenities such as sport field, library, public toilet, waste disposal site, butchery and bus terminal and their associated services mainly resulting from the absence of municipality in Wojel and well-functioning municipalities in Yetmen and Felege Birhan. Tegegne (2011) also noted that most small towns are characterized by very rudimentary or unavailable municipal services. These reflect the expansion of each town without a guiding master plan and service providing institutions. However, all these infrastructures and services are better available with different capacities in administrative capitals of the respective *woreda* administration.

#### **4.7. Markets of the Study Towns**

All the study towns have market functions. The study towns are important market centers for people from rural areas where market places are delineated in all the study towns for the periodic market days in which exchange of goods and services can be made by sellers and buyers. The market places in all the study towns are organized by *teras* where the same items take a specific place in the periodic market days. Felege Birhan and Wojel have two periodic market days per week. The periodic market days of Felege Birhan are every Saturday and Tuesday, whereas Wednesday and Saturday in every week are the periodic market days of Wojel. Likewise, Tuesday, Thursday and Saturday in every week are the periodic market days of Yetmen. The rural *kebeles* found under the respective *woredas* where the study towns lay and some rural *kebeles* from the adjacent *woredas* are exchanging their commodities in these towns. The types of products and goods widely exchanging in the markets of Felege Birhan, Wojel and Yetmen are the same except the differences in terms of quantity of the agricultural products resulting from the quantity of production of some agricultural products in the surrounding rural areas of each town.

During the field survey, it was observed that both local and non-local agricultural products such as cereals (*teff*, wheat, barley, maize, vetch, sorghum, etc); pulses (chickpeas, bean, peas, lentils, etc); vegetables and fruits (onion, tomato, green pepper, pepper or chili, garlic, banana, cabbage, carrot, etc); oil seeds (such as sesame seed, linseed, niger seed and Ethiopian kale seed);

potatoes, coffee, sugar cane and spices of different kind; food and drinks; animal products (such as butter, cheese, etc); skins and hides; poultry and poultry products like egg; handicrafts (such as clay products, basket made of bamboo, traditional clothes, traditional metal tools and wood products like bed); manufactured goods (such as clothes, shoes, household furniture, detergents, sugar, salt, etc); and firewood and charcoal are widely exchanging in the market days in all the study towns (see Figure 4.3).



**Figure 4.3: Some Items in the Market Places of the Study Towns**

From the local agricultural products, *teff* is widely exchanging in the periodic market days of Wojel and Yetmen, whereas barely, potatoes, onion, peas, beans and wheat are being widely exchanged in the periodic market days of Felege Birhan. This difference is mainly because of the difference in cereal specialization where *teff* is being largely produced in the surrounding rural areas of Wojel and Yetmen and barely, potatoes, onion, peas, beans and wheat are being largely produced in the surrounding rural areas of Felege Birhan more specifically in *Dega* areas. Wojel and Yetmen had no periodic livestock market days, whereas Felege Birhan has periodic livestock market taking place in every Saturday. Various types of livestock such as donkeys, oxen, cows, sheep, goats, horses, heifers, etc are exchanging in the market. The possible reason for the absence of livestock market in Wojel and Yetmen can be its existence in Yetnora which is found very close to Wojel and Yetmen.

### Summary

All the study towns are found within in the *Woyna Dega teff* livelihood zone of East Gojjam administrative zone. All towns are small in size. The population size of these towns is below 10, 000 and these towns are growing by different rates. The proportion of females in all the study

towns were over half of their total population. Similarly, the proportion of migrants in these towns were also close to half of the total population in Wojel and Felege Birhan and over half of the population in Yetmen indicating that migration is one of the largest contributor to the growth of population in these towns. The level of illiteracy in these towns is higher than the national urban average. These towns have the same level of infrastructure development and service provision though Yetmen and Felege Birhan have some rudimentary municipality services. The existing infrastructures in these towns are established in different times largely through the participation of the local people by the contribution of labour and money. These towns are important market centers for rural people where different agricultural products and manufactured goods are being exchanged through the existing periodic market days.

## **CHAPTER FIVE**

### **MAGNITUDE AND PROFILES OF POVERTY IN THE STUDY TOWNS**

#### **Introduction**

The purpose of this chapter is to determine the magnitude of poverty and explore poverty profiles in the study areas. The chapter is organized into three sections. The first section presents the extent of consumption poverty using three indices of the traditional method of measurement and the consumption poverty profiles of the households using some demographic and social characteristics. Section two explains the magnitude of multidimensional poverty and the multidimensional poverty profiles of the households using the same demographic and social characteristics. The contribution of indicators and dimensions to the Multidimensional Poverty Index (MPI) are also presented in this section. The last section deals with the relationships between consumption and multidimensional poverty.

#### **5.1. Consumption Poverty**

##### **5.1. 1. The Poverty Line**

The most difficult task in poverty measurement is setting the poverty line which is the sum of food and non-food poverty lines. In spite of the challenges of measurement, the poverty line for the study towns was set. Therefore, the food poverty line per adult equivalent per day in the study towns was found to be 18.75 Ethiopian Birr (see Appendix A3). The non-food poverty line which is the food share per adult equivalent of the poorest 25 per cent of the households was 12.15 Birr per day (see Appendix A4). The aggregate poverty line per adult equivalent per day in the study towns was found to be 30.90 Birr, 927 Birr per month. The total poverty line of the study towns could be higher than this if the data for this study were not collected during the harvest and post harvest seasons which are relatively the cheapest seasons of all seasons for a living resulting from the low price of food items and a relatively lower cost of living in the study towns.

The level of this poverty line was three times higher than the level of the national poverty line of Ethiopia which was 3, 781 Birr per year, 315 Birr per month or 10.5 Birr per day per adult person in 2011 (CSA, 2012). Inflation of food prices and high consumption of meat and other

high price food items (because data were collected starting from a week after Easter which is different from CSA's consumption basket in terms of type, quality and quantity) partly attributed to this difference. As compared with the international poverty line of \$1.25 a day which is still in use, the constructed poverty line for the study towns is greater by nearly seven Birr using the average exchange rate of a US dollar for the month of February, 2014 (19.20 Birr). This indicates that the international poverty line is not the minimum requirement for a living in the study areas and consequently the incidence of extreme poverty in these towns can be underestimated if one uses this line to measure the extreme poverty. In other words, a 1.25 US Dollar could not buy the minimum requirement to lead a normal life in the study areas. The difference between the study towns and the international poverty lines is partly due to the time these poverty lines were set. The international poverty line was constructed by the World Bank based on the 2005 international food prices adjusted for Purchasing Power Parity (PPP).

A household in the study towns was deemed poor if the per adult equivalent consumption expenditure per day was less than 30.90 Birr or considered to be non-poor if the per adult equivalent expenditure was greater than this amount of Birr per day. Accordingly, all the poor and the non-poor households of the study towns were identified based on this poverty line. After the identification of the poor and the non-poor households in all the study towns, all the three indices of consumption poverty of the study towns were computed using the Foster, Greer and Thorbecke method and these indices are described and explained in the following sub-section.

### **5.1.2. The Incidence, Depth and Severity of Consumption Poverty**

The results of the three indices of consumption poverty are shown in Table 5.1. Regarding the headcount ratio, the study found that 37.5 per cent of the households in the study towns were poor. There is a 95 per cent probability that the interval 0.322-0.428 constructed using 0.027 standard error of the poverty proportion contains the poverty rate. In other words, the poverty rate in the study towns was 37.5 per cent, plus or minus 5.3 percentage points. As compared with the 2010/2011 incidence of poverty of the urban centers of the country and Amhara Region which accounted for 26 and 29 per cents respectively (MoFED, 2013), the incidence of poverty in the study towns was higher. The percentage point differences of the incidence of poverty of the study towns from the incidence of poverty of the national and regional urban areas were 12

and 9 respectively. The incidence of poverty was higher in Felege Birhan (39%) followed by Wojel (37%) and Yetmen (34%). However, the difference among the incidences of consumption poverty of the study towns was not statistically significant as the Chi-Square (2) = 0.35,  $P > 0.05$  test shows. The percentage point differences from the national figure accounted for 13 in Felege Birhan, 11 in Wojel and 8 in Yetmen whereas the percentage point differences from the Amhara Region urban poverty figure were 10, 8 and 5 per cents respectively. The high incidence of poverty in these towns might stem from their context as explained in the statement of the problem and less market demand since the majority of households identified market problem for their businesses as a challenge. The main determinants of poverty of the households in these towns will be analysed using logistic regression in chapter eight.

**Table 5.1: Indices of the Consumption Poverty**

<b>Poverty Index</b>	<b>Wojel</b>	<b>Yetmen</b>	<b>Felege Birhan</b>	<b>Total</b>
Headcount Index ( $P_0$ )	0.374	0.344	0.394	<b>0.375</b>
Poverty Gap Index ( $P_1$ )	0.087	0.106	0.126	<b>0.109</b>
Poverty Severity Index ( $P_2$ )	0.027	0.042	0.049	<b>0.041</b>
$\chi^2$				<b>0.35*</b>

Source: Calculated from field survey data, 2014

\*  $P > 0.05$

Concerning the poverty gap ratio, it was found to be 11 per cent in the study towns. This implies that on the average 11 per cent of Birr (the poverty line) was needed to lift the poor adult person out of poverty in the study towns. This poverty gap ratio figure was higher than the national and regional urban poverty gaps which accounted for 7.3 and 8.0 per cents respectively in 2010/11 (MoFED, 2013). There were, therefore, 3.7 and 3 percentage point differences of poverty gap ratio in the study towns from the national and regional figures respectively. The disaggregated data by towns show the high poverty gap ratio in Felege Birhan (12.6%) followed by Yetmen (10.6%) and Wojel (8.7%). These implies that on the average, each poor adult person of the poor households required 12.6, 10.6 and 8.7 per cents of Birr (the poverty line) in Felege Birhan, Yetmen and Wojel respectively to lift the poor above the poverty line or at least at the level of the poverty line. The percentage point differences for each study town were 5.3, 3.3 and 1.4 respectively from the national urban poverty gap ratio and 4.6, 2.6 and 0.7 respectively from the regional urban poverty gap ratio which means that the poverty gap is higher in these towns than the national and regional urban aggregate poverty gap. The poverty gap ratio was higher in

Felege Birhan followed by Yetmen indicating the need for enormous resources to raise the poor adult person above the poverty line in this town than the other study towns. These findings show that poverty was deep rooted in the study towns demanding enormous resources to tackle it.

As to the poverty severity ratio, it was found to be 4.1 per cent which gave a 1.2 and 0.9 percentage point differences from the national (2.9%) and regional (3.2%) urban squared poverty gaps respectively of the 2011(MoFED, 2013). This means that the inequality between the poor in the study towns was higher than the inequality between the poor in the country and region. There were also striking differences in poverty severity among the three study towns. The poverty severity ratio accounted for 4.9, 4.2 and 2.7 per cents in Felege Birhan, Yetmen and Wojel respectively. These results show that poverty severity was high in Felege Birhan followed by Yetmen indicating the existence of high inequality between the poor in Felege Birhan followed by Yetmen. The figures on poverty severity in Felege Birhan and Yetmen were higher than the national and regional urban poverty severity of the 2010/11 by 2 and 1.3 percentage points respectively from the national poverty severity index and 1.7 and 1.0 percentage points respectively from the regional poverty severity index. In contrast, inequality between the poor was relatively low in Wojel which was less than by 0.5 and 0.2 percentage points from the national and regional urban squared poverty gaps respectively.

The incidence of extreme poverty in all the study towns was generally higher than the incidence of urban extreme poverty in the country and region. Besides, the other two indices indicate the need for huge resources to lift the poor above the poverty line in the study towns. Even though the incidence of poverty was higher than the other study towns, inequality was not significantly high in Wojel. High incidence of poverty does not, therefore, always mean that poverty gap and inequality/severity are high. For example, the incidence of poverty in Yetmen was lower than Wojel, however, the poverty gap and severity were larger in Yetmen than Wojel. Therefore, all the three indices show that consumption poverty in these towns was severe and deep rooted affecting significant proportion of households though the situation in Felege Birhan was more severe and deep rooted than the other study towns. Using the latter two indices poverty was more deep rooted in Felege Birhan than the other study towns. These findings show that even though Ethiopia reduces extreme poverty substantially through various programmes and strategies as explained in statement of the problem section of the first chapter, the reduction of poverty was

not equal across space. Consequently, spatial poverty traps are now becomes a major problem in the country. Consumption poverty was high in these towns because of lack of the trickling down of development to these urban settlements in the country. As the group discussants reported that those households who accumulated wealth in these towns are not investing in these towns. They are migrating to large towns especially to Addis Ababa. Thus employment creation opportunities by the wealthiest households in these towns are scarce. These results might also show the absence of spatially disaggregated poverty reduction programmes and strategies in the country depending on the nature of poverty of towns in different class-size category and experience.

### **5.1.3. Consumption Poverty Profiles**

Describing the poverty profiles is useful since the determinants of poverty which will be identified through logistic regression are from these profiles. The poverty profiles of households in this section are on the bases of sex, age, migration and marital status of the household heads as well as size of the households.

#### **5.1.3.1. Consumption Poverty by Sex and Age of Household Heads**

The data on the consumption poverty profiles by sex and age of the household heads are illustrated in Table 5.2. As to sex of the household heads, about 70 per cent were males and the remaining 30 per cent were females in the study towns. These results were inconsistent with the results of the urban areas of Ethiopia which accounted for 63 per cent males and 37 per cent females and Amhara Region which accounted for 57 per cent males and 44 per cent females in 2012 (CSA, 2012). The proportion of female-headed households in these towns was smaller than the proportion of female-headed households in urban areas of Ethiopia and Amhara Region. A possible explanation to this is the culture and norms of the society where living without a partner above the age of 18 years in these towns have no social acceptance and even people in these towns do not consider the unmarried person socially responsible as the group discussants pointed out. The group discussants further stated that elders in these towns are playing a significant role in keeping marriages alive. Comparing the results of the three towns, male-headed households in Wojel and Yetmen (74% and 73% respectively) were higher than male-headed households in Felege Birhan (66%). In other words, the proportion of female-headed households in Felege Birhan was higher than the proportion of female-headed households in Wojel and Yetmen.

**Table 5.2: Consumption Poverty by Sex and Age of the Household Heads**

Sex	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Female	6	17.6	18	31.6	24	26.4	9	29.0	15	25.4	24	26.7	24	42.9	24	27.9	48	33.8	39	32.2	57	28.2	96	29.7
Male	28	82.4	39	68.4	67	73.6	22	71.0	44	74.6	66	73.3	32	57.1	62	72.1	94	66.2	82	67.8	145	71.8	227	70.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
X <sup>2</sup>																								<b>0.58<sup>a</sup></b>
Age in Years																								
15-19	0	0.0	0	0.0	0	0.0	1	3.2	0	0.0	1	1.1	0	0.0	0	0.0	0	0.0	1	0.8	0	0.0	1	0.3
20-29	1	2.9	18	31.6	19	20.9	4	12.9	8	13.6	12	13.3	10	17.9	20	23.3	30	21.1	15	12.4	46	22.8	61	18.9
30-39	10	29.4	12	21.1	22	24.2	10	32.3	18	30.5	28	31.1	18	32.1	38	44.2	56	39.4	38	31.4	68	33.7	106	32.8
40-49	9	26.5	12	21.1	21	23.1	7	22.6	15	25.4	22	24.5	7	12.5	18	20.9	25	17.6	23	19.0	45	22.3	68	21.1
50-59	5	14.7	10	17.5	15	16.5	6	19.4	7	11.9	13	14.4	12	21.4	8	9.3	20	14.1	23	19.0	25	12.4	48	14.9
60-64	4	11.8	3	5.3	7	7.7	1	3.2	4	6.8	5	5.6	3	5.4	2	2.3	5	3.5	8	6.6	9	4.5	17	5.3
> 64	5	14.7	2	3.5	7	7.7	2	6.5	7	11.9	9	10.0	6	10.7	0	0.0	6	4.2	13	10.7	9	4.5	22	6.8
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
Mean age	<b>47</b>		<b>39</b>		<b>42</b>		<b>42</b>		<b>44</b>		<b>43</b>		<b>43</b>		<b>36</b>		<b>39</b>		<b>43.8</b>		<b>39.1</b>		<b>t = 2.88<sup>**</sup></b>	
X <sup>2</sup>																								<b>13.79<sup>***</sup></b>

Source: Field Survey, 2014

\* P > 0.05, \*\* P = 0.01 & \*\*\* P = 0.03

Concerning the poverty profiles by sex of the household heads, from the total consumption poor households (from this point on in this subsection poor and non-poor means the consumption poor and non-poor respectively unless and otherwise stated), about 68 per cent were male-headed and some 32 per cent were female-headed. Likewise, approximately 72 per cent of the consumption non-poor households were male-headed while 28 per cent were female-headed. These results show that the female-headed consumption poor households were higher than the female-headed consumption non-poor households in the study towns. Conversely, the male-headed consumption non-poor households were higher than the male-headed consumption poor households. However, this difference is not statistically significant as the Pearson's Chi-Square (1) = 0.58, P = 0.45 test shows. Data on individual study town show that out of the total poor households, 82 per cent in Wojel, 71 per cent in Yetmen and 57 per cent in Felege Birhan were male-headed which was larger than the male-headed non-poor households except in Felege Birhan accounting for 68 per cent in Wojel and 75 per cent in Yetmen. Furthermore, these results in Table 5.2 indicate that the female-headed poor households were higher than the female-headed non-poor households in the study towns except in Wojel. These results show that female-headed households are more vulnerable to poverty than male-headed households in the study towns.

The data on the age of the household heads are summarized in Table 5.2 above. Heads of nearly a third (33%) of the surveyed households was aged from 30 to 39 years followed by 40 to 49 years (21%). The overwhelming majority (93%) of the household heads were from the productive age group (16-64 years), while the remaining 7 per cent were from the non-productive age groups. The average age of the household heads of the study towns was found to be 41.1 years. There were some differences in the percentage of households headed by different age groups as well as the average ages across the study towns. The highest proportion of the household heads was aged from 30 to 39 years in Wojel, Yetmen and Felege Birhan accounting for 24, 31 and 39 per cents respectively. This was followed by 40 to 49 years of age in Wojel (23%) and Yetmen (24%) and age of the second highest percentage (21) of the household heads in Felege Birhan was from 20 to 29 years. The average age of the household heads was found to be 42, 43 and 39 years in Wojel, Yetmen and Felege Birhan respectively.

With regard to the poverty profiles in terms of age, the percentage of the poor households was higher than the non-poor households from the age group of 40 to 49 years above whereas the percentage of the non-poor households was higher than the poor households headed by below this age group except the age group of 15-19 years. These indicate the existence of association between ages of household heads and poverty in the study towns (Table 5.2). The Pearson's Chi-Square (6) = 13.79,  $P = 0.03$  test shows the existence of statistically significant association between poverty and age of the household heads. The association was moderate with Cramer's Value of 0.21 out of the maximum of 1,  $P = 0.03$ . These imply that households headed by old ages are more likely to be poor than households headed by the young ages in the study towns. The average ages of heads of the poor and the non-poor households were 44 (1.33 standard error) and 39 (0.87 standard error) years respectively. Heads of the non-poor households were 5 years younger than heads of the poor households. The difference was statistically significant  $t(220) = 2.88$  at  $P=0.01$ , equal variance not assumed. The same is true in each study town. As can be seen in Table 5.2, the percentage of the poor households was 10 per cent higher than the non-poor households in the age group of 20-29 years which was higher than the differences of the percentages of the poor and the non-poor households headed by the other age groups. This result shows the high incidence of poverty in this age group. The possible explanation to this is the absence of agricultural land distribution and redistribution policy in Amhara Region after the

1996 land redistribution programme. The migrants pointed out that one of the reasons for migration was lack of agricultural land in rural areas so that households in this age group did not accumulate wealth in rural areas and currently land is not the source of income for these households. The other possible explanation to this is lack of employment creation for the youths since many of the businesses in these towns are run by family members.

### **5.1.3.2. Consumption Poverty by Size of Households**

As depicted in Table 5.3, the size of the largest proportion (23%) of the surveyed households was two followed by three and four which accounted for 20 and 19 per cents respectively. The size of about 87 per cent of the households was five and less than five. The percentage of households of different size sharply declines from four up to nine. The average household size was found to be 3.5 which was lower than the average figures of the national urban household size (3.6) and greater than the average urban household size of the Amhara Region (3.3) on the basis of the national urban employment unemployment survey result (CSA, 2014). An examination of Table 5.3 also shows that the proportion of households of different size differs across the study towns. The largest (3.8) and the smallest (3.2) average household size were observed in Felege Birhan and Wojel respectively. The large average household size in Felege Birhan was the lack of family planning practices in this town. The average household size of the study households was 3.4 in Yetmen.

With respect to the poverty profiles by the household size, generally the percentage of the poor households was higher than the percentage of the non-poor households whose size was three and above (Table 5.3). Conversely, the percentage of the poor households was smaller than the non-poor households of size one and two. The difference between the percentages of the poor and the non-poor households was high in Wojel followed by Felege Birhan. There was a statistically significant association between the household size and poverty as Pearson's Chi-Square (8) = 20.14,  $P = 0.01$  shows. The degree of association was moderate with Cramer's V of 0.25 out of the maximum 1,  $P = 0.01$ . The results indicate that large household size is more likely to become poor than small household size in the study towns. The average household sizes of the poor and the non-poor households were 3.8 (SE=0.17) and 3.3 (SE=0.13) respectively. The average household size of the poor households was higher than the non-poor households. The  $t(321) =$

2.58,  $P=0.01$  shows statistically significant differences. The result of individual study town shows a bit different picture from this except in Wojel. For example, the percentage of the poor households of size two (23%) was a bit higher than the non-poor households (15%) in Yetmen while the percentage of the poor households of size three (14%) was a bit lower than the non-poor households (15%) in Felege Birhan. These results of the study, therefore, indicate that small size is not a major factor for the non-poor households in the study towns. Instead, small household size might not have the availability of labour for the various activities the household is undertaking so that this household may not generate sufficient amount of income for their needs. However, the percentage of the poor households was higher than the non-poor households in all the study towns starting from the size of seven up to nine.

**Table 5.3: Consumption Poverty by Size of the Households**

HH Size	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	1	2.9	11	19.3	12	13.2	2	6.5	10	16.9	12	13.3	2	3.6	12	14.0	14	9.9	5	4.1	33	16.3	38	11.8
2	6	17.6	16	28.1	22	24.2	7	22.6	9	15.3	16	17.8	14	25.0	22	25.6	36	25.4	27	22.3	47	23.3	74	22.9
3	9	26.5	11	19.3	20	22.0	9	29.0	15	25.4	24	26.7	8	14.3	13	15.1	21	14.8	26	21.5	39	19.3	65	20.1
4	11	32.4	11	19.3	22	24.2	6	19.4	12	20.3	18	20.0	12	21.4	9	10.5	21	14.8	29	24.0	32	15.8	61	18.9
5	2	5.9	6	10.5	8	8.8	3	9.7	7	11.9	10	11.1	11	19.6	13	15.1	24	16.9	16	13.2	26	12.9	42	13.0
6	0	0.0	1	1.8	1	1.1	0	0.0	5	8.5	5	5.6	3	5.4	8	9.3	11	7.7	3	2.5	14	6.9	17	5.3
7	4	11.8	1	1.8	5	5.5	1	3.2	1	1.7	2	2.2	3	5.4	5	5.8	8	5.6	8	6.6	7	3.5	15	4.6
8	1	2.9	0	0.0	1	1.1	3	9.7	0	0.0	3	3.3	1	1.8	3	3.5	4	2.8	5	4.1	3	1.5	8	2.5
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	3.6	1	1.2	3	2.1	2	1.7	1	0.5	3	0.9
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Mean</b>	<b>3.8</b>		<b>2.9</b>				<b>3.7</b>		<b>3.3</b>				<b>4.0</b>		<b>3.6</b>				<b>3.84</b>		<b>3.31</b>		<b>t =2.58*</b>	
<b>X<sup>2</sup></b>																								<b>20.14*</b>

Source: Field Survey, 2014

\*  $P = 0.01$  & \*\*  $P > 0.05$

### 5.1.3.3. Consumption Poverty by Migration and Marital Status of Heads

The poverty profiles in terms of the place of birth and marital status of the household heads are provided in Table 5.4 below. Concerning the place of birth of heads of households, about 70 per cent of the household heads were migrants and the remaining 30 per cent were non-migrants. As described in chapter four, the place of birth of around 65 per cent of the household heads was rural areas. There were striking differences in the place of birth of the household heads among the study towns. The largest proportion of the migrants was reported in Yetmen (85%) followed

by Felege Birhan (68%) and Wojel (58%). As described in the previous chapter, the place of origin of four fifths (80%) and nearly two thirds (63%) and slightly over one half (52%) of heads of the households in Yetmen, Felege Birhan and Wojel respectively was rural areas. There was, therefore, a huge difference among the percentages of migrants from the rural areas in these towns. The figure was higher in Yetmen followed by Felege Birhan and Wojel. On the contrary, the household heads migrated from the other urban areas was less than ten per cent in Wojel and five per cent in Yetmen and Felege Birhan indicating that these urban centers are important destinations of migrants from the rural areas than urban areas.

As far as the poverty profiles by the place of birth of the household heads are concerned, the migrant-headed poor households (65%) were smaller than the migrant-headed non-poor households (72%). In contrast, the non-migrant-headed poor households (35%) were higher than the non-migrant-headed non-poor households (28%). These results show that households headed by non-migrants are more likely to be poor than households headed by migrants in the study towns. This might be partly attributed by land ownership of the households (see Chapter 6). However, the difference between the two is not statistically significant as Pearson's Chi-Square (1) = 1.501,  $P > 0.05$  shows. The comparison between the percentage of the poor and the non-poor households headed by migrants and non-migrants of each study town also show that the non-migrant-headed poor households were higher than the non-migrant-headed non-poor households whereas the percentage of the migrant-headed poor households were lower than the migrant-headed non-poor households. For instance, the proportions (53% in Wojel, 84% in Yetmen and 63% in Felege Birhan) of the consumption poor households were headed by migrants which were less than 61, 85 and 70 per cents of the consumption non-poor households headed by migrants in Wojel, Yetmen and Felege Birhan respectively.

As to the marital status of the household heads, the present study identified four types of marital status of the household heads. These were unmarried, married, divorced and widowed (Table 5.4). Out of the total heads of the households, the large majority (66%) was married followed by divorced (21%). Households headed by the unmarried and widowed together constituted only small proportion (13%) of the surveyed households. There were no striking differences in terms of the proportions of the household heads in terms of marital status among the study towns (see the results in Table 5.4).

**Table 5.4: Consumption Poverty by Migration and Marital Status of the Household Heads**

Migration Status	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Migrant	18	52.9	35	61.4	53	58.2	26	83.9	50	84.7	76	84.4	35	62.5	60	69.8	95	66.9	79	65.3	145	71.8	224	69.3
Non-Migrant	16	47.1	22	38.6	38	41.8	5	16.1	9	15.3	14	15.6	21	37.5	26	30.2	47	33.1	42	34.7	57	28.2	99	30.7
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
X <sup>2</sup>																								1.5*
<b>Marital Status</b>																								
Unmarried	0	0.0	3	5.3	3	3.3	1	3.2	4	6.8	5	5.6	2	3.6	3	3.5	5	3.5	3	2.5	10	5.0	13	4.0
Married	28	82.4	31	54.4	59	64.8	21	67.7	38	64.4	59	65.6	33	58.9	61	70.9	94	66.2	82	67.8	130	64.4	212	65.6
Divorced	4	11.8	14	24.6	18	19.8	6	19.4	13	22.0	19	21.1	12	21.4	20	23.3	32	35.6	22	18.2	47	23.3	69	21.4
Widowed	2	5.9	9	15.8	11	12.1	3	9.7	4	6.8	7	7.8	9	16.1	2	2.3	11	7.7	14	11.6	15	7.4	29	9.0
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
X <sup>2</sup>																								3.65*

Source: Field Survey, 2014

\* P > 0.05

Looking into the poverty profiles by the marital status of the household heads, the consumption non-poor households headed by the unmarried and divorced were higher than the poor households. Conversely, the consumption poor households headed by married and widowed were higher than the non-poor households. However, the association between the consumption poverty and marital status of the household heads was not statistically significant as Pearson's Chi-Square (3) = 3.646, P = 0.30 test shows. The disaggregated data by the study towns also show that some (82% in Wojel, 68% in Yetmen and 59% in Felege Birhan) heads of the consumption poor households were married which was larger than the proportions (54% in Wojel, 64% in Yetmen and 71% in Felege Birhan) of the married heads of the non-poor households except in Felege Birhan. The largest difference was found in Wojel followed by Yetmen which accounted for 28 and 4 percentage points respectively. In contrast, the consumption poor households headed by unmarried were smaller than the consumption non-poor households in all the study towns except in Felege Birhan. The percentage of the consumption poor households headed by divorced was lower than the percentage of the non-poor households. In contrast, the percentage of the consumption poor households headed by the widowed was higher than the consumption non-poor households except in Wojel. These findings of individual study town also show that households headed by married have high probability of being non-poor than households headed by others.

## **5.2. Multidimensional Poverty**

### **5.2.1. Dimensions, Indicators and Cutoffs**

Multidimensional poverty index ( $M_o$ ) is used as an analytical tool for multidimensional poverty. The method is helpful in adding knowledge in the literature of poverty by identifying the multiple deprivations of the poor that batter their life at the same time and the contribution of each indicator to overall poverty of the population (Alkire & Santos, 2010c). The method is also preferable for poverty analysis since it helps to identify the poor who are deprived in multiple indicators at the same time. The  $M_o$  can also help policy makers to identify the poorest households and groups and the different deprivations that they face and improve poverty reduction practices. To reap all of these benefits, the method requires key and appropriate decisions on the dimensions and indicators choice and definition, indicator deprivation cutoffs, dimensions and indicators weights and the poverty cutoff even though the method is not rigid in the selection of dimensions, indicators and cutoff points and can be applicable in different contexts (Alkire & Santos, 2013).  $M_o$  is flexible and can be adjusted to incorporate many alternative dimensions, indicators and cutoff points (Ibid).

A combination of methods was used to select dimensions and indicators for this study. These were the public consensus such as the MDGs selected by UNDP and various policies of Ethiopia (for example, the provision of improved oven to reduce the effect of smoke on health), normative assumptions and empirical analysis of various experts using sustainable framework or various conceptual and empirical literatures on poverty. The present study, therefore, incorporated all the dimensions and indicators used to construct MPI for the UNDP's human development report as Alkire and Santos (2013) argued these dimensions are vitally important as they have intrinsic and instrumental value. For example, health and education are important in themselves as well as instrumental to other vital outcomes and the living standard indicators are identified as important in MDGs, participatory exercises and human right groups (Alkire & Santos, 2013). According to Alkire & Santos (2013), there was also agreement in the inclusion of these three dimensions by many researchers for the UNDP's annual human development report. The other reason for the selection of these dimensions was interpretability because of extensive literature in them and the validity, strengths and limitations of them are well documented (Alkire & Santos, 2013).

The most important steps in measuring multidimensional poverty are identification and aggregation and of course identification is most important than aggregation. The two broad identification methods known in multidimensional poverty are marginal and joint (Alkire & Foster, 2007; Santos & Ura, 2008). The marginal method requires only the identification of dimension deprivation not the multidimensional poor and data may not come from the same source and the reference population may not be necessarily the same and joint (simultaneous) method of measures of multidimensional poverty require the identification of the deprivation of each dimensions and across dimensions to identify multidimensional poor unlike the former one. As Alkire (2011) explained the joint method requires data to be drawn from the same source or same household survey, the same reference population and must employ the same unit of analysis. This method may follow either union approach which require deprivation in at least one dimension or intersection approach which require deprivation in all dimensions to dichotomize households into multidimensional poor and non-poor (Santos & Ura, 2008; Alkire, 2011). These two are extreme methods and either of the two approaches aggregate the score of dimensional deprivations to identify the poor (Alkire, 2011).

Drawn from the limitations of the union and intersection approaches the Alkire Foster approach aggregates across dimensions to identify the poor and adopted a dual-cutoff which require a weighted some of indicators named as an intermediate approach (Alkire & Foster, 2007; Alkire, 2011). Households are deprived in K number of dimensions out of the total “D” number of dimensions (Santos & Ura, 2008; Alkire & Foster, 2009). The intersection approach reduces and the union approach increases the number of poor as the dimensions considered increases. The union approach identifies almost everyone as poor in every country for example above 98% in Ethiopia and the intersection approach identifies none as poor which is zero in Ethiopia (Alkire, 2011). In other words, the intersection approach underestimates and the union approach overestimates poverty. Weights are not required in these methods or only indicators, dimensions and cutoffs are used regardless of the weight of indicators and dimensions. But weights are required in the intermediary method which is used by UNDP for HDR since 2010 both in the identification and aggregation stage of multidimensionally poor (Alkire, 2011). Thus, the intermediate method is by far better than the union and intersection methods because it considers indicators weights in the identification and aggregation stage of multidimensional poverty. The

weights range from 0 to 1 and the sum of the weights of each dimension is equal to 1 in AF methodology.

Since the AF method is used in this study, the indicators and dimensions weights and poverty cutoff were determined to identify the acute multidimensional poor in the study areas. The decisions on indicator deprivation cutoffs, weights and the poverty cutoff for MPI were based on normative arguments. The deprivation cutoffs for all of the indicators except the last two were on the bases of the consensus of MDGs. The poverty cutoff which captures the acutely poor, namely those who do not meet minimum internationally agreed standards in multiple indicators of basic functionings simultaneously taken for this study is also the UNDP standard which is 33 per cent of the weight of all the selected indicators. This is because taking the existing standard is useful to compare and integrate the findings of this study to the existing empirical literature. When all ten indicators present, this implies that a person must be deprived in at least two indicators from education or health or six (living standard) indicators or one from education or health and three living standard indicators in order to be identified as multidimensionally poor (Alkire & Santos, 2013). According to Alkire and Santos (2011), “A household is identified as poor if it is deprived in at least one third of the weighted indicators. Those identified as ‘Vulnerable to Poverty’ are deprived in 20% – 33.33% of weighted indicators and those identified as in ‘Severe Poverty’ are deprived in 50% or more of the dimensions”.

The dimensions selected for the present study were health, education and living standards. The weights of the indicators given for this study were equal and the sum of the indicators was the weight of the dimension which was one third in this case. This is because having roughly equal weights across dimensions eases the interpretation of the index. The indicators are some of the indicators selected by UNDP and some new indicators replacing child nutrition by daily calorie intake from the health indicators, number of persons per room or room availability and some modified indicators such as ventilation of cooking smoke or improved oven. The new indicators added in health dimension for this study were disability or morbidity (serious illness and inability to receive medical treatment) together with child mortality. All dimensions were given equal weight and each indicator of the dimension shared the dimension’s weight equally. Thus, the weight of each dimension was  $1/3$  and the weight of each indicator in health and education was  $1/6$  while the weight of each living standard indicator for the present study was  $1/21$ . Relatively

the indicators of the living standard dimension were given less weight than the indicators of health and education. Thus, the contribution of the indicators of health and education was high resulting from their weights. The dimensions and indicators of the dimensions as well as their cutoff points are discussed as follows.

### **A) Health**

Two health indicators were selected. These were daily calorie intake or consumption and child mortality/disability and morbidity. Consumption indicates the availability of adequate calorie per capita for a normal life. A household was deprived if the daily calorie consumption per adult was below the daily minimum recommended level of 2,200 Calorie and non-deprived otherwise. Empirical evidences showed that inadequate calorie has significant life-long effects on cognitive and physical development of a child and adults or children who are malnourished are also susceptible to other health disorders; they are less able to learn and concentrate and may not perform well at work. The second health indicator was child mortality or any household member serious sickness which indicates a total functioning failure and affects the whole family. A household was considered as deprived if a child was dead in the household in the past five years or any household member was seriously ill during the field survey. With regard to morbidity, if anyone in the household was seriously ill and receive no medical treatment and if received not cured the household was considered as deprived in this indicator. Illness removes individuals from the labour pool and drains the money or household resources for treatment. It affects the economic stability of a household.

### **B) Education**

This study was based on two indicators in this dimension: completed years of schooling of household members which acts as a proxy for the level of knowledge and understanding of household members and school attendance of children. Years of schooling provides a rough proxy of basic educational skills: literacy, numeracy and understanding of information (Alkire & Santos, 2013). With regard to the indicator deprivation cutoff, a household was considered as deprived if any one of the household members did not complete grade 6 and not deprived otherwise. School attendance indicates whether school age children are exposed to the learning

environment. Thus, a household was deprived if one of the school age children (age 7 and above) was not attending school in the time of survey and not deprived if all the school age children were attending their schooling.

### **C) Standards of Living**

Seven indicators for standards of living were considered. It included three standard MDGs indicators that were related to health and living standards which particularly affect women: access to clean drinking water, access to improved sanitation and the use of clean cooking fuel. Other indicators which indicate the quality of housing were access to electricity, flooring material and room availability. The other indicator in this dimension was the ownership of asset: radio, television, telephone and house. The deprivation cutoffs for all of the indicators except the last two were on the basis of the consensus of MDGs as reported by Alkire and Santos (2013). The living standard indicators were selected from infrastructure, housing and others. These include:

**Water:** A household had access to clean drinking water if the water source was any of the following types: piped water, public tap, borehole or pump, protected well, protected spring or rainwater, and it was within a distance of 30 minutes' walk (roundtrip). If it fails to satisfy these conditions, then the household was considered deprived in access to drinking water.

**Electricity:** A household was considered to be deprived in electricity if it did not have access to electricity or if the light was rented from private renters since in practice the tenant didn't use more than lighting in the household resulting from the restrictions set by the land lord.

**Improved sanitation:** A household was considered to have access to improved sanitation if the household had some type of flush toilet or latrine, or ventilated improved pit or composting toilet, provided that they were not shared. If the household did not satisfy these conditions, then it was considered deprived in sanitation.

**Flooring:** Flooring material made of dirt, sand or dung counts as deprivation in flooring. If the floor is dirt, sand or dung the household counts as deprived in flooring. A household who was

living in cement floors housing were non-deprived in housing. Mud floor is generally considered as poor quality houses by many researchers and has an impact on the health of households.

**Room availability:** This indicates number of persons per room. A household was deprived in rooms if three and more than three persons lived per room. Overcrowding incubates disease and do not contribute to a sustainable environment. The household was considered to be room deprived if three or more people were living per room. Conversely, a household was considered not deprived in room if less than three persons were living per room. The number of rooms excludes kitchens, bathrooms, toilets and rooms used for business purposes.

**Cooking fuel:** A household was considered deprived in cooking fuel if the household cooks with animal dung, charcoal or wood, crop residue, straw/shrubs/grass and no ventilation of cooking smoke or had no improved oven. Excessive use of charcoal and firewood in a non-ventilated kitchen or improved oven affects the health of a household. Excessive use of these sources also contributes for high rate of deforestation. Similarly, excessive dependence on animal dung for cooking affects the extent of using manure besides to family health.

**Durable assets:** If a household did not own more than one of radio/tape or television, dish, telephone be it mobile or fixed, and did not own a house then each person was considered as deprived in durable assets. These assets are useful for leading a normal life by their own and are salable in times of emergencies. As many research results showed housing is the most important asset for urban residents as it is a source of income besides sheltering of households.

The robustness of the multidimensional poverty measure was checked by the inclusion and exclusion of the availability of rooms and changing the cutoff points of some indicators such as cooking fuel with and without improved oven and electricity with and without meter. In all situations the ranks of the three study towns were the same though the rates of multidimensional poverty of each study town were different in different cutoff points and inclusion and exclusion of indicators.

### 5.2.2. The Extent of Multidimensional Poverty

As depicted in Table 5.5, the headcount ratio in the study towns was found to be 55 per cent of the surveyed households. This means over one half of the selected households in the study towns deprived multiple indicators at the same time. The headcount ratio of the acute multidimensional poverty of the study towns, however, was inconsistent with the headcount ratio of the multidimensional poverty of urban areas of Ethiopia which accounted for 46 per cent in 2014 (OPHI, 2014). The incidence of multidimensional poverty in the study towns was thus nine percentage points higher than the incidence of multidimensional poverty in the urban areas of Ethiopia. Looking into the headcount ratios of each study town, the headcount ratios of the multidimensional poverty was different in the study towns. The headcount ratios accounted for 63 per cent in Wojel, 57 per cent in Felege Birhan and 43 per cent in Yetmen. These results show that significant proportion of the households deprived two or more than two indicators out of the total selected indicators in all the study towns. The headcount ratio was high in Wojel followed by Felege Birhan and Yetmen. However, Pearson's Chi-Square (2) = 3.88,  $P > 0.05$  test shows the absence of statistically significant differences among the incidence of acute multidimensional poverty of the study towns.

**Table 5.5: Indices of the Multidimensional Poverty**

<b>Name of the Index</b>	<b>Wojel</b>	<b>Yetmen</b>	<b>Felege Birhan</b>	<b>Total</b>
Headcount Ratio(H)	0.633	0.429	0.572	<b>0.549</b>
Intensity of Poverty (A)	0.480	0.460	0.462	<b>0.467</b>
Multidimensional Poverty Index (MPI)	0.304	0.193	0.264	<b>0.256</b>
$X^2$				<b>3.88*</b>

Source: Calculated from field survey data, 2014

\* $P > 0.05$

With respect to the intensity of multidimensional poverty which shows the average deprivation of the poor, the study revealed that the multidimensional poor in these towns deprived 47 per cent of the weighted indicators (Table 5.5). This implies that the poor in the study towns deprived on the average nearly half of the weighted indicators. Though lower than the intensity of the urban areas of Ethiopia which accounted for 50 per cent in 2014, the intensity of poverty in these towns was high. The intensity of poverty in the study towns was lower than the national urban figure by three percentage points. Turning to the intensity of multidimensional poverty of

each study town, it is found to be 48 per cent in Wojel, 46 per cent in Yetmen and 46 per cent in Felege Birhan. These imply that the multidimensional poor on the average deprived 48, 46 and 46 per cents of the weighted indicators in each town respectively. Although the headcount ratios of all the study towns were different, the results of the intensity of multidimensional poverty indicate that on the average the multidimensional poor deprived nearly the same weighted indicators in all the study towns though the deprivation was a bit higher in Wojel. The intensity of multidimensional poverty was nearly the same in all the study towns. That is to say, the multidimensional poor deprived nearly equal weighted indicators in all the study towns.

With respect to the Multidimensional Poverty Index (MPI), it was found to be around 26 per cent (Table 5.5). This implies that on the average households deprived about 26 per cent out of the total potential deprivations. There were, therefore, three percentage point differences from the MPI of the urban areas of Ethiopia. As reported by OPHI (2014), the MPI of the urban areas of Ethiopia was 23 per cent in 2014. The MPI of the study towns was higher than the MPI of the urban areas of the country. However, the percentage point difference of the MPI of each study town from the national MPI figure was seven in Wojel, three in Felege Birhan and negative four in Yetmen. Thus, the MPI was high in Wojel (30%) followed by Felege Birhan (26%) and Yetmen (19%). In other words, the acute multidimensional poor deprived 30, 26 and 19 per cents of the weighted indicators out of the total potential deprivations in Wojel, Felege Birhan and Yetmen respectively. The high MPI in Wojel stems from the high deprivations in drinking water unlike the other study towns. In contrast, the high proportion of households that deprived in education unlike the other study towns was the cause of high MPI in Felege Birhan. The multidimensional poverty indices of all the study towns are decomposed based on the indicators in order to identify the highest contributor to the MPI in these towns which will be presented in section 5.2.3. Before this, the raw headcount ratios will be explored in the following section.

Therefore, all the three indices indicate the high level of acute multidimensional poverty in all the study towns than the level of multidimensional poverty in the urban areas of Ethiopia. The possible reasons for this are the addition of one indicator in the living standard dimension, the replacement of one health indicator by daily calorie intake and modification of the other from the indicators used by the UNDP(see the methods in the preceding Chapter). However, the level of multidimensional poverty in the study towns could be higher than this if the unit of analysis was

per capita since the probability of being multidimensional poor is high for large household size than small household size as it is stated in the multidimensional poverty profile section below. Moreover, the MPI of Ethiopia for the 2014 was constructed based on the 2011 Demographic and Health Survey (DHS) data. The consequence of this was overestimation of the multidimensional poor in the country. If these are not the cases, the difference between the MPI of the study towns and urban areas of the country is far from the aforementioned one.

### 5.2.3. Raw Headcount Ratios

The raw headcount ratio of each indicator which shows the percentage of households deprived in a particular indicator is summarized in the following table. Thus, the results in the table show that the vast majority of households in the study towns deprived floor materials, durable assets and cooking fuel which accounted for about 95, 85 and 84 per cents respectively. The raw headcount ratio of room availability was very small (7.4%) followed by child death and illness (6.7%) in the study towns. These contrasting results show that the raw headcount ratios of all the selected indicators differ very significantly.

**Table 5.6: Raw Headcount Ratios of Households in the Selected Indicators**

Dimension	Indicator	Wojel		Yetmen		Felege Birhan		Total	
		N	%	N	%	N	%	N	%
Health	Daily calorie intake	37	40.7	31	34.4	41	28.9	109	33.7
	Child death or serious illness	8	8.8	5	5.5	9	6.2	22	6.7
Education	Years of schooling	35	38.9	22	24.2	77	53.1	134	41.1
	School attendance	16	17.8	11	12.1	21	14.5	48	14.7
	Source of drinking water	45	50.0	7	7.7	5	3.4	57	17.5
	Improved sanitation	51	56.7	36	39.6	53	36.6	140	42.9
Living Standard	Source of electricity	42	46.7	49	53.8	89	61.4	180	55.2
	Floor materials	86	95.6	81	89.0	143	98.6	310	95.1
	Type of cooking fuel	61	67.8	91	100.0	123	84.8	275	84.4
	Room availability	13	14.4	3	3.3	8	5.5	24	7.4
	Durable assets	79	86.8	79	86.8	122	84.1	280	85.6

Source: Calculated from field survey data, 2014

There was striking differences among the headcount ratios of cooking fuel in the study towns. The deprivation in this indicator accounted for 100 per cent in Yetmen, 85 per cent in Felege Birhan and 68 per cent in Wojel. As can be seen in the table below, similar figures were

observed in some other indicators. As a consequence, the contribution of individual indicator to the total MPI of each town is different. This will be described in detail in the next section.

#### 5.2.4. The Contribution of Indicators and Dimensions to Multidimensional Poverty Index

The multidimensional poverty indices are decomposed based on the indicators in order to identify the highest and lowest contributor to the MPI of the households in all the study towns. As presented in Table 5.7, the highest contributors to the MPI were years of schooling, floor material, durable assets, type of cooking fuel and source of electricity in decreasing order of importance. Respectively, they contributed 6.4, 5.5, 5.4, 4.2 and 2.9 per cents above their respective weights. The least contributors in decreasing order of importance were child death, school attendance, room availability and source of drinking water (see Table 5.7). All these indicators independently contributed below their weight.

**Table 5.7: Censored Headcount Ratio and the Contribution of Individual Indicator to MPI**

Indicator	Wojel				Yetmen				Felege Birhan				Total			
	CH*	wCH	Cont	D	CH	wCH	Cont	D	CH	wCH	Cont	D	CH	wCH	Cont	D
Daily calorie consumption	0.378	0.063	0.207	0.040	0.267	0.045	0.233	0.066	0.225	0.038	0.144	-0.023	0.290	0.049	0.195	0.028
Child death or Serious illness	0.067	0.011	0.036	-0.131	0.033	0.006	0.031	-0.136	0.055	0.009	0.034	-0.133	0.052	0.009	0.034	-0.133
Years of schooling	0.389	0.065	0.214	0.047	0.220	0.037	0.192	0.025	0.455	0.076	0.288	0.121	0.355	0.059	0.231	0.064
School attendance	0.167	0.028	0.092	-0.075	0.099	0.017	0.088	-0.079	0.131	0.022	0.083	-0.084	0.132	0.022	0.088	-0.079
Source of drinking water	0.333	0.016	0.053	0.005	0.055	0.003	0.016	-0.032	0.014	0.001	0.004	-0.044	0.134	0.007	0.024	-0.024
Improved sanitation	0.400	0.019	0.063	0.015	0.264	0.013	0.067	0.019	0.310	0.015	0.057	0.009	0.325	0.016	0.062	0.014
Source of electricity	0.367	0.017	0.056	0.008	0.363	0.017	0.088	0.040	0.490	0.023	0.087	0.039	0.407	0.019	0.077	0.029
Floor material	0.633	0.030	0.099	0.051	0.429	0.020	0.104	0.056	0.579	0.028	0.106	0.058	0.547	0.026	0.103	0.055
Type of cooking fuel	0.456	0.022	0.072	0.024	0.429	0.020	0.104	0.056	0.517	0.025	0.095	0.047	0.467	0.022	0.090	0.042
Room availability	0.111	0.005	0.016	-0.032	0.033	0.002	0.010	-0.038	0.048	0.002	0.008	-0.040	0.064	0.003	0.011	-0.037
Durable assets	0.622	0.030	0.099	0.051	0.418	0.020	0.104	0.056	0.566	0.027	0.102	0.054	0.535	0.026	0.102	0.054

Source: Calculated from field survey data, 2014

\*CH is censored headcount ratio

Difference is contribution – weight of the indicator

There were differences among the study towns in terms of the contribution of individual indicator to the MPI of each study town. The highest contributors to MPI of each study town were floor material, durable assets and cooking fuel in Wojel and Yetmen. These indicators independently contributed more than five per cent of their weights to the MPI in every study

town. In Felege Birhan the highest contribution to the MPI came from years of schooling followed by floor material and durable assets which accounted for more than 12, 5.8 and 5.4 per cents respectively of their weights to the town's MPI. The least contributors in all the study towns were child death and illness followed by year of school attendance and room availability. All these indicators contributed some per cent below their weights due to the small raw headcount ratios accompanied by their weights.

The contribution of each dimension to the MPI was estimated by adding the contribution of the indicators of each dimension to the MPI. Consequently, the largest contributor to the MPI was living standard which contributed more than 13 per cent of its weight. Similarly, the highest contributor to the MPI of individual study town was living standard which accounted for more than 12 per cent of its weights in Felege Birhan and Wojel and just over 15 per cent in Yetmen followed by education. The least contribution to the MPI of all and individual study town came from the health dimension. This result shows the remarkable development progress in health infrastructure in the study towns and lack of progress in others.

#### **5.2.5. Severity of and Vulnerability to Multidimensional Poverty**

The most important things in multidimensional poverty study are multidimensional poverty severity and vulnerability to multidimensional poverty analyses as these shows beyond the incidence of poverty (OPHI, 2014). As illustrated in Table 5.8, households in severe multidimensional poverty were 19 per cent. These households deprived over 50 per cent of the weighted indicators. Severity to multidimensional poverty in the urban areas of Ethiopia in 2014 as reported by OPHI (2014) was 21 per cent which was higher than the result of the present study. Looking into the individual town, the proportion of households in severe multidimensional poverty in Wojel (24%) was higher than the proportion of households in severe multidimensional poverty in Felege Birhan (19%) and Yetmen (14%). With respect to the less poverty severity, out of the total households surveyed, the degree of poverty of 36 per cent of the households was less severe as they lack between 33 and 50 per cent of the weighted indicators. The proportion of households that were in less multidimensional severe poverty in Wojel and Felege Birhan was equal which accounted for 39 per cent, whereas households that were in less severe multidimensional poverty constituted 29 per cent in Yetmen.

**Table 5.8: Multidimensional Poverty Severity and Vulnerability**

Vulnerability & Level of Poverty	Wojel		Yetmen		Felege Birhan		Total	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Severe Poverty	22	24.4	13	14.3	27	18.6	62	19.0
Less Severe Poverty	35	38.9	26	28.6	56	38.6	117	35.9
Vulnerable to Poverty	9	10.0	20	22.0	28	19.3	57	17.5
Not Vulnerable to Poverty	24	26.7	32	35.2	34	23.4	90	27.6
<b>Total</b>	<b>90</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>145</b>	<b>100</b>	<b>326</b>	<b>100</b>

Source: Calculated from field survey data, 2014

Regarding vulnerability to poverty, some 18 per cent of the surveyed households were found to be vulnerable to multidimensional poverty while some 28 per cent were not vulnerable to multidimensional poverty. The extent of vulnerable households to multidimensional poverty in the study towns was less than the extent of vulnerable to multidimensional poverty (24%) in urban areas of the country in 2014. There were differences in the percentage of vulnerable and invulnerable households among the study towns. The vulnerable households in Yetmen (22%) were larger than the other study towns which accounted for 19 per cent in Felege Birhan and 10 per cent in Wojel. In the same way, higher percentage of households in Yetmen (35%) was not vulnerable to poverty which was higher than Wojel (27%) and Felege Birhan (23%). Though the percentage of the acute multidimensional poor households was high in Wojel, the percentage of households that were vulnerable to acute multidimensional poverty in this town was lower than the other study towns.

### 5.2.6. The Multidimensional Poverty Profiles

The multidimensional poverty profiles of households by sex, age, marital status and migration status of household heads as well as size of households are discussed in this section.

#### 5.2.6.1. Multidimensional Poverty by Sex and Age of Household Heads

The data on the multidimensional poverty by sex and age of the household heads are illustrated in Table 5.9. Regarding the profiles by sex of the household heads, slightly over a third (34%) of the multidimensional poor households was female-headed while nearly two thirds (66%) were male-headed. Similarly, out of the multidimensional non-poor households, a quarter (25%) was

female-headed whereas two thirds (76%) were male-headed. The survey results by individual study town shows that the proportion of male-headed households was greatly higher than the proportion of female-headed households except in Felege Birhan in which the difference between the two was not significantly high. The survey results also show that female-headed multidimensional poor households (34%) were higher than female-headed multidimensional non-poor households (25%). On the other hand, the proportion of the multidimensional non-poor households headed by males (76%) was higher than the proportion of the multidimensional poor households headed by females (66%). The same result was observed in each study town. Over three fifths (63%) of female headed households were multidimensional poor. The figure was over half (51%) for male headed households. These results of the study imply that male-headed households are less likely to be multidimensional poor than female-headed households in the study towns. However, the Pearson's Chi-Square (1) = 3.55, P = 0.06 test shows no statistically significant association between sex of the household heads and multidimensional poverty in the study towns.

**Table 5.9: Multidimensional Poverty by Sex and Age of the Household Heads**

Sex	Wojel				Yetmen				Felege Birhan				Total				
	Poor		Non-poor		Poor		Non-poor		Poor		Non-poor		Poor		Non-poor		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Female	16	28.1	8	24.2	10	25.6	14	26.9	35	42.2	14	22.6	61	34.1	36	24.5	
Male	41	71.9	25	75.8	29	74.4	38	73.1	48	57.8	48	77.4	118	65.9	111	75.5	
<b>Total</b>	<b>57</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>52</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>179</b>	<b>100</b>	<b>147</b>	<b>100</b>	
<b>X<sup>2</sup></b>																	<b>3.55*</b>
<b>Age in Years</b>																	
15-19	0	0.0	0	0.0	0	0.0	1	1.9	0	0.0	0	0.0	0	0.0	1	0.7	
20-29	11	19.3	8	24.2	5	12.8	8	15.4	21	25.3	10	16.1	37	20.7	26	17.7	
30-39	13	22.8	9	27.3	12	30.8	16	30.8	33	39.8	23	37.1	58	32.4	48	32.7	
40-49	16	28.1	5	15.2	10	25.6	12	23.1	11	13.3	15	24.2	37	20.7	32	21.8	
50-59	9	15.8	5	15.2	6	15.4	7	13.5	11	13.3	10	16.1	26	14.5	22	15.0	
60-64	4	7.0	3	9.1	3	7.7	2	3.8	3	3.6	2	3.2	10	5.6	7	4.8	
>64	4	7.0	3	9.1	3	7.7	6	11.5	4	4.8	2	3.2	11	6.1	11	7.5	
<b>Total</b>	<b>57</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>52</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>179</b>	<b>100</b>	<b>147</b>	<b>100</b>	
<b>Mean Age</b>	<b>42</b>		<b>43</b>		<b>45</b>		<b>40</b>		<b>39</b>		<b>39</b>		<b>41.2</b>		<b>40.1</b>	<b>t= .72**</b>	
<b>X<sup>2</sup></b>																	<b>1.97*</b>

Source: Field Survey, 2014

\* P > 0.05 and \*\* P=0.24

With respect to the poverty profiles by age of the household heads, the large majority (32% of the poor and 33% of the non-poor households) were headed by ages from 30 to 39 years. Out of the multidimensional poor households, over a quarter (28%) in Wojel was within the age group of 40-49 years whereas less than a third (31%) in Yetmen and above a third (40%) in Felege Birhan was within the age group of 30 to 39 years. Likewise, some of heads of the multidimensional non-poor households (37% in Felege Birhan, 31% in Yetmen and 27% in Wojel) were within the age group of 30-39 years. As can be seen in Table 5.9, the multidimensional poor households headed by 20-29 and 60-64 age groups were slightly higher than the non-poor households. In contrast, the proportion of the multidimensional poor households headed by the other age groups was slightly smaller than the multidimensional non-poor households. The average ages of heads of the multidimensional poor and non-poor household were 41 (SE=0.96) and 40 (SE=1.17) years respectively. The  $t(322) = 0.72$ ,  $P = 0.24$  shows the absence of statistically significant differences between the mean ages of the multidimensional poor and non-poor households. Even though no similar pattern was observed in each study town, there was no huge difference between the percentage of the poor and the non-poor households headed by different age groups. These imply that age of the household heads has no significant association with multidimensional poverty in the study towns. The absence of statistically significant association between age of the household heads and multidimensional poverty was also confirmed by Pearson's Chi-Square (6) = 1.97,  $P > 0.05$  test.

#### **5.2.6.2. Multidimensional Poverty by Size of the Household**

Data on the poverty profiles by the household size are presented in Table 5.10. Out of the total multidimensional poor households, some 29 per cent were a household size of four whereas 20 per cent of the multidimensional non-poor households were a household size of three and four. The disaggregated data by the study towns show that a considerable percentage (28% in Wojel and 34% in Felege Birhan) of the multidimensional poor households was a size of two followed by three and four. Conversely, the household size of a third (33%) of the multidimensional poor households in Yetmen was three followed by a household size of four. The proportion of the multidimensional poor was higher than the proportion of the multidimensional non-poor households from the household size of one to three, whereas the proportion of the poor households was less than the proportion of the non-poor households from the household size of

three and above except the household size of eight and nine (Table 5.10). It seems that small size households are less likely to be multidimensional poor than large size households whereas large size households are more likely to be multidimensional poor than small size households in the study towns. However, the Pearson's Chi-Square (8) = 14.44, P = 0.07 test shows that the association between household size and multidimensional poverty is not statistically significant. The average size of the poor (3.4) was slightly smaller than the non-poor households (3.8). However, this was not statistically significant as the  $t(324) = -1.89$ ,  $P = 0.03$  shows.

**Table 5.10: Multidimensional Poverty by Size of the Households**

Household Size	Wojel				Yetmen				Felege Birhan				Total			
	Poor		Non-poor		Poor		Non-poor		Poor		Non-poor		Poor		Non-poor	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	9	15.8	3	9.1	4	10.3	9	17.3	9	10.8	5	8.1	22	12.3	17	11.6
2	16	28.1	6	18.2	7	17.9	9	17.3	28	33.7	8	12.9	51	28.5	23	15.6
3	12	21.1	8	24.2	13	33.3	11	21.2	12	14.5	10	16.1	37	20.7	29	19.7
4	12	21.1	9	27.3	8	20.5	10	19.2	12	14.5	10	16.1	32	17.9	29	19.7
5	3	5.3	5	15.2	3	7.7	7	13.5	14	16.9	10	16.1	20	11.2	22	15.0
6	1	1.8	0	0.0	1	2.6	4	7.7	3	3.6	8	12.9	5	2.8	12	8.2
7	3	5.3	2	6.1	1	2.6	1	1.9	1	1.2	7	11.3	5	2.8	10	6.8
8	1	1.8	0	0.0	2	5.1	1	1.9	2	2.4	3	4.8	5	2.8	4	2.7
9	0	0.0	0	0.0	0	0.0	0	0.0	2	2.4	1	1.6	2	1.1	1	0.7
<b>Total</b>	<b>57</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>52</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>179</b>	<b>100</b>	<b>147</b>	<b>100</b>
<b>Mean Size</b>	<b>3.2</b>		<b>3.4</b>		<b>3.4</b>		<b>3.4</b>		<b>3.5</b>		<b>4.4</b>		<b>3.4</b>		<b>3.8</b>	<b>t = -1.89**</b>
<b>X<sup>2</sup></b>																<b>14.4*</b>

Source: Field Survey, 2014

\* P > 0.05 and \*\* P = 0.03

### 5.2.6.3. Multidimensional Poverty by Migration and Marital Status of Heads

With regard to the poverty profiles by the migration status of the household heads, the multidimensional poor households (70%) headed by the migrants were slightly above the multidimensional non-poor households (69%), while the poor households (30%) headed by the non-migrants were slightly lower than the non-poor households (31%) in the study towns (Table 5.11). However, this difference is not statistically significant as Pearson's Chi-Square (1) = 0.04,  $P > 0.05$  test shows. The results in individual town were quite different. The percentage of the migrant-headed multidimensional poor households was higher than the percentage of migrant-headed multidimensional non-poor households in Wojel and Felege Birhan. In contrast, the

percentage of the migrant-headed non-poor households in these towns was higher than the migrant-headed multidimensional poor households except in Yetmen. These indicate that households headed by the migrants are more likely to be non-poor than households headed by the non-migrants in all the study towns except in Yetmen. Even though the Chi-Square test confirms the absence of statistically significant association between the migration status of the household heads and multidimensional poverty, there is a tendency that households headed by the migrants are less likely to be multidimensional poor than households headed by the non-migrants. This is probably related to land and other assets ownership and livelihoods diversification of the households headed by the migrants (see Section 7.2).

**Table 5.11: Multidimensional Poverty by Migration & Marital Status of Household Heads**

Migration Status	Wojel				Yetmen				Felege Birhan				Total			
	Poor		Non-poor		Poor		Non-poor		Poor		Non-poor		Poor		Non-poor	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Migrant	37	64.9	16	48.5	30	76.9	47	90.4	59	71.1	39	62.9	126	70.4	102	69.4
Non-migrant	20	35.1	17	51.5	9	23.1	5	9.6	24	28.9	23	37.1	53	29.6	45	30.6
<b>Total</b>	<b>57</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>52</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>179</b>	<b>100</b>	<b>147</b>	<b>100</b>
<b>X<sup>2</sup></b>																<b>0.04*</b>
<b>Marital Status</b>																
Single	0	0.0	3	9.1	1	2.6	5	9.6	2	2.4	3	4.8	3	1.7	11	7.5
Married	35	61.4	23	69.7	25	64.1	34	65.4	50	60.2	46	74.2	110	61.5	103	70.1
Divorced	13	22.8	5	15.2	9	23.1	10	19.2	23	27.7	9	14.5	45	25.1	24	16.3
Widowed	9	15.8	2	6.1	4	10.3	3	5.8	8	9.6	4	6.5	21	11.7	9	6.1
<b>Total</b>	<b>57</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>52</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>179</b>	<b>100</b>	<b>147</b>	<b>100</b>
<b>X<sup>2</sup></b>																<b>13.0**</b>

Source: Field Survey, 2014

\* P > 0.05 and \*\* P = 0.01

Concerning the poverty profiles by the marital status of the household heads, the poor households headed by married persons constituted 62 per cent while the non-poor households headed by married ones made up 70 per cent. Likewise, households headed by the unmarried were also less likely to be poor as the percentage share of the poor households (2%) and the non-poor households (8%) show. There was also a slight difference between the percentage of the marital status of heads of the poor and the non-poor households in that heads of the poor households (25% and 12%) were higher than heads of the non-poor households (16% and 6%) in the cases of divorced and widowed ones respectively. Similar patterns were observed across all

the study towns. These results imply that households headed by divorced and widowed are more likely to be multidimensional poor than households headed by married and unmarried. The Pearson's Chi-Square (3) = 13.0, P = 0.01 test also shows statistically significant association between the multidimensional poverty and marital status of heads of the households in the study towns. The Cramer's V = 0.2, P = 0.01 shows moderate association between these. Households headed by divorced individuals was more likely to be poor due to the fact that divorced household heads divide their wealth and assets with their ex-partner whereas the death of the bread winner and the depletion of their assets for *teskar* and other expenses for the deceased were the reasons of poverty for the widowed.

### **5.3. The Relationships between Consumption and Multidimensional Poverty**

So far, the magnitudes of consumption and multidimensional poverty have been discussed separately. The two poverty measures showed high percentage of the poor households in Wojel and Felege Birhan and low percentage of the poor households in Yetmen. In other words, both measures yielded high incidence of poverty in Wojel and Felege Birhan and low incidence of poverty in Yetmen. Nevertheless, the study found that the incidence of acute multidimensional poverty in all the study towns was greater than consumption dimension of poverty. The question to be raised at this point is, therefore, about the relationship between consumption and multidimensional poverty.

As illustrated in Table 5.12, the highest percentage of the consumption poor households were deprived in multiple indicators than the consumption non-poor households. Considerable proportion (73%) of the consumption poor households were multidimensional poor. The percentage in each town (73% in Wojel, 71% in Yetmen and 73% in Felege Birhan) shows no significant difference. These results indicate that the consumption poor households deprived multiple indicators than the consumption non-poor households. These also indicate the existence of association between consumption and multidimensional poverty. These descriptive analyses about their relationship were also supported by Pearson's Chi-Square (1) = 24.6, P = 0.00 test with a Cramer's V of 0.276, P = 0.00. The Cramer's V shows positive and moderate association between acute multidimensional and consumption poverty. This implies that the consumption

poor households are more likely to be multidimensional poor than the consumption non-poor households in the study towns.

**Table 5.12: The Relationships between Consumption and Multidimensional Poverty**

		Consumption Poor			Consumption Non-poor			Total		
		<i>N</i>	<i>R%</i>	<i>C%</i>	<i>N</i>	<i>R%</i>	<i>C%</i>	<i>N</i>	<i>R%</i>	<i>C%</i>
Wojel	Multidimensional Poor	24	42.1	72.7	33	57.9	57.9	57	100	63.3
	Multidimensional Non-poor	9	27.3	27.3	24	72.7	42.1	33	100	36.7
	<b>Total</b>	<b>33</b>	<b>36.7</b>	<b>100</b>	<b>57</b>	<b>63.3</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>100</b>
Yetmen	Multidimensional Poor	22	56.4	71.0	17	43.6	28.8	39	100	43.3
	Multidimensional Non-poor	9	17.6	29.0	42	82.4	71.2	51	100	56.7
	<b>Total</b>	<b>31</b>	<b>34.4</b>	<b>100</b>	<b>59</b>	<b>65.6</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>100</b>
Felege Birhan	Multidimensional Poor	41	51.2	73.2	39	48.8	45.3	80	100	56.3
	Multidimensional Non-poor	15	24.2	26.8	47	75.8	54.7	62	100	43.7
	<b>Total</b>	<b>56</b>	<b>39.4</b>	<b>100</b>	<b>86</b>	<b>60.6</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>100</b>
Total	Multidimensional Poor	87	49.4	72.5	89	50.6	44.1	176	100	54.7
	Multidimensional Non-poor	33	22.6	27.5	113	77.4	55.9	146	100	45.3
	<b>Total</b>	<b>120</b>	<b>37.3</b>	<b>100</b>	<b>202</b>	<b>62.7</b>	<b>100</b>	<b>322</b>	<b>100</b>	<b>100</b>
$\chi^2$										<b>24.6*</b>

Source: Field Survey, 2014

\* P = 0.01

The percentage within multidimensional poverty also indicated that out of the multidimensional poor households, the consumption poor households were nearly equal with the consumption non-poor households. About half (49%) of the multidimensional poor households were consumption poor and the remaining proportion of households were non-consumption poor. There were striking differences among the study towns. The proportion of the consumption poor households were above half of the total multidimensional poor households in Yetmen (56%) and Felege Birhan (51%) where as the proportion of consumption poor households in Wojel was 42 per cent which was much smaller than the proportions of Yetmen and Wojel.

Even though high percentage of the consumption poor households are deprived in multiple indicators, considerable percentage of the consumption non-poor households were also deprived in multiple indicators indicating that the consumption non-poor households are poor in other dimensions of poverty. In other words, all the consumption non-poor households were not multidimensional non-poor. Some of them faced multiple deprivations that batter their life simultaneously. Among the consumption non-poor households, 44 per cent were

multidimensional poor. This might be associated with the utility of water and electricity that most had no their own meter and distance of safe drinking water is above the recommended minimum distance. In the same way, all consumption poor households were not multidimensional poor. For example, over a quarter (28%) of the consumption poor households were multidimensional non-poor in the study towns. These results show that a single measure of poverty could not show its magnitude in many aspects. Thus, some households identified by the two methods as consumption and acute multidimensional poor are generally poorer than the other households identified as poor by one of the methods of poverty measurement.

### **Summary**

The aim of this chapter was to determine the magnitude of consumption and multidimensional poverty as well as their relationships in the study towns. In addition, this chapter portrays the poverty profiles of households using some demographic and social characteristics. Therefore, the study found that the incidences of poverty measured by the traditional and new measures of poverty were high in the study towns. The level of poverty (37% consumption poor and 55% multidimensional poor) in the study towns was higher than the level of urban poverty of Ethiopia and Amhara Region. Besides, poverty in the study towns was deep rooted and severe as the poverty gap (11%) and squared poverty gap (4%) as well as the intensity of multidimensional poverty (47%) show. These results support the proposition set in the statement of the problem section of the first chapter that poverty is indirectly related with the size of the towns. As compared with each other, the incidence of both consumption and multidimensional poverty was high in Wojel (37% & 46%) and Felege Birhan (39% & 57%) than Yetmen (34% & 43% respectively) though the difference was not statistically significant as confirmed by the Chi-Square test. The multidimensional poverty severity was high in Wojel (24%) followed by Yetmen (14%) and nearly a fifth (18%) of the households in the study towns were vulnerable to multidimensional poverty.

Concerning the poverty profiles of households, the study revealed that female-headed households, large size households, households headed by old ages and migrants as well as households headed by divorced and widowed persons are more likely to be both consumption and multidimensional poor. The majority of these results were confirmed by Pearson's Chi-

Square tests for consumption poverty. Consumption poverty has significant association with these characteristics except with the marital and migration status of heads of the households. However, these characteristics have no statistically significant association with multidimensional poverty except with the marital status of the household heads. Concerning the indicators contribution to the MPI, the study found that the highest contribution came from floor materials, durable assets and cooking fuel in the study towns. Source of drinking water in Wojel and years of schooling in Felege Birhan were other highest contributors to the MPI of the respective towns. The living standard dimension in the study towns was the highest contributor to the MPI.

With regard to the relationship between consumption and multidimensional poverty, the research findings show that consumption and multidimensional poverty have statistically significant association. As the Chi-square test shows the association between consumption and multidimensional poverty is moderate. To put in other words, households who are consumption poor are more likely to be multidimensional poor and conversely, households who are consumption non-poor are less likely to be multidimensional poor. The following chapter will explore the links between consumption poverty and livelihoods of households in the study towns.

## **CHAPTER SIX**

### **LIVELIHOOD ASSETS OF THE HOUSEHOLDS**

#### **Introduction**

The magnitude and some profiles of poverty of households have been discussed in the previous chapter. The questions of who have access and ownership as well as who accessed and owned what will be answered in this chapter. That is to say, the livelihood assets of the poor and the non-poor households are presented in this chapter in five main sections and several sub-sections. The first section is about the human assets, which are crucial for the development of other assets in the household. The second section presents the physical assets of households. The third section explains the natural assets of households. The fourth and fifth sections present and explore the social and financial assets of households. All these assets are discussed in connection with the consumption poverty of households.

#### **6.1. Human Assets**

In this subsection some of the most important human assets such as education, skills, health and availability of labour that have an impact on the livelihood of the poor and the non-poor households are discussed.

##### **6.1.1. Education**

The data on the level of education of heads of the households and the skills they had with poverty status of households are presented in Table 6.1. Concerning the level of education of heads of households, about 62 per cent were literate while the remaining 38 per cent did not read and write. Of all the literates, above a quarter (29%) were grade 5 to 8 completed followed by grade 9 to 12 completed (12%). There are some variations among the percentages of the level of education of heads of households of the study towns. More literate heads were found in Yetmen (68%) followed by Wojel (64%) and Felege Birhan (58%). About 30, 31 and 28 per cents of the household heads in Wojel, Yetmen and Felege Birhan respectively were 5 to 8 grades completed. In general, considerable proportion (53% in Wojel, 66% in Yetmen and 48% in Felege Birhan)

of the household heads had formal education. However, grade 12 completed and above 12 was very few and these few were largely government employees who have been working in various government institutions in and around the study towns. Household heads who did not read and write constitute 42 per cent in Felege Birhan, over a third (36%) in Wojel and nearly a third (32%) in Yetmen from the highest to the lowest.

The study found that educational status of household heads has an impact on poverty of the households in the study towns. For instance, heads of the poor who did not able to read and write were 17 percentage points higher than the non-poor households. The reverse is true in the case of literate households. The same is true in each study town where the percentage of heads of the poor who did not able to read and write was higher than the non-poor households. These results indicate the presence of relationship between the levels of education of the household heads and poverty of the household. The disaggregated data by the level of education of the literates showed that the proportions of the non-poor were higher than the poor households especially from grades 1 to 4 above (see Table 6.1). For example, the largest percentage (55 in Wojel, 56 in Yetmen and 45 in Felege Birhan) of heads of the non-poor households completed grade five and above as opposed to 18, 39 and 30 per cents of heads of the poor households of each town respectively.

Even though the illiteracy rate was high in the study towns, there were no learner in adult education programme from the surveyed households and even the learners in the adult education centers were very small. According to the centers of adult education of the respective towns; there were 180, 160 and 175 adult learners in Wojel, Yetmen and Felege Birhan respectively. According to the informants, the majority of the adult learners were females who engaged in selling tea and petty trade as well as housewives from the lower income group. The data from these informants further revealed that only a few adult learners were regularly attending the programme. For example, only 93 out of 175 adult learners were regular attendants in Felege Birhan. The majority were often absent because they were eager for their jobs and lack of interest to learn by considering the programme useless to their life. The adult learners believe that the programme rather consumes their work and leisure time. Above all, there were no night programmes in both elementary and secondary schools in the study towns. According to the principals of all the schools, adults are not interested in learning at night. The schools tried to

open the programme, but they could not get the threshold number of students. The secondary school in Felege Birhan opened the programme in 2010, but the school forced to close the programme due to different reasons: fear of sexual harassment of females on the side of parents, fear to be killed by those who are in conflict with them and intimidation of teachers and the school administrators. All these results revealed that households are not benefiting from both the adult education and night programmes at the desired level.

**Table 6.1: the Percentage Distribution of Households by Level of Education and Skills**

Level of Education	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Don't Read & Write	13	39.4	19	33.3	32	35.6	13	41.9	16	27.1	29	32.2	32	57.1	28	32.6	60	42.3	58	48.3	63	31.2	121	37.6
Read & Write	7	21.2	3	5.3	10	11.1	0	0.0	2	3.4	2	2.2	5	8.9	10	11.6	15	10.6	12	10.0	15	7.4	27	8.4
1-4	7	21.2	4	7.0	11	12.2	5	16.1	8	13.6	13	14.4	2	3.6	9	10.5	11	7.7	14	11.7	21	10.4	35	10.9
5-8	5	15.2	22	38.6	27	30.0	10	32.3	18	30.5	28	31.1	12	21.4	26	30.2	38	26.8	27	22.5	66	32.7	93	28.9
9-12	1	3.0	7	12.3	8	8.9	1	3.2	13	22.0	14	15.6	4	7.1	12	14.0	16	11.3	6	5.0	32	15.8	38	11.8
Certificate & Diploma	0	0.0	1	1.8	1	1.1	2	6.5	2	3.4	4	4.4	1	1.8	0	0.0	1	0.7	3	2.5	3	1.5	6	1.8
Degree	0	0.0	1	1.8	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	1	1.2	1	0.7	0	0.0	2	1.0	2	0.6
<b>Total</b>	<b>33</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>322</b>	<b>100</b>
<b>Major Skill</b>																								
Weaving	4	50.0	2	28.6	6	40.0	3	42.9	5	62.5	8	53.3	6	75.0	5	38.5	11	52.4	13	56.5	12	42.9	25	49.0
Pottery	1	12.5	0	0.0	1	6.7	0	0.0	0	0.0	0	0.0	1*	12.5	0	0.0	1	4.8	2	8.7	0	0.0	2	3.9
Carpentry	2	25.0	0	0.0	2	13.3	0	0.0	1**	12.5	1	6.7	0	0.0	1	7.7	1	4.8	2	8.7	2	7.1	4	7.8
Painting	0	0.0	1	14.3	1	6.7	0	0.0	1	12.5	1	6.7	0	0.0	0	0.0	0	0.0	0	0.0	2	7.1	2	3.9
Wood/ metal work	0	0.0	1	14.3	1	6.7	0	0.0	0	0.0	0	0.0	1	12.5	2	15.4	3	14.3	1	4.3	3	10.7	4	7.8
Maintenance	0	0.0	1	14.3	1	6.7	1	14.2	1	12.5	2	13.3	0	0.0	0	0.0	0	0.0	1	4.3	2	7.1	3	5.9
Tailoring	1	12.5	2 <sup>#</sup>	28.6	3	20.0	3	42.9	0	0.0	3	20.0	0	0.0	2	15.4	2	9.5	4	17.4	4	14.3	8	15.7
Leather work	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	23.1	3	14.3	0	0.0	3	10.7	3	5.9
<b>Total</b>	<b>8</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>21</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>28</b>	<b>100</b>	<b>51</b>	<b>100</b>

Source: Field Survey, 2014 \*has weaving skill \*\*has metal work skill #has maintenance skill.

Besides, only 51 (16%) of the households had at least one of the skills listed in Table 6.1. The percentages of households who had one of these skills were almost the same across the study towns. Out of the total households who had one of these skills, 28(35%) were poor and 51(65%) were non-poor. In terms of its relation with poverty by individual study town, the percentage of the poor and the non-poor households who had at least one of these skills was different where the poor was slightly higher than the non-poor households in Wojel (53%) while the non-poor were slightly higher in Yetmen (53%) and significantly larger in Felege Birhan (62%). The large

majority of the poor households, therefore, engaged in weaving, pottery and carpentry in the study towns except in Yetmen. On the contrary, some of the non-poor households had skills on metal and wood work, maintenance and others.

All the results in education assets demonstrate that the vast majority of households had no well-developed human assets that can be converted into livelihood strategies and sold for a living in these towns and somewhere else. Worst of all, almost all households did not receive any kind of work or job related trainings sponsored by either the government or non-governmental organizations indicating the absence of attention both from governmental and non-governmental organizations towards the improvement of the livelihood of households in these towns by improving their human asset. Only four households, one from Yetmen and three from Felege Birhan reported that at least one member of the household took trainings in accounting and metalwork. Both the poor and the non-poor households had no access to short-term business and work related trainings.

### **6.1.2. Health**

As displayed in Table 6.2, households faced various health problems in 2014. Out of the total households surveyed, at least one member of 78 (24%) of households was ill. Of these households, 31(40%) were from the poor and 47(60%) were from the non-poor households. Looking into each study town, at least one member of 25(28%), 20(22%) and 33(23%) of the households in Wojel, Yetmen and Felege Birhan respectively was ill. Some 9(28%), 5(16%) and 17(30%) of the poor had ill household members as opposed to 16(28%), 15(25%) and 16(19%) of the non-poor households in Wojel, Yetmen and Felege Birhan respectively. The high percentage of the non-poor faced illness than the poor households in Wojel and Yetmen. This seems an odd finding but according to the key informants and group discussants, married males who are non-poor had more than one sexual partner so that they were affected by HIV/AIDS. The other possible reason was that the poor do not report their illness if it is not very serious.

The level of illness differs from households to households. The level of illness of the highest proportion (37%) of the households who had ill members was very high followed by high (28%) and medium (25%). This has an implication on the availability of labour and the monthly

income. The data on individual study town also showed that the level of illness of the majority (44% in Wojel and 55% in Yetmen) of the households who had ill members was very high and the figure was 49 per cent in Felege Birhan who reported high level of illness. This was followed by medium in Wojel, Yetmen and Felege Birhan which accounted for 32, 20 and 24 per cents respectively. The level of illness of the poor and the non-poor households was also different. The level of illness of the majority (60% in Yetmen and 24% in Felege Birhan) of the poor households was high which was higher than the non-poor households (53% in Yetmen and 19% in Felege Birhan). The possible explanation to this is that the non-poor might go to clinic early before the illness gets serious than the poor households.

**Table 6.2: the Level of Illness, Treatment & Days absent from the Usual Activity**

Level of Sickness	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Very high	3	33.3	8	50.0	11	44.0	3	60.0	8	53.3	11	55.0	4	23.5	3	18.8	7	21.2	10	32.3	19	40.4	29	37.2
High	0	0.0	3	18.8	3	12.0	1	20.0	2	13.3	3	15.0	8	47.1	8	50.0	16	48.5	9	29.0	13	27.7	22	28.2
Medium	4	44.4	4	25.0	8	32.0	1	20.0	3	20.0	4	20.0	4	23.5	4	25.0	8	24.2	9	29.0	11	23.4	20	25.6
Low	2	22.2	1	6.2	3	12.0	0	0.0	2	13.3	2	10.0	1	5.9	1	6.2	2	6.1	3	9.7	4	8.5	7	9.0
<b>Total</b>	<b>9</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>5</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>17</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>78</b>	<b>100</b>
<b>Treated or Not</b>																								
Treated	7	77.8	15	93.8	22	88.0	4	80.0	14	93.3	18	90.0	14	82.4	14	87.5	28	84.8	25	80.6	43	91.5	68	87.2
Not treated	2	22.2	1	6.2	3	12.0	1	20.0	1	6.7	3	10.0	3	17.6	2	12.5	5	15.2	6	19.4	4	8.5	10	12.8
<b>Total</b>	<b>9</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>5</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>17</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>78</b>	<b>100</b>
<b>Days</b>																								
0	1	11.1	4	25.0	5	20.0	1	20.0	4	26.7	5	25.0	12	75.0	9	56.2	21	65.6	14	46.7	17	36.2	31	40.3
1-30	4	44.4	8	50.0	12	48.0	3	60.0	6	40.0	9	45.0	2	12.5	4	25.0	6	18.8	9	30.0	18	38.3	27	35.1
31-60	2	22.2	0	0.0	2	8.0	0	0.0	2	13.3	2	10.0	0	0.0	1	6.2	1	3.1	2	6.7	3	6.4	5	6.5
61-90	0	0.0	2	12.5	2	8.0	1	20.0	0	0.0	1	5.0	1	6.2	0	0.0	1	3.1	2	6.7	2	4.3	4	5.2
above 90	2	22.2	2	12.5	4	16.0	0	0.0	3	20.0	3	15.0	1	6.2	2	12.5	3	9.4	3	10.0	7	14.9	10	12.9
<b>Total</b>	<b>9</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>5</b>	<b>100</b>	<b>15</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>77</b>	<b>100</b>
<b>Mean</b>	<b>64</b>		<b>71</b>		<b>68</b>		<b>27</b>		<b>230</b>		<b>179</b>		<b>10</b>		<b>17</b>		<b>14</b>		<b>28.5</b>		<b>105</b>		<b>t=1.4*</b>	

Source: Field Survey, 2014

\* P=0.015

In connection with this, the patients in about 87 per cent of the households received medical treatment while the remaining 13 per cent did not. There are variations in the percentage of households who received medical treatment across the study towns. Patients in more percentage (90%) of the households in Yetmen received medical treatment. Patients in about 88 and 85 per cents of the households in Wojel and Felege Birhan received medical treatment. Out of the total households who faced illness, slightly over four fifths (81%) of the poor and about 92 per cent of

the non-poor households went to clinic to receive medical treatment. Patients in more proportion of the poor did not receive medical treatment than the non-poor households. These findings indicate that the non-poor have better access to health institutions than the poor households. The reasons for the lack of access for the poor households as they reported were mainly lack of awareness on the use of modern treatment (lack of belief on modern medicine) and lack of money to be spent for medical treatment. For some other households, distance and previous unsuccessful treatment were some of the reasons for not taking medical treatment or advice.

These health problems cost households' money and labour as well as time. The illness affected the productivity of households. Patients in about 60 per cent of the households were absent from their usual activity (Table 6.2). There were significant differences among the percentages of the study towns where 80 per cent in Wojel, 75 per cent in Yetmen and 34 per cent in Felege Birhan did not attend their usual activity due to illness. As compared with the other study towns, large percentage of the poor in Felege Birhan did not absent from their usual activity resulting from their level of illness. The number of days the ill was absent from the usual activity ranges from 1 to over 90 days. However, patients in about 35 per cent of the households were absent from 1 to 30 days. Likewise, the ill in considerable proportion (48% in Wojel, 45% in Yetmen and 19% in Felege Birhan) of the households was absent from the usual activity from 1 to 30 days followed by above 90 days which accounted for 16 per cent in Wojel, 15 per cent in Yetmen and 9.4 per cent in Felege Birhan. The poor and the non-poor were different in terms of the number of days they were absent from the usual activity (see Table 6.2). This was confirmed by an independent t-test (see Table 6.2). This might be because though high proportion of the poor received no medical treatment the poor went to their activity as the poor had no accumulated assets for consumption. As they reported, if treatment in local health centers is not successful the poor were unable to go to the high level health institutions due to lack of money even for food.

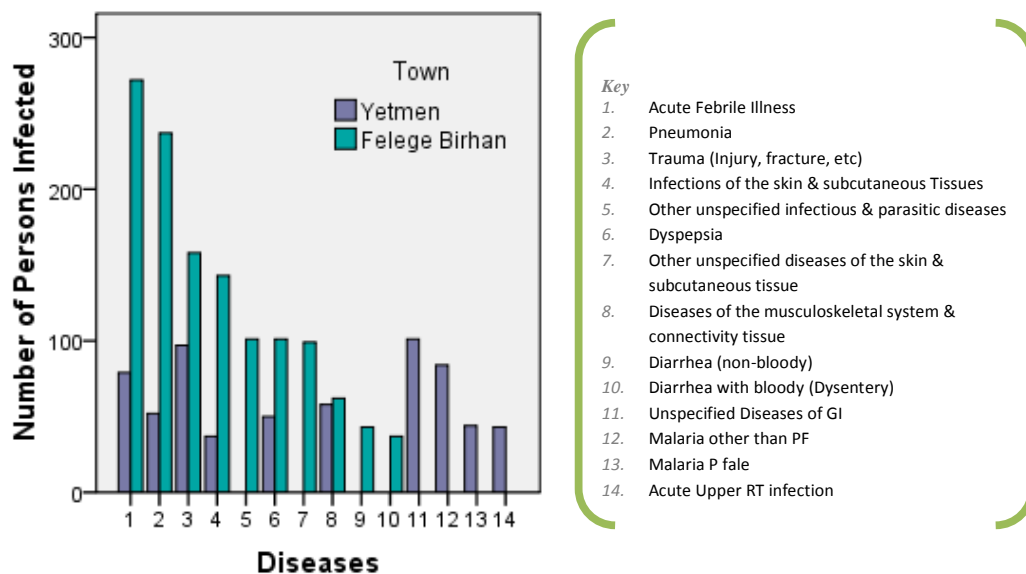
Furthermore, the qualitative data from heads of households revealed that other healthy members of the household were absent from the usual activities to give care for the ill household member. The treatment cost of the households was also analysed. Accordingly, on the average households spent 944 Birr per year for treatment. The average costs of treatment in Birr from the smallest to the largest were 288 in Yetmen, 690 Felege Birhan and 1960 in Wojel. However, great proportions of the households spent 500 Birr and less (Table 6.3).

**Table 6.3: Expenditure of the Households for Medical Treatment in 2014**

Birr	Wojel		Yetmen		Felege Birhan		Total	
	N	%	N	%	N	%	N	%
<501	84	92.3	87	95.6	133	91.7	304	93.0
501-1000	1	1.1	4	4.4	3	2.1	8	2.4
1001-1500	0	0.0	0	0.0	4	2.8	4	1.2
1501-2000	0	0.0	0	0.0	4	2.8	4	1.2
>2000	6	6.6	0	0.0	1	0.7	7	2.1
<b>Total</b>	<b>91</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>145</b>	<b>100</b>	<b>327</b>	<b>100</b>
<b>Mean</b>	<b>1960</b>		<b>288</b>		<b>690</b>		<b>944</b>	

Source: Field Survey, 2014

Households were affected by different types of diseases. The major diseases affecting the population of the study towns are depicted in Figure 6.1. The data were from July to December in Felege Birhan and October to December in Yetmen. Accordingly, the top three diseases were Acute Febrile Illness, Pneumonia and Trauma in Felege Birhan and unspecified disease of gastro intestinal, Trauma and Malaria in Yetmen (the data in Wojel was not available).



Source: Health Centers of the Respective Towns, 2014

**Figure 6.1: The Major Diseases in the Study Towns**

### 6.1.3. Labour

It is obvious that large size households have a potential for large number of labour force whereas small size households have small number of labour force available for the households' livelihood activities. The existence of labour is usually important for a household engaged in labour-intensive activities. Households of large size have also an opportunity to diversify their livelihood activities because of the availability of labour if it is properly managed. As discussed in section 5.1.3 of the preceding chapter, the size of 84, 78 and 65 per cents of the households in Wojel, Yetmen and Felege Birhan respectively was four and less than four. The sizes of considerable proportions (17% in Wojel, 22% in Yetmen and 35% in Felege Birhan) of the households were five and more than five (for further details see section 5.1.3). These large size households had, therefore, sufficient labour force available for their livelihood activities than the other households. More percentage of large household size was found in Felege Birhan than the other study towns which indicate better availability of labour force in this town. However, the data in Table 6.4 showed that Felege Birhan did not use the available labour. The household labour was not properly managed in this town.

**Table 6.4: Household Members Working in Family Business**

Number of Labour	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	26	92.9	39	73.6	65	80.2	18	66.7	32	60.4	50	62.5	38	73.1	55	65.5	93	68.4	82	76.6	126	66.3	208	71.0
2	2	7.1	10	18.9	12	14.8	7	25.9	18	34.0	25	31.2	14	26.9	27	32.1	41	30.1	23	21.5	55	28.9	78	26.6
3	0	0.0	3	5.7	3	3.7	1	3.7	3	5.7	4	5.0	0	0.0	0	0.0	0	0.0	1	0.9	6	3.2	7	2.4
4	0	0.0	1	1.9	1	1.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	1	0.3
5	0	0.0	0	0.0	0	0.0	1	3.7	0	0.0	1	1.2	0	0.0	0	0.0	0	0.0	1	0.9	0	0.0	1	0.3
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	2.4	2	1.5	0	0.0	2	1.1	2	0.7
<b>Total</b>	<b>28</b>	<b>100</b>	<b>53</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>27</b>	<b>100</b>	<b>53</b>	<b>100</b>	<b>80</b>	<b>100</b>	<b>52</b>	<b>100</b>	<b>84</b>	<b>100</b>	<b>136</b>	<b>100</b>	<b>107</b>	<b>100</b>	<b>190</b>	<b>100</b>	<b>293</b>	<b>100</b>
<b>Mean</b>	<b>1.1</b>		<b>1.4</b>				<b>1.5</b>		<b>1.5</b>				<b>1.3</b>		<b>1.4</b>				<b>1.3</b>		<b>1.4</b>			<b>t= 1.94*</b>

Source: Field Survey, 2014

\*P=0.027

As displayed in Table 6.4, the great majority of households depended on family labour for their businesses and work. About 71 and 27 per cents of the households depended on one and two members of the household respectively. Only 4 per cent of the households relied on more than two members of the household. The highest proportion (77%) of the poor relied only on one member of the household than 66 per cent of the non-poor households. About 80 per cent in

Wojel, 63 per cent in Yetmen and 69 per cent in Felege Birhan relied only on one member of the household for the household business or work followed by two members accounting for 15 per cent in Wojel, 31 per cent in Yetmen and 30 per cent in Felege Birhan. Some households relied on three and more than three household members for their businesses and livelihood activities (see Table 6.4). In general, 1.4 and 1.3 average members of the non-poor and poor households respectively participated in family business. There was a slight difference between the averages of the poor and the non-poor and this difference was not statistically significant as the  $t(266) = 1.94$ ,  $P > 0.025$  (equality of variances not assumed) showed. These findings imply that households relied on only one or two members of households to run their business or work. However, as many households replied for the open ended questions, children are supporting their families business and activities after their schooling. Key informants from the schools also confirmed this and some children are absent from school to help their farming parents especially in harvesting season.

## **6.2. Physical Assets**

### **6.2.1. Housing**

The existing literature noted that housing is the most important productive physical asset for urban residents as it becomes business and workshop centers and source of income through renting (Tegegne, 2011).

#### **6.2.1.1. Housing Tenure and Number of Rooms**

The data on housing tenure and number of rooms are presented in Table 6.5 below. With regard to the housing tenure, over half (56%) of the households lived in their own house, which was higher than the urban areas of Ethiopia (43%) as reported by CSA (2012) and the small towns of the country (35%) as studied by Tegegne (2011). About 39 per cent resided in rented house which was smaller than the national figure (50%) and small towns which accounted for 60 per cent. The proportion (52%) of the poor who dwelt in their own house was a little bit smaller than the non-poor households (58%). The proportion of households who resided in their own housing differs across the study towns. It was higher in Wojel (60%) followed by Felege Birhan (57%) and Yetmen (50%). Looking at the housing tenure of the poor and the non-poor households, 71

per cent of the poor and 55 per cent of the non-poor households in Wojel possessed a house. In contrast, 27 per cent of the poor and 37 per cent of the non-poor households in this town lived in rented house. The figures show a different picture in Yetmen and Felege Birhan where the non-poor who dwelt in their own house were higher than the poor households (see Table 6.5). The reverse was true in rented housing.

Better possession of houses in small towns is due to easy access to land (Tegegne, 2011). The other reason is low construction cost of the houses since the houses are mostly constructed by labour from family and relatives like the surrounding rural areas. The majority of houses along the main road were continuously built (see Figure 6.2). Most of the houses along the main road shared walls with the adjacent houses on both from the left and right sides. Even most of the non-poor households were not out of this problem. This might be because these towns have been grown without a guiding plan and land distribution. According to the group discussants, these were major obstacles in order to upgrade their houses.

**Table 6.5: Housing Tenure and Number of Living Rooms**

Housing Tenure	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Own	24	70.5	31	54.5	55	60.4	11	35.4	34	57.9	45	50.0	28	50.0	53	61.6	81	57.0	63	52.1	118	58.4	181	56.0
Free of rent	0	0.0	2	3.5	2	2.2	2	6.5	6	10.2	8	8.9	3	5.4	1	1.2	4	2.8	5	4.1	9	4.5	14	4.3
Rented from private	9	26.5	21	36.8	30	33.0	17	54.8	18	30.5	35	38.9	23	41.1	31	36.0	54	38.0	49	40.5	70	34.7	119	36.8
Rented from kebele	1	2.9	3	5.3	4	4.4	1	3.2	1	1.7	2	2.2	2	3.6	1	1.2	3	2.1	4	3.3	5	2.5	9	2.9
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Number of Rooms</b>																								
1	9	26.5	12	21.1	21	23.1	3	9.7	8	13.6	11	12.2	13	23.2	15	17.4	28	19.7	25	20.7	35	17.3	60	18.6
2	17	50.0	27	47.4	44	48.4	18	58.1	28	47.5	46	51.1	18	32.1	25	29.1	43	30.3	53	43.8	80	39.6	133	41.2
3	6	17.6	18	31.6	24	26.4	10	32.3	16	27.1	26	28.9	19	33.9	36	41.9	55	38.7	35	28.9	70	3.5	105	32.5
4	1	2.9	0	0.0	1	1.1	0	0.0	5	8.5	5	5.6	5	8.9	8	9.3	13	9.2	6	5.0	13	6.4	19	5.9
5	0	0.0	0	0.0	0	0.0	0	0.0	2	3.4	2	2.2	1	1.8	1	1.2	2	1.4	1	0.8	3	1.5	4	1.2
6	1	2.9	0	0.0	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	1	1.2	1	0.7	1	0.8	1	0.5	2	0.6
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Mean</b>	<b>1.9</b>		<b>2.1</b>				<b>2.2</b>		<b>2.4</b>				<b>2.3</b>		<b>2.5</b>				<b>2.2</b>		<b>2.4</b>			<b>t=1.53*</b>

Source: Field Survey, 2014

\* P=0.06

Concerning the number of rooms of the housing units, the vast majority (41%) of the households lived in two rooms housing units followed by three rooms (33%) and single room (19%) housing

units. These were different from the urban areas of Ethiopia where 43, 28 and 17 per cents of the households resided in single, two and three rooms dwelling units respectively (CSA, 2012). The result was the same in each study town except in Felege Birhan where the highest proportion (39%) of the households dwelt in three rooms housing units followed by two rooms (30%). Some 23, 20 and 12 per cents of the households in Wojel, Felege Birhan and Yetmen respectively resided in a single room housing unit. Over all, the overwhelming majority (98% in Wojel, 92% in Yetmen and 88% in Felege Birhan) of the households lived in three and less than three rooms housing units. A cursory look at Table 6.5 revealed that better proportion of the non-poor households lived in three and more than three rooms housing units, but the proportion of the poor who lived in a single and two rooms housing units was greater than the non-poor households. For example, slightly over a quarter (27% in Wojel and 23% in Felege Birhan) of the poor resided in a single room housing units while the figure was 21 per cent for the non-poor households. Conversely, a relatively higher percentage (32% in Wojel and 42% in Felege Birhan) of the non-poor dwelt in three room housing units than the poor households which accounted for 18 per cent in Wojel and 34 per cent in Felege Birhan. These results imply the existence of association between the number of rooms and poverty. The average number of rooms of the housing units of the poor and non-poor households was 2.2 and 2.4 respectively. The average of the non-poor was slightly higher than the poor households though the difference was not statistically significant as  $t(319)=1.53$ ,  $P>0.025$  test showed.

#### **6.2.1.2. Persons per Room**

Excluding the rooms exclusively used for business and work, the average number of rooms of the residential housing units of households was 2.86 which were higher than the average number of rooms (2.04) of small towns studied by Tegegne (2011). The average number of rooms was 3.12 in Wojel and Felege Birhan and 2.33 in Yetmen. Therefore, one person (0.83) per room was lived on the average (Table 6.6). There were no variations across the study towns (0.83 in Wojel, 0.84 in Yetmen and 0.81 in Felege Birhan). These results indicate the non-existence of overcrowdedness in the study towns. It was only a single household from both Wojel and Yetmen and five households from Felege Birhan who lived in an overcrowded situation (more than two persons per room). Table 6.6 also revealed that 0.7 and 0.9 person of the poor and the non-poor households respectively lived per room. The difference between these averages was statistically

significant as the  $t(318) = 5.0$ ,  $P=0.01$  test showed. The non-poor lived in a crowded situation than the poor due to the fact that the non-poor used more number of rooms for business than the poor households as illustrated in the same table.

**Table 6.6: Persons per Room and Number of Rooms Used for Work**

Persons per Room	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1	33	97.1	44	77.2	77	84.6	30	96.8	49	83.1	79	87.8	55	98.2	72	83.7	127	89.4	118	97.5	165	81.7	283	87.6
2	1	2.9	12	21.1	13	14.3	1	3.2	9	15.3	10	11.1	0	0.0	9	10.5	9	6.3	2	1.7	30	14.9	32	9.9
3	0	0.0	1	1.8	1	1.1	0	0.0	1	1.7	1	1.1	1	1.8	5	5.8	6	4.2	1	0.8	7	3.5	8	2.5
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Mean</b>	<b>0.6</b>		<b>1</b>				<b>0.7</b>		<b>0.9</b>				<b>0.7</b>		<b>0.9</b>				<b>0.7</b>		<b>0.9</b>			<b>t=5.0*</b>
<b>Rooms for work</b>																								
1	11	91.7	25	86.2	36	87.8	5	71.4	13	100.0	18	90.0	11	68.8	19	61.3	30	63.8	27	77.1	57	78.1	84	77.8
2	1	8.3	3	10.3	4	9.8	2	28.6	0	0.0	2	10.0	4	25.0	11	35.5	15	31.9	7	20.0	14	19.2	21	19.4
3	0	0.0	1	3.4	1	2.4	0	0.0	0	0.0	0	0.0	1	6.2	1	3.2	2	4.3	1	2.9	2	2.7	3	2.8
<b>Total</b>	<b>12</b>	<b>100</b>	<b>29</b>	<b>100</b>	<b>41</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>73</b>	<b>100</b>	<b>108</b>	<b>100</b>
<b>Mean</b>	<b>1.1</b>		<b>1.2</b>				<b>1.3</b>		<b>1</b>				<b>1.3</b>		<b>1.4</b>				<b>1.3</b>		<b>1.4</b>			<b>t=0.1**</b>

Source: Field Survey, 2014

\* $P=0.01$  \*\*  $P=0.46$

Besides sheltering, the study found that 108 (33%) of the households worked in their residential housing units. Significant differences were observed among the study towns where 45% in Wojel, 33% in Felege Birhan and 22% in Yetmen in decreasing order used one or more than one rooms from their residential housing units for workshops, stores and business centers. The vast majority (78%) of these households were performing their activities in a single room. A closer look at Table 6.6 revealed that higher proportion (88% in Wojel and 90% in Yetmen) of the households were using a single room while relatively lower proportion (64%) of the households in Felege Birhan were doing their business activities in a single room. In addition, 4 (4.4%) in Wojel and 5 (3.5%) in Felege Birhan) of the households were pursuing their livelihoods through renting a house. These findings of the study indicate that housing is the most important asset of households in these urban centers as the housing units are used for shelter, workshops/business centers and direct source of income. However, the housing units of the overwhelming majority of the households cannot be used for collateral to borrow from a bank since they had no site plan. The disaggregated data by poverty revealed that relatively equal proportion of the poor and non-poor in each number of rooms from their residential units were used for doing business from

their residential units. Though not statistically significant  $t(106)=0.1$ ,  $P>0.025$ , on the average 1.4 and 1.3 rooms for the non-poor and poor households respectively were used for centers of business and workshops.

### 6.2.1.3. Housing Materials

Table 6.7 illustrated that almost all housing units were constructed from low standard materials. The quality of the residential houses was low in terms of materials they were constructed from. The materials of the wall of the housing units of the overwhelming majority (98%) of the households were wood and mud which was equal to the small towns (98%) as studied by Tegegne (2011), but greater than the urban areas of Ethiopia (78%). Significant discrepancies were not observed among the study towns. The wall of about 99, 98 and 97 per cents of the housing units in Wojel, Yetmen and Felege Birhan respectively were wood and mud. A further investigation of Table 6.7 showed the absence of huge variation between the poor and the non-poor households though the materials of the wall of the housing units of the few (3%) non-poor households were stone, mud and cement. Moreover, the wall of some of the housing units was uncovered or partially covered by mud from the outside (see Figure 6.2).

**Table 6.7: Housing Materials of the Households**

Wall	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Wood & mud	34	100	56	98.2	90	98.9	31	100	57	96.6	88	97.8	54	96.4	84	97.7	138	97.2	119	98.3	197	97.5	316	97.8
Wood, Stone & Cement	0	0.0	1	1.8	1	1.1	0	0.0	2	3.4	2	2.2	2	3.6	2	2.4	4	2.8	2	1.7	5	2.5	7	2.2
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Floor</b>																								
Mud/dung	33	97.1	53	93.0	86	94.5	30	96.8	52	88.1	82	91.1	55	98.2	86	100	141	99.3	118	97.5	191	94.6	309	95.7
Cement screed	1	2.9	4	7.0	5	5.5	1	3.2	7	11.9	8	8.9	1	1.8	0	0.0	1	0.7	3	2.5	11	5.4	14	4.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Ceiling</b>																								
No ceiling	16	47.1	21	36.8	37	40.7	18	58.1	19	32.2	37	41.1	37	66.1	32	37.2	69	48.6	71	58.7	72	35.6	143	44.3
Sack	18	52.9	32	56.1	50	54.9	12	38.7	35	59.3	47	52.2	19	33.9	48	55.8	67	47.2	49	40.5	115	56.9	164	50.8
Cloth	0	0.0	4	7.0	4	4.4	1	3.2	5	8.5	6	6.7	0	0.0	5	5.8	5	3.5	1	0.8	14	6.9	15	4.6
Chip wood	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.2	1	0.7	0	0.0	1	0.5	1	0.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Field Survey, 2014

Similarly, the floor of about 96 per cent of the housing units was mud and dung which was higher than small towns (89%) as investigated by Tegegne (2011). There was some variation among the study towns where the floor of 99, 95 and 91 per cents of the housing units in Felege Birhan, Wojel and Yetmen respectively was mud and dung while the floor of the remaining percentage of the housing units in each town was cement or screed. The majority of cement or screed floor housing units were for the non-poor households (see Table 6.7). The roof of the entire housing units of the households was corrugated iron sheets which were higher than the survey results of CSA (94%) and Tegegne (97%). Furthermore, considerable proportion (44%) of the residential houses had no ceiling (Table 6.7). The data by individual town indicated that the housing units of 41 per cent in Wojel and Yetmen and 49 per cent in Felege Birhan were without ceiling. The housing units of about 59 per cent of the poor and 34 per cent of the non-poor households had no ceiling. Similar pattern was observed across the study towns (see Table 6.7). Over half (56%) of the residential houses had ceilings though the quality of the material for the majority of the housing units was very low. The ceiling materials for 91 per cent of the housing units were plastics and sacks of fertilizer (see the 4<sup>th</sup> picture from the left in Figure 6.2).



**Figure 6.2: Pictures Showing the Housing Materials**

#### **6.2.1.4. Housing Utilities**

The data on kitchen, oven, latrine and bathing facility are illustrated in Table 6.8. Concerning kitchen, about 82 per cent of the housing units had traditional kitchen. Likewise, the great majority (89% in Wojel, 82% in Yetmen and 78% in Felege Birhan) of the housing units had kitchen whereas the remaining 11, 18 and 23 per cents in Wojel, Yetmen and Felege Birhan respectively had no kitchen. The percentage of the poor who dwelt in housing units without kitchen was higher than the non-poor households in Yetmen and Felege Birhan. About 71 per

cent of the households had a room outside the housing unit (Figure 6.3) while 11 per cent of households had a room inside the housing unit. About 77% in Wojel, 70% in Yetmen and 65% in Felege Birhan had a room for traditional kitchen outside of the housing unit while the remainder of the households in each town had traditional kitchen inside the housing units. As illustrated in Figure 6.3, many of the kitchens were very small and not well covered. These kitchens were built either in front of the housing unit or at the backyard or verandas of the residential house (Figure 6.3). There were slight variations between the percentage of the poor and the non-poor households where the non-poor were higher than the poor households (see Table 6.8).



**Figure 6.3: Kitchen in the Study Towns**

With regard to oven, the overwhelming majority (93%) of the households had oven in their housing units. Similarly, over 90 per cent of the households in each study town had oven in their housing units. The figure was a bit higher in Yetmen (96%) whereas the figures for the other study towns were close to the average. About 43 and 32 per cents of the households had removable and non-removable traditional oven respectively while 17 and only 1 per cents of the households had improved energy saving and electric oven respectively. The figures across the study towns were inconsistent. The owners of improved energy saving and electric oven were much higher in Wojel (31%) followed by Felege Birhan (18%) while the owners of removable traditional oven were higher in Yetmen (57%) followed by Felege Birhan (49%). Though not large, the percentage of the poor who had traditional removable oven was higher than the non-poor households except in Felege Birhan (see Table 6.8). This is probably associated with the presence and absence of space in the house and compound or kitchen. Those who had sufficient space in their kitchen had non-removable oven than those who had insufficient space in their kitchen. As can be seen in Figure 6.3, kitchens are very small in size. As the poor reported, they had no removable oven because they need the space in the kitchen for cooking other foods.

**Table 6.8: Housing Utilities of the Households**

Types of Kitchen	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No kitchen	1	2.9	9	15.8	10	11.0	7	22.6	9	15.3	16	17.8	18	32.1	14	16.3	32	22.5	26	21.5	32	15.8	58	18.0
A room for traditional kitchen inside housing unit	3	8.7	5	8.8	8	8.8	4	12.9	6	10.2	10	11.1	6	10.7	11	12.8	17	12.0	13	10.7	22	10.9	35	10.8
A room for traditional kitchen outside housing unit	30	88.2	43	75.4	73	80.2	20	64.5	44	74.6	64	71.1	32	57.1	61	71.0	93	65.5	82	67.8	148	73.3	230	71.2
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Oven</b>																								
Traditional oven removable	8	23.5	10	17.5	18	19.8	22	71.0	29	49.2	51	56.7	30	53.6	40	46.5	70	49.3	60	49.6	79	39.1	139	43.0
Traditional oven not removable	13	38.2	23	40.4	36	39.6	8	25.8	25	42.4	33	36.7	14	25.0	19	22.1	33	23.2	35	28.9	67	33.2	102	31.6
Improved energy saving oven	12	35.3	16	28.1	28	30.8	0	0.0	2	3.4	2	2.2	8	14.3	18	20.9	26	18.3	20	16.5	36	17.8	56	17.3
Electric oven	0	0.0	3	5.3	3	3.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	1.5	3	0.9
No oven	1	2.9	5	8.8	6	6.6	1	3.2	3	5.1	4	4.4	4	7.1	9	10.5	13	9.2	6	5.0	17	8.4	23	7.1
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Latrine</b>																								
Private pit latrine ventilated	0	0.0	4	7.1	4	4.4	1	3.2	0	0.0	1	1.1	0	0.0	0	0.0	0	0.0	1	0.8	4	2.0	5	1.5
Shared pit latrine ventilated	2	5.9	9	15.8	11	12.1	3	9.7	5	8.5	8	8.9	4	7.1	8	9.3	12	8.5	9	7.4	22	10.9	31	9.6
Private pit latrine not ventilated	14	41.2	21	36.8	35	38.5	8	25.8	33	55.9	41	45.6	30	53.6	58	67.4	88	62.0	52	43.0	112	55.4	164	50.8
Shared pit latrine not ventilated	13	38.2	14	24.6	27	29.7	11	35.5	9	15.3	20	22.2	5	8.9	9	10.5	14	9.9	29	24.0	32	15.8	61	18.9
Open field/forest	5	14.7	9	15.8	14	15.4	8	25.8	12	20.3	20	22.2	17	30.4	11	12.8	28	19.7	30	24.8	32	15.8	62	19.2
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Bathing Facility</b>																								
Private shower	1	2.9	0	0.0	1	1.1	0	0.0	1	1.7	1	1.1	1	1.8	10	11.6	11	7.7	2	1.7	11	5.4	13	4.0
Shared shower	1	2.9	0	0.0	1	1.1	0	0.0	2	3.4	2	2.2	0	0.0	1	1.2	1	0.7	1	0.8	3	1.5	4	1.2
A room reserved for bathing private	7	20.6	9	15.8	16	17.6	1	3.2	1	1.7	2	2.2	1	1.8	4	4.7	5	3.5	9	7.4	14	6.9	23	7.1
A room reserved for bathing shared	3	8.8	8	14.0	11	12.1	0	0.0	0	0.0	0	0.0	0	0.0	4	4.7	4	2.8	3	2.5	12	5.9	15	4.6
No fixed place for bathing	22	64.7	40	70.2	62	68.1	30	97.8	55	93.2	85	94.5	54	96.5	67	77.9	121	85.2	106	87.6	162	80.2	268	83.0
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Field Survey, 2014

With respect to latrine, about 81 per cent of the households had latrine whereas the remaining 19 per cent of the households had no latrine. The households who had no latrine were greater than the urban areas of Ethiopia (13%) as reported by CSA (2012), but smaller than small towns (38%) as studied by Tegegne (2011). Latrine owned households was a bit higher in Wojel (85%) followed by Felege Birhan (80%) and Yetmen (78%). Those households who had no latrine defecate in open fields at the backyards or forests (Figure 6.4). Of these households who defecate on open fields or forests, the poor (25%) were higher than the non-poor (15%) by 10 percentage points (Table 6.8). About 70 per cent of the households had non-ventilated pit latrine. Huge variations were not observed among the study towns (see Table 6.8). The structures of many of the latrines were very poor (see Figure 6.4). They had no proper and well covered walls. It was observed that some of the latrines were unused. The owners of these latrines rather defecate on open spaces/forests close to the latrine. Interview with the health extension leaders also confirmed this.



**Figure 6.4: Pit Latrines in the Study Towns**

Concerning the bathing facilities, the data in Table 6.8 revealed that the vast majority (83%) of the households had no fixed place for bathing. The figures in Yetmen (87%) and Felege Birhan (85%) were above the average whereas the figure in Wojel (68%) was below the average by 15 percentage points. As these households reported they usually take a bath in rivers. Only 5 and 7 per cents of the households had a shower and a room reserved for bathing respectively. Some discrepancies were observed among the study towns. Only 8, 3 and 2 per cents of the households in Felege Birhan, Yetmen and Wojel respectively had either private or shared shower (Table 6.8). Some 30, 10 and 6.2 per cents of the households in Wojel, Yetmen and Felege Birhan respectively had a room reserved for bathing. Generally, both the consumption poor and non-poor households were poor in housing materials and utilities.

## 6.2.2. Durable Assets

Durable assets are important for households as these assets are insurances for the households in case of shocks and some of the durable assets are productive assets which are useful for the generation of income for the households. The study found that households owned different kinds of durable assets ranging from low value to high value ones. These durable assets are non-productive and productive assets. As can be seen in Table 6.9; about 67, 63 and 50 per cent of the households had bed, agricultural tools and water storage pit respectively. The proportion of the non-poor who owned these durable assets was greater than the poor households by a greater margin, for example, 30 percentage points in terms of bed ownership. Besides, relatively high proportion of the non-poor had high value durable assets such as car, jewels, television and dish than the poor households. Furthermore, better proportion of the non-poor had diverse types of durable assets than the poor households.

**Table 6.9: The Percentage of Households Who Owned Durable Assets**

Durable Asset	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Bed	19	55.9	46	80.7	65	71.4	15	48.4	54	91.5	69	76.7	25	44.6	58	67.4	83	58.5	59	48.8	158	78.2	217	67.2
Agricultural tools	27	79.4	42	73.7	69	75.8	16	51.6	46	78.0	62	68.9	28	50.0	43	50.0	71	50.0	71	58.7	131	64.9	202	62.5
Water storage pit	1	2.9	4	7.0	5	5.5	14	45.2	40	67.8	54	60.0	33	58.9	69	80.2	102	71.8	48	39.7	113	55.9	161	49.8
Dish Shelf	8	23.5	20	35.1	28	30.8	9	29.0	28	47.5	37	41.1	14	25.0	50	58.1	64	45.1	31	25.6	98	48.5	129	39.9
Television	6	17.6	23	40.4	29	31.9	4	12.9	19	32.2	23	25.6	12	21.4	34	39.5	46	32.4	22	18.2	76	37.6	98	30.3
Radio/Tape recorder	10	29.4	24	42.1	34	37.4	6	19.4	27	45.8	33	36.7	7	12.5	22	25.6	29	20.4	23	19.0	73	36.1	96	29.7
Locker/ clothes box	10	29.4	20	35.1	30	33.0	8	25.8	34	57.6	42	46.7	3	5.4	13	15.1	16	11.3	21	17.4	67	33.2	88	27.2
CD/DVD player	4	11.8	20	35.1	24	26.4	4	12.9	16	27.1	20	22.2	10	17.9	28	32.6	38	26.8	18	14.9	64	31.7	82	25.4
Gold/silver jewel	5	14.7	18	31.6	23	25.3	1	3.2	25	42.4	26	28.9	4	7.1	25	29.1	29	20.4	10	8.3	68	33.7	78	24.1
Carpenter's tools	13	38.2	13	22.8	26	28.6	5	16.1	19	32.2	24	26.7	3	5.4	12	14.0	15	10.6	21	17.4	44	21.8	65	20.1
Dish	2	5.9	13	22.8	15	16.5	1	3.2	12	20.3	13	14.4	10	17.9	25	29.1	35	24.6	13	10.7	50	24.8	63	19.5
Electric stove & oven	0	0.0	7	12.3	7	7.7	2	6.5	7	11.9	9	10.0	1	1.8	3	3.5	4	2.8	3	2.5	17	8.4	20	6.2
Complete Sofa	0	0.0	3	5.3	3	3.3	0	0.0	6	10.2	6	6.7	2	3.6	3	3.5	5	3.5	2	1.7	12	5.9	14	4.3
Sewing Machine	2	5.9	1	1.8	3	3.3	3	9.7	2	3.4	5	5.6	0	0.0	4	4.7	4	2.8	5	4.1	7	3.5	12	3.7
Car	0	0.0	4	7.0	4	4.4	0	0.0	2	3.4	2	2.2	1	1.8	1	1.2	2	1.4	1	0.8	7	3.5	8	2.5
Refrigerator	0	0.0	3	5.3	3	3.3	0	0.0	3	5.1	3	3.3	0	0.0	0	0.0	0	0.0	0	0.0	6	3.0	6	1.9
Bicycle	0	0.0	2	3.5	2	2.2	0	0.0	0	0.0	0	0.0	0	0.0	2	2.3	2	1.4	0	0.0	4	2.0	4	1.2
<b>Total</b>	<b>34</b>	<b>*</b>	<b>57</b>	<b>*</b>	<b>91</b>	<b>*</b>	<b>31</b>	<b>*</b>	<b>59</b>	<b>*</b>	<b>90</b>	<b>*</b>	<b>56</b>	<b>*</b>	<b>86</b>	<b>*</b>	<b>142</b>	<b>*</b>	<b>121</b>	<b>*</b>	<b>202</b>	<b>*</b>	<b>323</b>	<b>*</b>

Source: Field Survey, 2014

\* Not added due to multiple response

As stated earlier, durable assets can be categorised as productive and non-productive assets. The productive durable assets of the households include agricultural tools, carpenter's tools, sewing

machine, car and bicycle possessed by 63, 20, 4, 3, 1 per cents of the households respectively. The other durable assets listed in Table 6.9 are non-productive assets. With regard to the durable assets that can be used for sources of information for the household, 30 and 30 per cents of the households had television and radio respectively. The non-poor households who possessed these durable assets were higher than the poor households (see Table 6.9).

The data on the estimated values of these durable assets are illustrated in Table 6.10. As can be seen in the table, the estimated value of the durable assets of nearly three fifths (57%) of the households was less than 1,501 Birr per capita. The estimated values of durable assets for 20 per cent and 12 per cent of the households were from 1,501 to 3,000 and 3,001 to 4,500 Birr per capita respectively. The estimated value of durable assets for nearly 9 out of 10 households (89%) was less than 4,501 Birr per capita. It was only 10 per cent of the households whose estimated value of the durable assets was greater than 4,500 Birr per capita and almost all of them were the non-poor households.

**Table 6.10: Total per Capita Value of Durable Assets of Households**

Total Value In Birr	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-1500	28	82.4	19	33.3	47	51.6	27	87.1	18	30.5	45	50.0	45	80.4	46	53.5	91	64.1	100	82.6	83	41.1	183	56.7
1501-3000	5	14.7	11	19.3	16	17.6	3	9.7	14	23.7	17	18.9	6	10.7	25	29.1	31	21.8	14	11.6	50	24.8	64	19.8
3001-4500	1	2.9	16	28.1	17	18.7	1	3.2	14	23.7	15	16.7	3	5.4	5	5.8	8	5.6	5	4.1	35	17.3	40	12.4
4501-6000	0	0.0	3	5.3	3	3.3	0	0.0	0	0.0	0	0.0	2	3.6	4	4.7	6	4.2	2	1.7	7	3.5	9	2.8
6001-7500	0	0.0	1	1.8	1	1.1	0	0.0	6	10.2	6	6.7	0	0.0	0	0.0	0	0.0	0	0.0	7	3.5	7	2.2
7501-9000	0	0.0	3	5.3	3	3.3	0	0.0	5	8.5	5	5.6	0	0.0	2	2.3	2	1.4	0	0.0	10	5.0	10	3.1
>9000	0	0.0	4	7.0	4	4.4	0	0.0	2	3.4	2	2.2	0	0.0	4	4.7	4	2.8	0	0.0	10	5.0	10	3.1
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Mean</b>	<b>1044.0</b>		<b>3444.50</b>		<b>2547.60</b>		<b>754.40</b>		<b>3384.30</b>		<b>2460.10</b>		<b>1010.80</b>		<b>2158.65</b>		<b>1705.25</b>		<b>951.50</b>		<b>2883.10</b>		<b>t=7.4*</b>	

Source: Field Survey, 2014

\*P=0.000

Looking at the value of durable assets by poverty status of households, the estimated per capita value of durable assets for over four fifths (83%) of the poor households was less than 1,501 Birr. The figure was slightly over two fifths (41%) for the non-poor households. As can be seen in the table, the proportion of the non-poor households was greater than the poor households in other categories and no poor households had durable assets of estimated value greater than 6,000 Birr per capita. The same results were found in each study town (see Table 6.10). The average

per capita values of durable assets of the non-poor and the poor households were 2,883 and 952 Birr respectively. There was, thus, huge difference between these average values and this difference was statistically significant at the 99 per cent level of significance,  $t(277) = 7.4$ . These imply that the consumption poor households owned small number of durable assets and these assets were low value durable assets. Thus, the poor households had no or little reserve to be used as insurance during emergencies. The consumption poor households were also poor in the possession of durable assets.

### **6.2.3. Infrastructure**

As described in chapter 4, the study towns had the same level of infrastructural development. Households' access to some infrastructures is discussed in this section. The data on the sources of drinking water, light, cooking fuel and communication infrastructure are presented in Table 6.11. Concerning the sources of drinking water, the sources of 95 per cent of the households were safe which were equivalent to the urban areas of Ethiopia (95%), but higher than small towns (74%) as studied by Tegegne (2011). Only 5 per cent of the households had no access to safe sources. The main source of drinking water for the majority (40%) of the households was communal tap which was smaller than the urban areas of Ethiopia (66%) and small towns (62%). This was followed by private tap (35%) which were greater than the urban areas of Ethiopia (24%) and the small towns (15%). Striking differences were observed among the study towns where the source of drinking water for 54 and 44 per cents of the households in Yetmen and Felege Birhan respectively was private tap. In contrast, the source of drinking water for 52 per cent of the households in Wojel was hand-pump water points. The hand-pump water points in Wojel are found within the farmland far from the town (see Figure 6.5). Furthermore, the source of drinking water for 42 per cent of the households in Wojel was protected and unprotected well (see the third picture from the left in Figure 6.5). The sources of drinking water for 7 and 4 per cents of the households in Yetmen and Felege Birhan respectively were protected and unprotected well.

The data by poverty status of the households showed that the source of drinking water for over half (52%) of the poor was communal tap which were higher than the non-poor households (32%). Conversely, the source of drinking water for 40 and 26 per cents of the poor and the non-poor households respectively was private tap. Even though the proportion was higher in Yetmen,

the same thing was observed in Felege Birhan. The source of drinking water for 68 per cent of the poor and 42 per cent of the non-poor households in Wojel was from communal hand-pump water points. The percentage of the poor was, therefore, higher than the non-poor households mainly because the poor households were unable to dig a well resulting from lack of labour or money to pay for the labour. The highest proportion (56%) of the non-poor had well than 32 per cent of the poor households. This is because the non-poor use well water because of the long lines to fetch water from the water points and the relatively long distance from home to these points (Figure 6.5). In contrast, the large majority (66%) of the non-poor and 36 per cent of the poor households had private tap water in Yetmen.



**Figure 6.5: The Water Points and Rows of Jar at the Points in Wojel**

With respect to the source of light, the overwhelming majority (98%) of the households had access to electricity for lighting which was higher than the findings of urban areas of Ethiopia (85%) and small towns (93%) as investigated by Tegegne (2011). Some 40, 40, 19 per cents of the households had no their own meter, had their own meter and shared meter respectively. Some 46 per cent of the poor and 30 per cent of the non-poor households had private electric meter. In other arrangements, the poor were higher than the non-poor households by a small margin (see Table 6.11). The data by individual study town also showed the same pattern. Out of the total households, 44 per cent in Wojel, 47 per cent in Yetmen and 32 per cent in Felege Birhan had private electric meter while 34, 40 and 43 per cents of the households respectively had no own meter. Relatively, the percentage of the non-poor who had their own meter was higher than the poor households. On the contrary, the percentage of the poor who had no own meter was higher than the non-poor households (see Table 6.11). The source of light for only 2 per cent of the households was dry cell and kerosene.

**Table 6.11: Sources of Water, Light and Cooking Energy and Access to Telecommunication**

Source of Drinking Water	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Private tap in the compound	0	0.0	0	0.0	0	0.0	11	35.5	39	66.1	50	55.5	21	37.5	42	48.8	63	44.3	32	26.4	81	40.1	113	35.0
Shared tap in the compound	0	0.0	0	0.0	0	0.0	2	6.5	1	1.7	3	3.3	7	12.5	11	12.8	18	12.7	9	7.4	12	5.9	21	6.5
Communal tap outside compound ***	23	67.7	24	42.1	47	51.7	14	45.1	15	25.4	29	32.2	26	46.4	26	30.3	52	36.6	63	52.1	65	32.2	128	39.6
Water from kiosks/retailers	0	0.0	1	1.8	1	1.1	1	3.2	1	1.7	2	2.2	1	1.8	2	2.3	3	2.1	2	1.7	4	2.0	6	1.9
Protected well private	3	8.8	8	14.0	11	12.1	3	9.7	0	.0	3	3.3	0	0.0	1	1.2	1	0.7	6	5.0	9	4.5	15	4.6
Protected well shared	3	8.8	11	19.3	14	15.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	2.5	11	5.4	14	4.3
Unprotected well private	2	5.9	6	10.5	8	8.8	0	0.0	2	3.4	2	2.2	1	1.8	4	4.7	5	3.5	3	.5	12	5.9	15	4.6
Rain water & unprotected well Private	0	0.0	1	1.8	1	1.1	0	0.0	1	1.7	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	2	1.0	2	0.6
Public tap, protected well private & rain water	3	8.8	6	10.6	9	9.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	2.5	6	3.0	9	2.8
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Source of Light</b>																								
Electricity meter-private	13	38.2	27	47.4	40	44.0	7	22.6	35	59.3	42	46.7	15	26.8	31	36.0	46	32.4	35	28.9	93	46.0	128	39.6
Electricity meter-shared	7	20.6	12	21.1	19	20.9	7	22.6	4	6.8	11	12.2	15	26.8	17	19.8	32	22.5	29	24.0	33	16.3	62	19.2
Electricity rented from private	13	38.2	18	31.6	31	34.1	16	51.6	20	33.9	36	40.0	24	42.9	37	43.0	61	43.0	53	43.8	75	37.1	128	39.6
Dry cell/kerosene	1	2.9	0	0.0	1	1.1	1	3.2	0	0.0	1	1.1	2	3.6	1	1.2	3	2.1	4	3.3	1	0.5	5	1.5
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Source of Cooking Fuel</b>																								
Firewood	10	29.4	11	19.3	21	23.1	11	35.5	7	11.9	18	20.0	25	44.6	22	25.6	47	33.1	46	38.0	40	19.8	86	26.6
Charcoal	0	0.0	1	1.8	1	1.1	0	0.0	*1	1.7	1	1.1	0	0.0	1	1.2	1	0.7	0	0.0	3	1.5	3	0.9
Firewood & charcoal	5	14.7	**15	26.4	20	22.0	2	6.5	11	18.6	13	14.4	29	51.8	62	72.1	91	64.1	36	29.8	88	43.6	124	38.4
Firewood & animal dung	15	44.1	19	33.3	34	37.4	6	19.4	5	8.5	11	12.2	1	1.8	1	1.2	2	1.4	22	18.2	25	12.4	47	14.6
Firewood, Charcoal, leaf & crop residue	1	2.9	3	5.3	4	4.4	1	3.2	1	1.7	2	2.2	1	1.8	0	0.0	1	0.7	3	2.5	4	2.0	7	2.2
Firewood, dung & charcoal	3	8.8	8	14.1	11	12.1	11	35.5	34	57.6	45	50.0	0	0.0	0	0.0	0	0.0	14	11.6	42	20.8	56	17.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Telecommunication</b>																								
Mobile phone	25	73.5	49	86	74	81.3	19	61.3	52	88.1	71	78.9	28	50	69	80.2	97	68.3	72	59.5	170	84.2	242	74.9
Fixed Phone	1	2.9	5	8.8	6	6.6	2	6.5	15	25.4	17	18.9	4	7.1	7	8.1	11	7.7	7	5.8	27	13.4	34	10.5
<b>Total</b>	<b>34</b>		<b>57</b>		<b>91</b>		<b>31</b>		<b>59</b>		<b>90</b>		<b>56</b>		<b>86</b>		<b>142</b>		<b>121</b>		<b>202</b>		<b>323</b>	

Source: Field Survey, 2014

\*also uses kerosene \*\* one also uses electricity \*\*\* Hand Pumped in Wojel

As regards the sources of cooking fuel, the basic sources of cooking energy for the entire surveyed households were traditional. The sources in order of importance from the highest to the lowest were firewood, charcoal and animal dung. The vast majority of the households combined at least two sources of cooking energy. Some 44 per cent of the non-poor households combined firewood and charcoal while some 38 per cent of the poor households relied only on one source of cooking energy (that is, firewood). The sources of cooking energy for 38, 27, 17 and 15 per cents of the households were firewood and charcoal; firewood; firewood, animal dung and charcoal and firewood and animal dung respectively. The primary sources of cooking energy were firewood and animal dung in Wojel (37%); firewood, animal dung and charcoal in Yetmen (50%) and firewood and charcoal in Felege Birhan (64%). The poor in Wojel and Yetmen largely depended on animal dung among other sources like households in rural areas whereas the non-poor largely depended on firewood and charcoal (see Table 6.11). However, no huge difference was observed between the poor and the non-poor households in Felege Birhan. Modern sources of cooking energy such as kerosene, biogas and electricity were not used as the primary source of cooking energy. These were uncommon sources of cooking energy like rural areas of the country. Even the proportion (12%) of the households who had modern sources in urban areas of Ethiopia in 2011 was very small. The sources of cooking energy will affect the health of both humans and the environment (the environment through deforestation).

Concerning communication infrastructure, three fourths (75%) and nearly 1 out of 10 (11%) of the households were mobile and fixed line subscribers respectively. The figures in mobile subscribers in Wojel (81%) and Yetmen (79%) were higher than Felege Birhan (68%). The data by poverty status of the households revealed that 84 per cent of the non-poor and 60 per cent of the poor households were mobile subscribers. Likewise, the non-poor fixed line subscribers were higher than the poor households (see Table 6.11). These results show that high proportion of the poor households had no access to communication infrastructure and these probably will affect their business activities as they do not quickly access market information through mobile phone.

#### **6.2.4. Livestock**

This is another productive asset available for households as households used oxen for plough, donkeys for transportation of goods and agricultural products and direct consumption and selling of animal products like milk and milk products. Livestock here includes all types and kinds of

domestic animals like cattle, sheep, goats, donkey, etc. According to Tegegne (2011), households in small towns had better possession of livestock than large towns. The survey revealed that a quarter (25%) of the households possessed livestock (Table 6.12) which was higher than the result of the study of Tegegne (2011) for small towns (19%). Some 27 per cent of the non-poor and 20 per cent of the poor households owned livestock. The proportion was a bit higher in Wojel (29%) than Yetmen (23%) and Felege Birhan (23%). Some 29, 16 and 16 per cents of the poor in Wojel, Yetmen and Felege Birhan respectively possessed livestock. The non-poor households (28% in Wojel, 27% in Yetmen and 27% in Felege Birhan) possessed livestock.

**Table 6.12: Percentage of Households Who Owned Livestock**

		Poor		Non-poor		Total	
		N	%	N	%	N	%
Wojel	Owned	10	29.4	16	28.1	26	28.6
	Not Owned	24	70.6	41	71.9	65	71.4
	Total	34	100	57	100	91	100
Yetmen	Owned	5	16.1	16	27.1	21	23.3
	Not Owned	26	83.9	43	72.9	69	76.7
	Total	31	100	59	100	90	100
Felege Birhan	Owned	9	16.4	23	26.7	32	22.7
	Not owned	46	83.6	63	73.3	109	77.3
	Total	55	100	86	100	141	100
All Towns	Owned	24	20.0	55	27.2	79	24.5
	Not owned	96	80.0	147	72.8	243	75.5
	Total	120	100	202	100	322	100

Source: Field Survey, 2014

Significant proportion of the households possessed livestock because of easy access to grazing land in the nearby rural areas. Generally, the percentage of the non-poor who possessed livestock was slightly higher than the poor households in the study towns except in Wojel. This is probably associated with the availability of other assets such as shelter, labour and finance where the non-poor were far better than the poor households in the possession of these assets as discussed earlier. The availability of space to keep animals at night is the most important factor. The group discussants revealed that many households did not own livestock resulting from mainly the limited space in their residential house or compound to keep them at night. The size of households' possession of livestock by tropical livestock unit will be discussed in chapter eight.

### 6.3. Natural Assets

The major natural assets households make a living include agricultural land, grazing land and water. Agricultural and grazing lands were the most important natural assets to some of the households in order to pursue their livelihoods. Out of the total households, about a third (32%) possessed agricultural land (Table 6.13). This productive asset is situated in rural areas. This result was not consistent with the result of Tegegne (2011) which accounted for only 4 per cent in small towns. When disaggregated by poverty status, 29 per cent of the poor and 33 per cent of the non-poor households owned agricultural land. Huge differences in terms of land ownership were observed among the study towns. The figure was higher in Yetmen (43%) followed by Wojel (35%) and Felege Birhan (22%). These discrepancies were partly associated with the percentage of migrants from rural areas which was higher in Yetmen (see Chapter 5). According to some informants in Felege Birhan, the confiscated agricultural land of those who leave rural areas during the *Derge* regime did not returned when it was redistributed in the current government in 1996 unlike the migrant household heads of the other study towns. This was one of the reasons why the proportion of land owners was small in Felege Birhan. The other probable reason to this may be years of migration which needs of course an investigation.

**Table 6.13: Agricultural Land Ownership, Holding Size and Tenure**

Whether Land Owned/not	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Owned	10	29.4	22	38.6	32	35.2	14	45.2	25	42.4	39	43.3	11	19.6	20	23.3	31	21.8	35	28.9	67	33.2	102	31.6
Not Owned	24	70.6	35	61.4	59	64.8	17	54.8	34	57.6	51	56.7	45	80.4	66	76.7	111	78.2	86	71.1	135	66.8	221	68.4
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Land Tenure</b>																								
Private	5	50.0	19	86.4	24	75.0	9	64.3	23	92.0	32	82.2	10	90.9	19	95.0	29	93.6	24	68.6	61	91.0	85	83.3
Inherited	1	10.0	2	9.1	3	9.4	3	21.4	1	4.0	4	10.3	0	0.0	1	5.0	1	3.2	4	11.4	4	6.0	8	7.8
Private & Rented	2	20.0	1	4.5	3	9.4	1	7.1	1	4.0	2	3.2	1	9.1	0	0.0	1	3.2	4	11.4	2	3.0	6	5.9
Private & Sharecropping	2	20.0	0	0.0	2	6.2	1	7.1	0	0.0	1	2.6	0	0.0	0	0.0	0	0.0	3	8.6	0	0.0	3	2.9
<b>Total</b>	<b>10</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>67</b>	<b>100</b>	<b>102</b>	<b>100</b>

Source: Field Survey, 2014

\*P=0.17

The data by individual study town showed that some 39 per cent in Wojel, 42 per cent in Yetmen and 23 per cent in Felege Birhan of the non-poor possessed agricultural land while the figures were 29, 45 and 20 per cents of the poor households respectively. These results indicate that

considerable percentage of households in these towns pursue a living from the natural asset and both the poor and the non-poor households depended on this natural resource though the non-poor were a bit higher than the poor. According to the group discussants and some key informants, agricultural land together with non-farm activities was the most important asset for some households to accumulate wealth (the contribution of agriculture to household income will be discussed in chapter eight).

As far as land tenure is concerned, the tenure of 83 per cent of the households was own. The figure (75%) in Wojel was less than the average while the figure (94%) in Felege Birhan was greater than the average. However, the figure (82%) in Yetmen was almost equal to the average. These results imply that better proportion of households in Wojel engaged in agricultural activities through rented land and sharecropping arrangements than in Felege Birhan. The data in Table 6.6 also illustrated that more proportion of the poor engaged in agricultural activities through rented land than the non-poor households. For instance, the land tenure of the overwhelming majority (86% in Wojel, 92% in Yetmen and 95% in Felege Birhan) of the non-poor and 50, 64 and 91 per cents of the poor households respectively were their own. Some of the households inherited land from their relatives and a few households engaged in agriculture on rented land and through sharecropping arrangements in addition to their own private agricultural land (see Table 6.13).

#### **6.4. Social Assets**

Social asset is one of the most important assets for the livelihood of people who are living in small towns like rural areas. As presented in Table 6.14, at least one member of about 83 per cent of the households was a member of any one of the traditional local associations. Some variations were observed among the figures of the study towns where the figure was highest in Wojel (95%) followed by Yetmen (81%) and Felege Birhan (77%). A quarter (25%) and nearly a quarter (22%) of the households were a member of *idir* as well as *idir* and *equb* respectively. Considerable percentages (19 in Yetmen and 23 in Felege Birhan) of the households were, therefore, not a member of these associations. About a quarter (24%) of the poor was not a member which were greater than the non-poor households (13%) except in Wojel. Similarly, some 29 per cent in Yetmen and 32 per cent in Felege Birhan and 14 and 17 per cents of the non-

poor households in Yetmen and Felege Birhan respectively was not a member of these traditional associations.

**Table 6.14: Frequency Distribution of Households by Association**

Type of Association	Wojeil						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Not a member	2	5.9	3	5.3	5	5.5	9	29.0	8	13.6	17	18.9	18	32.1	15	17.4	33	23.2	29	24.0	26	12.9	55	17.0
<i>Idir</i>	18	52.9	23	40.4	41	45.1	10	32.2	6	10.2	16	17.8	13	23.2	10	11.6	23	16.2	41	33.9	39	19.3	80	24.8
<i>Equb</i>	0	0.0	7	12.3	7	7.7	6	19.4	8	13.6	14	15.6	2	3.6	3	3.5	5	3.5	8	6.6	18	8.9	26	8.0
<i>Idir &amp; Equb</i>	11	32.4	14	24.6	25	27.5	3	9.7	13	22.0	16	17.8	9	16.1	22	25.6	31	21.8	23	19.0	49	24.3	72	22.3
<i>Idir, Equb &amp; Mahiber</i>	0	0.0	4	7.0	4	4.4	2	6.5	13	22.1	15	16.7	5	8.9	25	29.1	30	21.1	7	5.8	42	20.8	49	15.2
<i>Idir &amp; Senbetie/ Mahiber</i>	3	8.8	6	10.5	9	9.9	1	3.2	11	18.7	12	13.3	9	16.1	11	12.8	20	14.0	13	10.7	28	13.8	41	12.7
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Field Survey, 2014

According to the qualitative data obtained from the respondents, being a member in these associations' households are obtaining both economic and non-economic benefits. As identified by the informants, the economic benefits households are reaping from these associations are labour, food and drink, credit and job and market information. The other benefits that can be obtained from these local associations include a house free of rent, borrowing tools and equipments, etc. The non-economic benefits include conflict resolution and living with people peacefully. Looking at the benefits of individual association, the benefits that can be obtained from *idir* are labour, money, food and drinks when a member of the household or close relative is dead. The benefits from *mahiber* are religious satisfaction, food and drinks, labour during harvesting when the bread winner is sick or go somewhere else or imprisoned (insurance during emergencies). Households also establish religious associations to strengthen friendships besides its religious benefits. The benefits from *equb* are to save money in order to expand business and buy durable assets as well as buy *equb* during emergencies. Besides these benefits, some households gained some other benefits from some of the members of the association resulting from their relationships in the association. These are job and market information, conflict resolution, free of rent residential house, etc. All of them have also costs through their obligations such as penalties when they act out of the rules and regulations and monthly or yearly payments in terms of Birr or food and drinks and labour contributions.

**Table 6.15: Sources of Initial Capital and Assistance for Business**

Source of Initial Capital	Wojel						Yetmen						Felege Birhan						Total					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Bank/cooperative loan	0	0.0	1	1.8	1	1.1	1	3.2	0	0.0	1	1.1	1	1.8	0	0.0	1	0.7	2	1.7	1	0.5	3	0.9
Relatives/friends	9	26.5	13	22.8	22	24.2	8	25.8	11	18.6	19	21.1	12	21.4	22	25.6	34	23.9	29	24.0	46	22.8	75	23.2
Private money lenders	0	0.0	1	1.8	1	1.1	0	0.0	1	1.7	1	1.1	4	7.1	15	17.4	19	13.4	4	3.3	17	8.4	21	6.5
ACSI	3	12.5	4	7.0	7	7.7	1	3.2	2	3.4	3	3.3	1	1.8	3	3.5	4	2.4	5	4.1	9	4.5	14	4.3
<b>Assistance After Established</b>																								
Information	3	12.5	7	12.3	10	11.0	0	0.0	0	0.0	0	0.0	1	1.8	2	2.3	3	2.1	4	3.3	9	4.5	13	4.0
Money	8	23.5	16	28.1	24	26.4	3	9.7	8	13.6	13	14.4	4	7.1	12	14.0	16	11.3	15	12.4	36	17.8	51	15.8
Labour	0	0.0	4	7.0	4	4.4	1	3.2	3	5.1	4	4.4	0	0.0	4	25.6	4	2.4	1	0.8	11	5.4	12	3.7
Information & money	2	5.9	5	8.8	7	7.7	0	0.0	0	0.0	0	0.0	0	0.0	1	1.2	1	0.7	2	1.7	6	3.0	8	2.5
Other services	2	5.9	1	1.8	3	3.3	0	0.0	2	3.4	2	2.2	0	0.0	1	1.2	1	0.7	2	1.7	4	2.0	6	1.9
Other income from relatives/friends	7	20.6	4	7.0	11	12.1	2	6.5	8	13.6	10	11.1	1	1.8	6	7.0	7	4.9	10	8.5	18	8.9	28	8.7
Sharecropping to others *	4	40.0	13	59.1	17	53.1	9	64.3	13	52.0	22	54.4	7	63.6	13	65.0	20	64.5	20	57.1	39	58.2	59	57.8
<b>Total</b>	<b>34</b>		<b>57</b>		<b>91</b>		<b>31</b>		<b>59</b>		<b>90</b>		<b>56</b>		<b>86</b>		<b>142</b>		<b>121</b>		<b>202</b>		<b>323</b>	

Source: Field Survey, 2014

\* % is calculated from those who possessed agricultural land

Some households used their social asset to start and expand their businesses. As illustrated in Table 6.15, the sources of startup capital for some of the households from the highest to the lowest were relatives/friends (23%), private money lenders (7%), ACSI (4%) and bank/cooperative (1%). Turning to individual study town, the source of business startup capital for 27 and 30 per cents of the households in Wojel and Felege Birhan respectively were relatives/friends. The sources of startup capital for the other households were banks, private money lenders and ACSI. These households were using their patron-client relationship with these financial institutions. Retail traders obtain either commodities or grains from wholesale traders on credit using their patron-client relationship and repay the money after they completed retailing. As some of the households reported, they were assisted by their relatives/friends after the establishment of the business. The assistances they obtained from their relatives or friends include working capital (16%), advice and market information (4%), labour (4%) and other services like guarding a house and borrowing tools and equipments. In terms of individual study town, some 26, 14 and 11 per cents of the households in Wojel, Yetmen and Felege Birhan respectively gained not only start-up capital but also working capital from relatives/friends.

Some of the households gained income from their relatives/friends. Some 15, 11 and 7 per cent of the households in Wojel, Yetmen and Felege Birhan respectively received additional income from relatives/friends within 12 months before the date of interview. The poor who gained assistance was higher than the non-poor households in Wojel, but the non-poor were higher than the poor households in the other study towns. As shown in Table 6.15, some households who possessed agricultural land relied on their social capital to engage in sharecropping arrangements as well as employ labour for harvesting. Over half (57% in Wojel and 56% in Yetmen) and two thirds (67%) in Felege Birhan engaged in sharecropping arrangements with their relatives/friends in the 2013/14 crop harvesting season. The percentage of the non-poor (62 in Wojel and 68 in Felege Birhan) who engaged in sharecropping arrangements was higher than the poor households which accounted for 44 per cent in Wojel and 64 per cent in Felege Birhan. These imply that the poor households largely depended on family labour for agriculture than the non-poor households. The data from traders revealed that the great majority of their customers both to purchase inputs and sale outputs of their business were their relatives from the town and rural areas.

## **6.5. Financial Assets**

The existing literature on livelihood argued that financial assets are one of the most important assets for the residents of urban areas as land is for rural areas. The financial assets discussed in this section are income, saving and credit.

### **6.5.1. Income**

Households might combine their human, financial, social and physical assets to engage in income generating activities. As presented in Table 6.16, a total of ten primary income sources of the households were identified in the study towns. These include manufacturing, food and drink processing and selling, trade, service, employment, agriculture, retirement, labour and assistance and begging. However, the major income sources were trade (33%), food and drinks (20%), agriculture (15%) and manufacturing (12%) of the households. Turning to the individual study town, the main income source of 36, 29 and 33 per cents of the households in Wojel, Yetmen and Felege Birhan respectively was trade. This was followed by food and drinks in Wojel (19%), agriculture in Yetmen (24%) and food and drinks in Felege Birhan (26%). In general, self-employment was the major income earning activity for 90 per cent of the households.

**Table 6.16: Major Income Generating Activities of the Households**

Other Income	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Manufacturing	6	17.6	4	7.0	10	11.0	2	6.5	6	10.2	8	8.9	6	10.7	14	16.3	20	14.2	14	11.6	24	11.9	38	11.8
Food & drinks	3	8.8	14	24.6	17	18.7	4	12.9	8	13.6	12	13.3	12	21.4	25	29.1	37	26.2	19	15.7	47	23.3	66	20.4
Trade	13	38.2	20	35.1	33	36.3	4	12.9	22	37.3	26	28.9	18	32.1	29	33.7	47	33.3	35	28.9	71	35.1	106	32.8
Service	1	2.9	5	8.8	6	6.6	0	0.0	1	1.7	1	1.1	3	5.4	3	3.5	6	4.3	4	3.3	9	4.5	13	4.0
Employee in private organ	2	5.9	0	0.0	2	2.2	3	9.7	0	0.0	3	3.3	1	1.8	0	0.0	0	0.0	6	5.0	0	0.0	6	1.9
Government employee	3	8.8	5	8.8	8	8.8	4	12.9	6	10.2	10	11.1	4	7.1	3	3.5	7	5.0	11	9.1	14	6.9	25	7.7
Agriculture	3	8.8	5	8.8	8	8.8	9	29.0	13	22.0	22	24.4	7	12.5	10	11.6	17	12.1	19	15.7	28	13.9	47	14.6
Retirement	2	5.9	1	1.8	3	3.3	0	0.0	1	1.7	1	1.1	0	0.0	0	0.0	0	0.0	2	1.7	2	1.0	4	1.2
Labourer	0	0.0	3	5.3	3	3.3	4	12.9	2	3.4	6	6.7	2	3.6	2	2.3	4	2.8	6	5.0	7	3.5	13	4.0
Assistance & begging	1	2.9	0	0.0	1	1.1	1	3.2	0	0.0	1	1.1	3	5.4	0	0.0	3	2.1	5	4.1	0	0.0	5	1.5
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>141</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Field Survey, 2014

The main income generating activity of only 10 per cent of the households was wage employment either in the government institutions or private businesses. Government and private business employees constituted 11 per cent in Wojel, 14 per cent in Yetmen and 5 per cent in Felege Birhan. These results show the lack of employment creation both by the government and private business in the study towns. Businesses were run by unpaid family members. Both the poor and the non-poor households were engaged in the same types of activities to earn income. However, the proportions of the non-poor in trade (35%) and food and drinks (23%) were higher than the poor households which accounted for 29 per cent in trade and 16 per cent in food and drinks. The only difference was the scale of business not the type where the poor and the non-poor households were engaged in (the total monthly income from all sources will be explained in chapter eight).

In addition, households in the study towns earned income from other sources. Out of the total households, some 13 per cent received additional income from different sources (Table 6.17). The figure was a bit higher in Wojel (21%) followed by Yetmen (12%) and Felege Birhan (9%). About 70 per cent of these households earned 5,000 and below 5,000 Birr in the survey year. The large majority (58% in Wojel, 73% in Yetmen and 85% in Felege Birhan) of these households earned less than 5,000 Birr. The mean annual income from these sources was 4,931, 5,443 and 4,015 Birr in Wojel, Yetmen and Felege Birhan respectively. The average income of the poor

was slightly higher than the non-poor households; however, the difference was not statistically significant (see Table 6.17). The source of additional income was remittance; renting out houses, agricultural land and donkey; retirement; etc.

**Table 6.17: Sources of Other Income and the Amount Earned in Birr**

Other Income	Wojel						Yetmen						Felege Birhan						Total						
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Yes	10	29.4	9	15.8	19	20.9	3	9.7	8	13.6	11	12.2	4	7.3	9	10.5	13	9.2	17	14.0	26	12.9	43	13.3	
No	24	70.6	48	84.2	72	79.1	28	90.3	51	86.4	79	87.8	52	92.7	77	89.5	128	90.8	104	86.0	176	87.1	280	86.7	
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>	
<b>Yearly Income in Birr</b>																									
1-5000	5	50.0	6	66.7	11	57.9	3	100	5	62.5	8	72.7	3	75.0	8	88.9	11	84.6	11	64.7	19	73.1	30	69.8	
5001-10000	3	30.0	2	22.2	5	26.3	0	0.0	1	12.5	1	9.1	1	25.0	0	0.0	1	7.7	4	23.5	3	11.5	7	16.3	
10001-15000	1	10.0	1	11.1	2	10.5	0	0.0	1	12.5	1	9.1	0	0.0	0	0.0	0	0.0	1	5.9	2	7.7	3	7.0	
15001-20000	1	10.0	0	0.0	1	5.3	0	0.0	1	12.5	1	9.1	0	0.0	1	11.1	1	7.7	1	5.9	2	7.7	3	7.0	
<b>Total</b>	<b>10</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>3</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>17</b>	<b>100</b>	<b>26</b>	<b>100</b>	<b>43</b>	<b>100</b>	
<b>Mean</b>	<b>5691</b>		<b>4087</b>		<b>4931</b>		<b>2667</b>		<b>5915</b>		<b>5443</b>		<b>4030</b>		<b>4009</b>		<b>4015</b>		<b>4766</b>		<b>4622</b>		<b>t=-0.09*</b>		
<b>Source of Income</b>																									
Renting Out	5	50.0	5	55.6	10	52.6	1	33.3	0	0.0	1	0.9	3	75.0	3	33.3	6	46.2	9	52.9	8	30.8	17	39.5	
Remittance	5	50.0	4	54.4	9	47.4	2	66.7	8	100	10	99.1	1	25.0	6	66.7	7	53.8	8	47.1	18	69.2	26	60.5	
<b>Total</b>	<b>10</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>3</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>17</b>	<b>100</b>	<b>26</b>	<b>100</b>	<b>43</b>	<b>100</b>	

Source: Field Survey, 2014

\* P=0.47

### 6.5.2. Saving

Table 6.18 depicted the data on the percentage of savers and the amount of savings in Birr. Concerning the proportion of savers, some 41 per cent of the households had savings. The proportion of savers was higher than the proportion (15%) of savers in small towns as studied by Tegegne (2011). Nearly half (49%) of the non-poor and slightly over a quarter (26%) of the poor households had savings. The proportion of savers in Wojel (53%) was the highest followed by Yetmen (47%) and Felege Birhan (29%). The percentage of the non-poor who had savings was higher than the poor households in each town. About 60, 59 and 35 per cents of the non-poor in Wojel, Yetmen and Felege Birhan respectively and some 41, 23 and 20 per cents of the poor households in each town respectively had savings. They saved in *equb*, bank and microfinance institution. However, nearly two thirds (65%) saved in ACSI. Some 17 per cent saved in *equb*, 11 per cent in Bank and 7 per cent in *equb*, Bank and ACSI. The proportion of savers in ACSI was higher in Felege Birhan (75%) followed by Yetmen (69%) and Wojel (54%). This is because

*equb* is a less preferred option in Felege Birhan than the other study towns. Both the poor and the non-poor households equally use ACSI though the poor were a bit higher than the non-poor households. The possible explanation to this is that the microfinance institutions are working on the poor to lift them out of poverty through small credit service which forced the borrowers to open saving account to borrow. The small proportion of savers in Bank was due to the non-availability of Banks in these towns. No credit union was organized in any of the study towns.

**Table 6.18: Place and Amount of Savings of Households**

Saving	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Saving	14	41.2	34	59.6	48	52.7	7	22.6	35	59.3	42	46.7	11	19.6	30	34.9	41	28.9	32	26.4	99	49.0	131	40.6
No Saving	20	58.8	23	40.4	43	47.3	24	77.4	24	40.7	48	53.3	45	80.4	56	65.1	101	71.1	89	73.6	103	51.0	192	59.4
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Place of Savings</b>																								
<i>Equb</i>	3	21.4	9	26.5	12	25.0	1	14.3	5	14.3	6	14.3	2	20.0	2	6.7	4	10.0	6	19.4	16	16.2	22	16.9
Bank	2	14.3	3	8.8	5	10.4	0	0.0	4	11.4	4	9.5	0	0.0	5	16.7	5	12.5	2	6.5	12	12.1	14	10.8
ACSI	8	57.1	18	52.9	26	54.2	5	71.4	24	68.6	29	69.0	8	80.0	22	73.3	30	75.0	21	67.7	64	64.4	85	65.4
<i>Equb</i> , Bank & ACSI	1	7.1	4	11.8	5	10.4	1	14.3	2	5.7	3	7.2	0	0.0	1	3.3	1	2.5	2	6.5	7	7.1	9	6.9
<b>Total</b>	<b>14</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>48</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>10</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>40</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>99</b>	<b>100</b>	<b>130</b>	<b>100</b>
<b>Amount of Saving in Birr</b>																								
1-5000	13	100	20	83.3	33	89.2	7	100	27	77.1	34	91.0	7	87.5	13	65.0	20	71.4	27	96.4	60	75.9	87	81.3
5001-10000	0	0.0	2	8.3	2	5.4	0	0.0	4	11.4	4	9.5	1	12.5	4	20.0	5	17.9	1	3.6	10	12.7	11	10.3
10001-15000	0	0.0	1	4.2	1	2.7	0	0.0	2	5.7	2	4.8	0	0.0	2	10.0	2	7.1	0	0.0	5	6.3	5	4.7
15001-20000	0	0.0	1	4.2	1	2.7	0	0.0	1	2.9	1	2.4	0	0.0	1	5.0	1	3.6	0	0.0	3	3.8	3	2.8
20001-25000	0	0.0	0	0.0	0	0.0	0	0.0	1	2.9	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	1	1.3	1	0.9
Not Stated	1		10		11		0		0		0		3		10		12		4		20		24	
<b>Total</b>	<b>13</b>	<b>100</b>	<b>24</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>28</b>	<b>100</b>	<b>28</b>	<b>100</b>	<b>79</b>	<b>100</b>	<b>107</b>	<b>100</b>
<b>Mean</b>		<b>996</b>		<b>3315</b>				<b>752</b>		<b>4806</b>				<b>3400</b>		<b>5449</b>				<b>1622</b>		<b>4519</b>		<b>t= 3.83*</b>

Source: Field Survey, 2014

\* P= 0.00

As regards the amount of saving, the total amount of saving for the large majority (81%) of the savers was 5,000 and below 5,000 Birr followed by between 5,001 and 10, 000 Birr (10%). The savings of the overwhelming majority (95%) of the poor and three fourths (76%) of the non-poor was within the range of 1 to 5,000 Birr. The poor had no savings above 10, 000 Birr while some 12 per cent of the non-poor had savings above 10,000 Birr. Out of the total savers, the savings of about 89, 79 and 71 per cents in Wojel, Yetmen and Felege Birhan respectively were less than 5,000 Birr. The savings of the whole poor was 5,000 and below in Wojel and Yetmen while some of the non-poor had savings greater than this amount. Even though the savers were small in

proportion, the savings of 29 per cent in Felege Birhan was greater than 5,000 Birr which was higher than the other study towns.

**Table 6.19: Frequency and Purpose of Saving**

Frequency of Saving	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
If there is extra money	7	50.0	16	47.1	23	47.9	4	57.1	23	65.8	27	64.3	5	55.6	19	61.3	24	60.0	16	53.3	58	58.0	74	56.9
Weekly	1	7.1	6	17.6	7	14.6	0	0.0	0	0.0	0	0.0	1	11.1	2	6.5	3	7.5	2	6.7	8	8.0	10	7.7
Monthly	6	42.9	12	35.3	18	37.5	3	42.9	12	34.3	15	35.7	3	33.3	10	32.3	13	32.5	12	40.0	34	34.0	46	35.4
<b>Total</b>	<b>14</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>48</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>40</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>130</b>	<b>100</b>
<b>Purpose of Saving</b>																								
To buy & maintain durable assets (house)	1	7.1	5	14.7	6	12.5	1	14.3	0	0.0	1	2.4	2	20	5	16.6	7	17.5	4	12.9	10	10.1	14	10.8
To start or expand business	1	7.1	5	14.7	6	12.5	1	14.3	3	8.6	4	9.5	0	0.0	3	10.0	3	7.5	2	6.5	11	11.1	13	10.0
Shock reserve	12	85.7	24	70.6	36	75.0	5	71.4	32	91.4	37	88.1	8	80.0	22	73.4	30	75.0	25	80.6	78	78.8	103	79.2
<b>Total</b>	<b>14</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>48</b>	<b>100</b>	<b>7</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>10</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>40</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>99</b>	<b>100</b>	<b>130</b>	<b>100</b>

Source: Field Survey, 2014

The average amount of saving per household in Wojel, Yetmen and Felege Birhan was 2,500, 4,145.81 and 4,863.29 Birr respectively. It was highest in Felege Birhan, but lowest in Wojel. The average savings of the three study towns was 3,836.35 Birr. The average savings of the non-poor (4,519 Birr) was higher than the poor (1,622 Birr) and the difference was statistically significant at the 0.01 level,  $t(105)=3.83$ . The large majority (57%) of the savers were saving if there was extra money and 35 per cent saved monthly (Table 6.19). Likewise, high proportions (48% in Wojel, 64% in Yetmen and 60% in Felege Birhan) of the households were saving if they have surplus money from consumption and business activities. This was followed by saving monthly which accounted for 38 per cent in Wojel, 36 per cent in Yetmen and 33 per cent in Felege Birhan. The weekly and monthly savers were largely households who were a member of *equb*.

As displayed in Table 6.19, the purposes of saving for the households were to invest in human asset (health), buy or maintain physical assets (durable assets, housing, etc), start and expand livelihood activities (such as businesses) and withstand shocks such as health and shortage of food. The purpose of saving for the vast majority (79%) of the savers was for shock reserve such as medical expense, food shortages, loss of income and other unexpected emergencies followed

by to buy durable assets (11%) and start new and expand the existing business (10%). Major differences were not observed between the poor and non-poor households in terms of the purpose of saving though the poor was slightly higher than the non-poor households in shock reserve and to buy durable assets and the non-poor was higher than the poor households in to start or expand business (Table 6.19). The data by individual study town showed that the purpose of saving for about 88 per cent of the savers in Yetmen which was higher than the average and three fourths (75%) of the savers in Wojel and Felege Birhan which was smaller than the average was for shock reserve. As described in the first paragraph of this subsection, the large majority of the households did not save. The major reason as identified by households was lack of surplus money to be saved. According to these households, their monthly income did not adequately cover their needs.

### **6.5.3. Credit**

The data on the percentage of borrowers, the sources of credit and the amount of money households borrowed are revealed in Table 6.20. With regard to the borrowers, over a quarter (26%) of the households borrowed while the remaining huge proportion (74%) did not borrow in 12 months before the date of interview. Significant differences were observed among the percentages of the borrowers of the study towns. The borrowers were high in Yetmen (36%) followed by Felege Birhan (28%) and Wojel (14%). This was probably associated with the year of establishment of ACSI in the respective town (see Chapter four) since many of the households borrowed from ACSI. The percentage of borrowers of the poor (20%) was smaller than the non-poor households (30%). Similarly, the percentages of the poor borrowers were less than the percentage of the non-poor borrowers in each study town (see Table 6.20). Out of the total borrowers, 69, 72 and 73 per cents in Wojel, Yetmen and Felege Birhan respectively were the non-poor and the remaining proportion in each town was the poor households. These indicate that the non-poor had better access to credit than the poor households. The possible explanation to this is related to the collateral problems both fixed asset and group collateral.

As far as the sources of credit are concerned, the source for the great majority (84%) of the borrowers was ACSI followed by relatives/friends (13%). The source of credit for equal percentage (83%) of the poor and the non-poor households was ACSI. The data by individual study town also revealed that the source for the overwhelming majority (92% and 91% of the



Birr whereas nearly half (47%) of the borrower households in Yetmen borrowed from 5,001 to 10,000 Birr. The average amount received by the total borrower households in Wojel, Yetmen and Felege Birhan was 8,153.85, 7,415.60 and 8,534.20 Birr respectively which gave the average amount of 8,034.55 Birr. The figure was higher in Felege Birhan than the other study towns. There was a difference between the poor and the non-poor households in terms of the amount of money they borrowed. The entire borrowers of the poor in Wojel and Yetmen and the large majority (82%) in Felege Birhan borrowed 10,000 and below 10, 000 Birr while considerable percentage (44 in Wojel, 26 in Yetmen and 38 in Felege Birhan) of the non-poor borrowed above 10,000 Birr. The non-poor and the poor households borrowed on the average 8,710 and 5,842 Birr respectively. The variation was high and this variation was statistically significant at the 0.01 level of significance,  $t=2.85$ . These results show that the poor differs not only in access to credit but also in the amount of money they borrowed from different sources.

Table 6.21 below revealed the data on the purpose of borrowing and the reasons for not borrowing. Accordingly, the purpose of borrowing for nearly three fourths (73%) of the borrowers was to start/expand business followed by the purchase of agricultural equipments and inputs including oxen which accounted for 14 per cent. The disaggregated data by individual study town show that the purpose of borrowing for about 77, 66 and 78 per cents of the borrower households in Wojel, Yetmen and Felege Birhan respectively was either to start or expand their businesses. Some of the households borrowed for shock reserves, the development of other assets such as physical asset like housing, household furniture, agricultural equipments and livestock. The purpose of borrowing for three fourths (75%) of the non-poor and two thirds (67%) of the poor households was to start a new business or expand the existing ones. The poor borrowers were a bit higher than the non-poor borrowers in the purchase of agricultural equipments or inputs. The same was true in each study town (see Table 6.21).

According to the qualitative data obtained from survey respondents, the majority of households used the money for the purpose they asked for. However, according to the group discussants and borrowers, some households did not use for the purpose they borrowed for it. They used to cover the various ceremonial expenses such as wedding, religious holidays and repay earlier credit. Accordingly, many of them were forced to repay by selling their durable and productive assets so that their assets are being depleted and these households become poor gradually. Because of this

gradual effect of pushing them into poverty some of the borrowers call the credit money from ACSI as “AIDS”. The large percentage of households was repaying the money they borrowed from their business profit, salary while some households were repaying by selling durable assets such as home and renting out agricultural land.

**Table 6.21: Purpose of Borrowing and Reasons for Not Borrowing**

Purpose	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
To start/expand business	2	50.0	8	88.9	10	76.9	7	77.8	14	60.8	21	65.6	7	63.7	24	82.7	31	77.5	16	66.7	46	75.4	62	72.9
Purchase of agricultural equipment & inputs like fertilizer, rearing & ox	0	0.0	0	0.0	0	0.0	0	0.0	6	26.0	6	18.7	4	36.4	2	6.8	6	15.0	4	16.7	8	13.1	12	14.1
Food purchase & house rent, emergencies	0	0.0	1	11.1	1	7.7	1	11.1	2	8.6	3	9.3	0	0.0	0	0.0	0	0.0	1	4.2	3	4.9	4	4.7
Purchase or building of a house & household furniture	1	25.0	0	0.0	1	7.7	0	0.0	1	4.3	1	3.1	0	0.0	3	10.3	3	7.5	1	4.2	4	6.6	5	5.9
Holiday & <i>Teskar</i> expense	1	25.0	0	0.0	1	7.7	1	11.1	0	0.0	1	3.1	0	0.0	0	0.0	0	0.0	2	8.3	0	0.0	2	2.4
<b>Total</b>	<b>4</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>29</b>	<b>100</b>	<b>40</b>	<b>100</b>	<b>24</b>	<b>100</b>	<b>61</b>	<b>100</b>	<b>85</b>	<b>100</b>
<b>Reasons for not borrowing</b>																								
Collateral problem (Plan)	1	3.3	8	16.7	9	11.6	8	36.3	9	24.3	17	28.9	13	27.6	12	20.7	23	24.5	22	22.9	29	20.3	51	21.3
Have no interest to borrow	29	96.6	38	79.2	67	86.0	14	63.6	27	73.0	41	69.5	29	65.9	43	74.1	72	70.6	72	75.0	108	75.5	180	75.3
Sufficient Working Capital	0	0.0	2	4.2	2	2.6	0	0.0	1	2.7	1	1.7	2	4.6	3	5.1	5	4.9	2	2.1	6	4.2	8	3.3
<b>Total</b>	<b>30</b>	<b>100</b>	<b>48</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>44</b>	<b>100</b>	<b>58</b>	<b>100</b>	<b>102</b>	<b>100</b>	<b>96</b>	<b>100</b>	<b>143</b>	<b>100</b>	<b>239</b>	<b>100</b>

Source: Field Survey, 2014

As discussed in the first paragraph of this section, the percentage of non-borrowers was significantly large. Households were asked their valid reason for not borrowing money from the money lenders. Accordingly, the reason for three fourths (75%) of the non-borrower households was lack of interest to borrow emanating from fear of repaying due to the market failure and lack of monitoring and support from the creditors (ACSI). The reason for some 21 per cent of the non-borrowers was collateral problem and the reason for three per cent of the non-borrowers was having enough money for the business they were doing. The figures for each reason in each study town were different (see Table 6.21).

## Summary

The productive and non-productive livelihood assets of households have been discussed so far. As regards the human asset, the study found that the level of education of households were generally low. Considerable percentage (38%) of the household heads did not able to read and

write and 40 per cent of heads of the households were grade eight and below completed. Furthermore, households in general and the poor households in particular had no saleable skills and almost all of the households did not receive any kind of work or job related trainings. The study also found that at least one member of 24 per cent of the households was ill within the 12 months prior to the date of survey. Of these, 87 per cent received medical treatment. This costs households both money and working days. The great majority of the households relied on family labours for their businesses and work. However, these labourers were not equipped with the necessary knowledge and skills. Concerning the natural asset, the study found that 32 per cent of the households possessed agricultural land which is a productive asset. Furthermore, a quarter (25%) of the households who possessed livestock had access to the nearby rural areas communal grazing land. These households make a living from the agricultural and grazing land. Agriculture was, therefore, the primary income generating activity for 15 per cent of the households and supplementary one for some others.

In terms of the physical asset, some households were endowed with a house, durable assets and livestock and had access to infrastructure. The study found that about 56 per cent of the households resided in their own house. The wall, floor and roof of the overwhelming majority of the housing units were wood and mud (98%), mud/dung (96%) and corrugated iron sheets (100%) respectively. Even though over half (56%) of the housing units had ceilings, the predominant materials were plastics and sack of fertilizer. Furthermore, considerable proportion of the housing units lacked the necessary utilities such as kitchen (20%), oven (7%), latrine (19%) and bathing (80%). Overall, the quality of the housing units of both the consumption poor and non-poor households was low. The study also found that considerable percentage of the households had access to infrastructure such as water, telecommunication and electricity for lighting. However, the primary sources of energy for cooking were entirely traditional. Above all, households especially the poor lacked high value and productive durable assets. The implication of this is that the poor are highly insecure in their livelihood because of the lack of saleable high value durable assets in time of shocks.

The survey households also depended on their social assets either to start or expand businesses. Considerable proportion (23%) of the households relied on their social assets especially relatives/friends to find a job, start and expand business, obtain assistance, share equipments and

tools and market information. Significant proportions (83%) of the households were members of the traditional local associations. In terms of the financial assets, the main sources of income of the households were trade (33%), food and drinks (20%), agriculture (15%) and manufacturing (12%). Paid labour and employment were less available income generating activities in the study towns. Some 41 per cent of the households had savings and some 26 per cent credited money from different sources largely from ACSI to start/expand businesses and for shock reserve. Generally, both the consumption poor and non-poor households were generally poor in the possession of the livelihood assets. However, more proportions of the non-poor possessed these assets than the poor households.

## **CHAPTER SEVEN**

### **VULNERABILITY CONTEXTS; POLICIES, INSTITUTIONS AND PROCESSES; LIVELIHOOD STRATEGIES AND OUTCOMES**

#### **Introduction**

The livelihood assets of households have discussed in the previous chapter. The livelihood of households of the study towns on the bases of other components of the livelihood framework will be discussed in this chapter. The vulnerability contexts in the study towns are discussed in the first section. The effects of PIPs on the livelihoods of households are explained in the second section. The third section reflects on the livelihood strategies of households. The last section deals with the livelihood outcomes of households.

#### **7.1. Vulnerability Contexts**

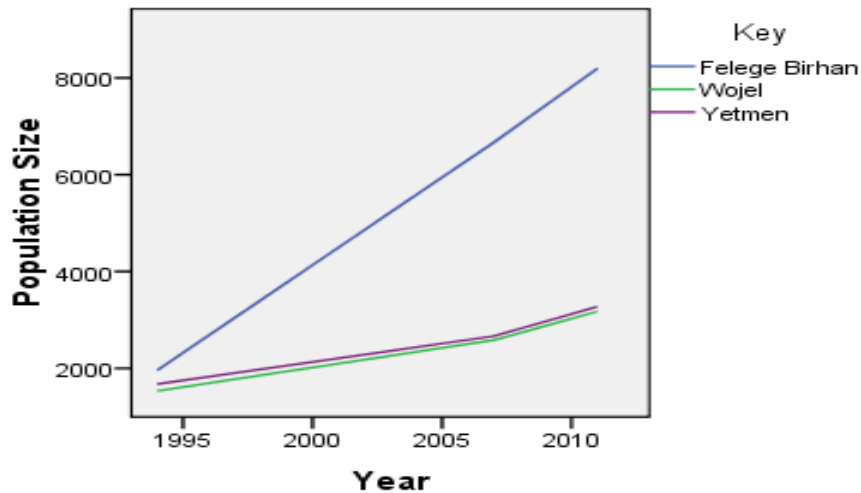
##### **7.1.1. Trends**

###### **7.1.1.1. Population Growth Trends of the Study Towns**

The existing literature on population confirms the existence of two contradicting views on the nexus between population growth and development or poverty reduction. These are the Malthusian and Boserup views. The former is a pessimistic view which considers population growth as a problem or obstacle for economic growth and the later is an optimistic view which considers population growth as an opportunity for economic growth (Todaro & Smith, 2009). The Neo-Malthusians today strongly argue that the current pace of population growth has a tremendous negative impact on the environment and this in turn impacts the efforts of development and the reduction of poverty. According to Boserup, as population increases demand also increases and to meet this demand new ideas or technologies emerge in the area.

It is true that the population of Ethiopia and Amhara Region are growing from time to time. The three census data on population show this fact. This is also true in the study towns. As described in chapter four, the population size of the study towns increases from time to time (see section 4 of the chapter for further details). This fact is also depicted in Figure 7.1. The figure shows that the population size in all the study towns is in an increasing trend. The increase of population size is sharp in Felege Birhan and steady in Wojel and Yetmen. This population growth is the

result of the combined effect of both natural increase and migration-especially from the surrounding rural areas.



**Figure 7.1: Trends of Population Growth in the Study Towns**

In light of the view of Boserup, the growth of population in the study towns can be taken as an opportunity as it addresses the problem of demand for small businesses in these towns. In other words, the growth of the population in these towns might create market opportunities for the existing business. This might also create new business establishments to meet the increasing demand and the establishment of new businesses and expansion of existing ones in turn create employment opportunities in these towns. This also creates minimum thresholds for many of the activities in the town in which many of the businesses might begin to specialize.

The growth of the population of these towns can also be an important market outlet for agricultural and artesian products from the rural areas. These towns are important market outlets for the agricultural products from the small scale irrigation agriculture both in terms of consumption and export to other areas. The growth of these towns is also important for the nearby rural areas as these towns can become centers of rural development by providing basic services and goods to the rural areas and collecting agricultural products for export. These towns thus are centers of movement of goods and ideas from rural to urban areas and from urban to rural areas. These towns might also gain an opportunity for the establishment of sub-municipalities or leading municipalities due to their population growth in which sufficient and efficient municipal services can be provided in these towns. These municipalities will, therefore,

provide basic services in which these services will contribute a lot in the reduction of poverty in these towns.

### 7.1.1.2. Price Trend

The following figure illustrated the consumer goods and services price trend from 2012 to 2015 in Amhara Region.

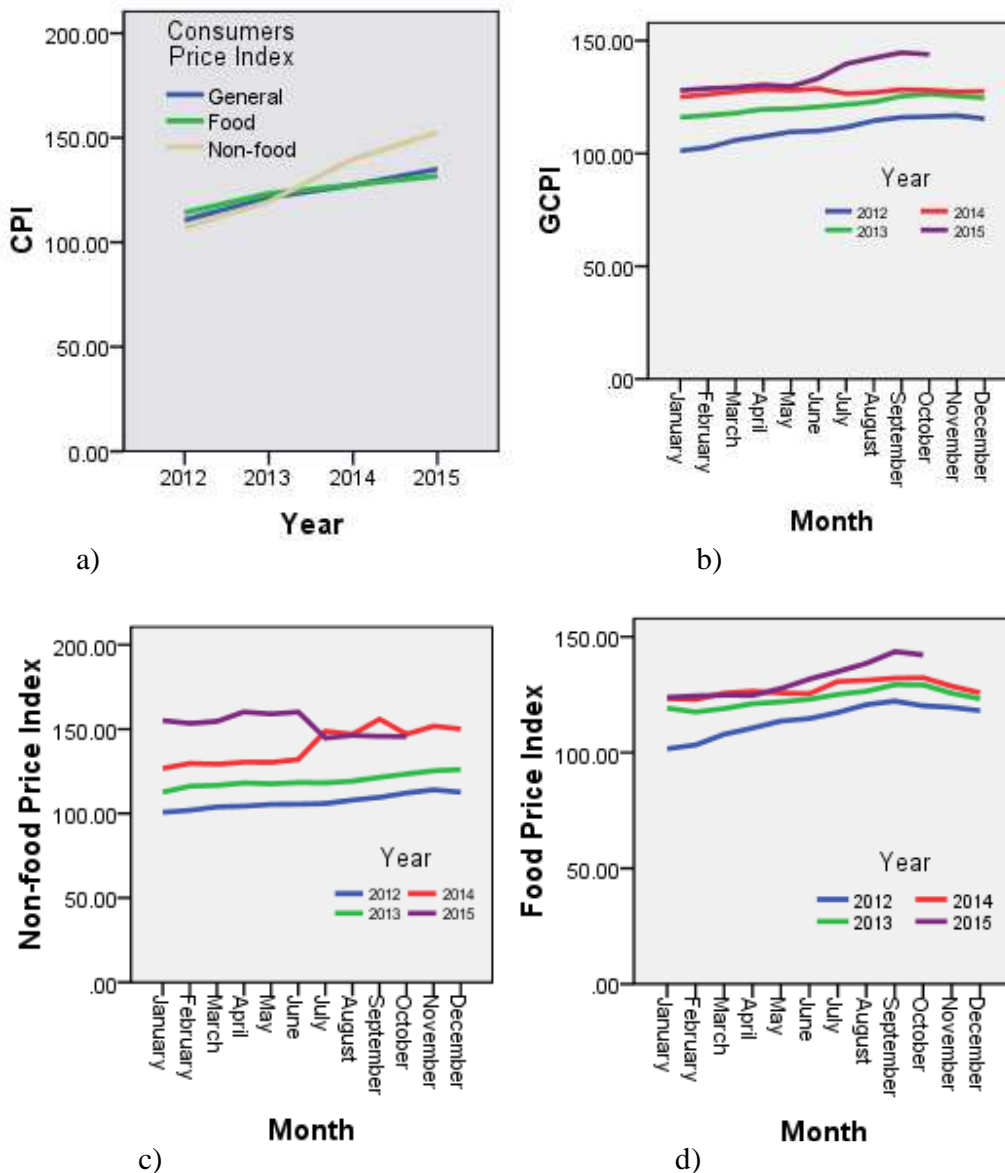


Figure 7.2: Consumer Price Index Trends in Amhara Region

Source: Drawn from CSA data

The price of goods and services in Ethiopia is increasing from time to time. The price index obtained from CSA revealed that the price of consumer goods and services increases in an alarming rate. The group discussants in all the study towns also revealed that prices of goods and services in these towns are increasing through time. The data on the price index of Amhara Region taken from CSA showed that the price of consumer goods and services is in an increasing trend. Though both are in an increasing trend from 2012 onwards, Figure 7.2a showed that the non-food prices are rapidly increasing from 2013 onwards than the price of food in the region.

As demonstrated in Figure 7.2a, there was a steady increase of the price index of food in the region which also pulls down the rate of increase of the general consumer price index in the region. As illustrated in Figure 7.2c & d, the price index of food items showed very high seasonal fluctuations than the non-food items which will be discussed in the next section.

### **7.1.2. Seasonality**

In this section the seasonality of the patterns of poverty, price, market, employment and labour are discussed. In terms of the seasonality of poverty, the existing literature on poverty suggested that poverty and famine in Ethiopia are more prevalent in the main rainy season (June, July, August & September). This is because the agricultural production of the households in rural areas is insufficient to meet the needs of the household throughout the year. This has also an impact on urban areas since the marketable agricultural products are less available in the market in this season and the profitability of many of the businesses which depend on agricultural products is low as many of the customers and the inputs of the businesses in these towns are from the rural areas. Data from the group discussants also revealed that many households are unable to adequately feed themselves in the rainy season, but the problem is low in winter season. As to them, life is very difficult in these towns from June to September. This is mainly related to lack of profits and supply of agricultural products in this season. According to the discussants, many of the tea shops are without customers in this season.

Concerning the seasonality of prices, information about the price of goods and services were collected from the key informants and group discussants. Accordingly, all informants and discussants agreed that the price of goods and services especially agricultural products are relatively higher in summer (June, July & August) and spring (September, October &

November), but low in winter (December, January & February) or post harvest season followed by autumn (March, April & May). This is associated with the availability of goods and inputs in the market where agricultural products are better available in the market in the post-harvest season. As discussed in the following paragraph, this is also associated with the high profit households could gain from their livelihood activities in these seasons. The data on the price index revealed that the index is high in winter and autumn and low in the other seasons (see Figure 7.2b & c above). The four years monthly trend of price index of food showed that the index is in a declining trend from October to February and in an increasing trend from February to September though sharp beginning from June. This shows the seasonal fluctuation of the price of food in the region. However, the data on the non-food items showed no seasonal fluctuation unlike food. It is in an increasing trend throughout the year without seasonal variation except the 2014 data.

With regard to the seasonality of market, some of the households were interviewed about the months where the maximum and minimum profits they earn within a year. The majority of them agreed that their profitability is associated with the production of agriculture in rural areas. To put in other words, the majority of the households earn better profits from their livelihood activities in winter season. There are two possible explanations to this. The first one is that farmers have collected their crops so that they have something to exchange in order to meet their non-food needs. Secondly, various religious holidays and marriage ceremonies are largely taking place in this season so that farmers usually need manufactured goods and services for the holidays and ceremonies.

As can be depicted in Table 7.1, the maximum profit and income earned by the large majority of the businesses were December (23%), November (21%), January (18%) and February (12%). In other words, winter season is the maximum profit season for over half (53%) of the businesses in the study towns. However, November is the maximum profit month in Felege Birhan than the other study towns. This is associated with differences in harvesting months where harvesting in rural areas around Felege Birhan come one month before the harvesting season of rural areas around the other study towns. The second and the third ranked high business profit and income months are also the months of winter plus autumn. This is largely related with the harvesting season and the various religious and marriage ceremonies to be held in this season so that

exchange of goods and services in this season is high. The other possible reason is that farmers usually sell in this season in order to repay their loan from MFIs and Farmer Associations for fertilizer.

**Table 7.1: The Months of Maximum Income and Profit for some Businesses**

Month	Wojel		Yetmen		Felege Birhan		Total	
	N	%	N	%	N	%	N	%
September	6	8.0	4	6.3	2	1.8	12	4.8
October	3	4.0	2	3.2	5	4.5	10	4.0
November	7	9.3	4	6.3	41	36.9	52	20.9
December	9	12.0	16	25.4	32	28.8	57	22.9
January	14	18.7	7	11.1	24	21.6	45	18.1
February	15	20.0	13	20.6	3	2.7	31	12.4
March	1	1.3	7	11.1	2	1.8	10	4.0
April	2	2.7	3	4.8	1	0.9	6	2.4
May	3	4.0	1	1.6	0	0.0	4	1.6
June	0	0.0	2	3.2	0	0.0	2	0.8
July	0	0.0	2	3.2	1	0.9	3	1.2
I do not know	14	18.7	2	3.2	0	0.0	16	6.4
September & March	1	1.3	0	0.0	0	0.0	1	0.4
<b>Total</b>	<b>75</b>	<b>100</b>	<b>63</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>249</b>	<b>100</b>

Source: Field Survey, 2014

The data further show that these businesses earn very small profits and income in the other seasons. As illustrated in Table 7.1, the maximum profit for a few households were in May, June, July and September. According to the group discussants, many of the businesses in these months are less profitable due to the lack of supply from farmers. Consequently, many tea shops and *tella* shops are deserted in these months. In connection with market, two road projects (Dejen-Debre Markos and Tik-Mota asphalted road projects) were undertaken in Wojel and Yetmen during the field survey. As to the group discussants, these provided some market opportunities for some of the businesses in the study towns. Data from the group discussants also show that the road construction projects undertaking in each town created some temporary business opportunities. In addition, the road projects created market opportunities for the existing businesses in these towns. According to the group discussants, the businesses which largely benefited from the road projects were tea shops, food and drinks and shops as these supplies the daily needs for the workers and labourers in the road projects.



**Figure 7.3: Some Business Activities in the Periodic and Non-Periodic Market Days**

The above pictures from Felege Birhan and the pictures below from Yetmen and Felege Birhan show that all business activities starting from shoe shining to grain collecting are active during the market days whereas as can be seen the shed for tailoring and ironing and verandahs round the market areas of Felege Birhan were empty in the non-market days reflecting that small towns seem dead in the non-market days. Even tea shops and bars earn high income in these days. So, rural people are the life line of these urban centers. These towns have no life without rural people. In connection to the seasonality of the markets, many *tella* selling houses are open only in the market days. This is because many of their customers are from the rural areas and some petty traders and labourers from the town earn better income during the periodic market days who are also the clients of the *tella* shops. Many of them sell their products and services during the market days. The turnover is high in these season and market days. The photos in Figure 7.4 were taken in the market days from Yetmen and Felege Birhan. It was also observed that many of these businesses houses in the non-periodic market days were closed and if open they had no or a few clients. These reflect that small towns are existed largely for the needs of the rural people.



**Felege Birhan**

**Yetmen**

**Felege Birhan**

**Yetmen**

**Figure 7.4: Some Active Businesses in the Periodic Market Days**

As to the seasonality of employment and labour, the group discussants also revealed that temporary employment were created in these towns through the road projects. In addition, some youths from the towns gained employment opportunities in the harvesting season. However, the study found that there are no clear employment patterns in these towns due to lack of employing institutions and organizations. Many are self-employed, thus many of the urban residents employ themselves during the harvest and post harvest season by engaging in the collection of agricultural products and supply of agricultural inputs. Thus, some petty traders usually change their trading activity according to the needs of the rural people. The last picture in Figure 7.4 showed cereal collectors from the market on the market day.

### **7.1.3. Shocks**

As explained in the conceptual framework, shocks negatively affect livelihoods of households. It was, therefore, observed during the field survey that some households in the study towns faced shocks. Table 7.2 illustrated the types of shocks and the percentage of households who faced these shocks in the study towns. Even though some were felt by the few, various types of shocks of the households were identified during the field survey. As demonstrated in Table 7.2, over half (55%) of the households faced shocks. The proportions of the poor and the non-poor households who faced shocks were nearly the same. Looking into the shocks of individual study town, the percentage of households who faced shocks was higher in Felege Birhan (77%) followed by Yetmen (43%) and Wojel (41%). The variation between the poor and the non-poor households in each town was very small where the poor were slightly higher than the non-poor (see Table 7.2).

Turning to a percentage of households in each shock, a particular household faced one or more than one shock. As presented in Table 7.2, 46 per cent of the households faced water interruptions followed by illness of a household member which accounted for nearly a quarter (24%) of the households. The third major shock encountered by 13 per cent of the households was food shortage. The other shocks listed in Table 7.2 were faced by a few percentages of the households. Seven per cent of the households faced price rise of food items. Complete loss of income, water related conflict, death of a bread winner, conflict between household members and family breakdown were encountered by six per cent of the households for each shock.

**Table 7.2: Percentage of the Households by the Shocks they faced in 2013/14**

Shocks	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total HHs who faced Shocks	26	45.6	14	41.2	40	44.0	26	44.1	13	41.9	39	43.3	67	77.9	41	74.5	108	76.6	119	58.9	68	56.7	187	58.1
Water interruption	6	17.4	13	22.8	19	20.9	3	9.7	5	8.5	8	8.9	47	83.9	74	86.0	121	85.2	56	46.3	92	45.5	148	45.8
Conflict due to water	3	8.8	4	7.0	7	7.7	1	3.2	5	8.5	6	6.7	2	3.6	4	4.7	6	4.2	6	5.0	13	6.4	19	5.9
Food shortage	5	14.7	9	15.8	14	15.4	2	6.5	3	5.1	5	5.6	16	28.4	6	7.0	22	15.5	23	19.0	18	8.9	41	12.7
Death of a bread winner	0	0.0	3	5.3	3	3.3	7	22.6	7	11.9	14	15.6	2	3.6	1	1.2	3	2.1	9	7.4	11	5.4	20	6.2
Illness of a HH member	9	26.5	16	28.1	25	27.5	5	16.1	15	25.4	20	22.2	17	30.4	16	18.6	33	23.2	31	25.6	47	23.3	78	24.1
Intimidation/Imprisonment of member by police	2	5.9	0	0.0	2	2.2	1	3.2	7	11.9	8	8.9	0	0.0	1	1.2	1	0.7	3	2.5	8	4.0	11	3.4
Complete loss of income	1	2.9	1	1.7	2	2.2	3	9.7	9	15.3	12	13.3	4	7.1	1	1.2	5	3.5	8	6.6	11	5.4	19	5.9
Crop damage by pests	3	8.8	1	1.7	4	4.4	0	0.0	0	0.0	0	0.0	0	0.0	5	5.8	5	3.5	3	2.5	6	3.0	9	2.8
Price rise of food items	4	11.8	12	21.1	16	17.6	1	3.2	0	0.0	1	1.1	6	10.7	10	11.6	16	11.3	11	9.1	22	10.9	23	7.1
Price rise of inputs	5	14.7	11	19.3	16	17.6	0	0.0	0	0.0	0	0.0	3	5.4	6	7.0	9	6.3	8	6.6	17	8.4	15	4.6
Illness, great loss or death of animals	2	5.9	2	3.5	4	4.4	0	0.0	0	0.0	0	0.0	3	5.4	2	2.3	5	3.5	5	4.1	4	2.0	9	2.8
Loss of asset either through Fire/Theft	0	0.0	1	1.7	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	2	2.3	2	1.4	0	0.0	3	1.5	3	0.9
Conflict between HH members/family breakdown	3	8.8	4	7.0	7	7.7	2	6.5	6	10.2	8	8.9	3	5.4	2	2.3	5	3.5	8	6.6	12	5.9	20	6.2
Loss of agricultural land	1	2.9	0	0.0	1	1.1	0	0.0	0	0.0	0	0.0	2	3.6	1	1.2	3	2.1	3	2.5	1	0.5	4	1.2
Eviction from rented house	2	5.9	3	5.3	5	5.5	2	6.5	0	0.0	2	2.2	1	1.9	0	0.0	1	0.7	5	4.1	3	1.5	8	2.5
<b>Total</b>	<b>34</b>	<b>*</b>	<b>57</b>	<b>*</b>	<b>91</b>	<b>*</b>	<b>31</b>	<b>*</b>	<b>59</b>	<b>*</b>	<b>90</b>	<b>*</b>	<b>56</b>	<b>*</b>	<b>86</b>	<b>*</b>	<b>142</b>	<b>*</b>	<b>121</b>	<b>*</b>	<b>202</b>	<b>*</b>	<b>323</b>	<b>*</b>

Source: Field Survey, 2014

\* Not added due to multiple response and the total column is not the sum.

All the poor and the non-poor households faced all these shocks almost equally (see Table 7.2). However, large proportion (19%) of the poor households faced food shortage than the non-poor households which accounted for 9 per cent. Looking into the data of individual study town, relatively higher proportion (18%) of the households in Wojel felt price rise of food items followed by Felege Birhan (11%). The data by individual study town also showed that relatively higher proportion of households especially the poor in Felege Birhan (16%) and Wojel (15%) faced shortage of food than Yetmen (17%). In general, both the poor and the non-poor households in these towns faced shocks almost in the same proportions.

The group discussants and key informants reported that light interruption in the study towns was very high during the household survey. As to these people, it has become hard to live for some households whose livelihood strategies (male and female beauty salon, video rentals, metal and wood works, flour mills, etc) entirely depend on electricity. According to them, the challenge was generating sufficient income to survive in a situation where light is highly interrupted per day. Light interruption was a very serious problem in the study towns. Almost all household heads also reported that light interruption was very high which was seriously affecting their daily income immensely. The other shock faced by residents of Yetmen was complete interruption of water before the survey. Due to this, residents of Yetmen were forced to resort to the unsafe sources of drinking water. The coping strategies of households are not discussed here since the data were not collected as expected, that is, respondents did not give the strategy for each shock since most households faced more than one shock. In addition, respondents failed to distinguish livelihood and coping strategies.

## **7.2. Policies, Institutions and Processes**

### **7.2.1. Policies**

#### **7.2.1.1. The Urban Development Policy**

The urban development policy in Ethiopia was first designed in 2005 after the realization of the importance of urban centers in rural development. There was no urban development policy before 2005 because of the rural focused development strategy of the country, Agricultural Development Led Industrialization (ADLI), with the belief that the development of agriculture could lead the development of industries and urban centers. Urban areas were neglected from all

development programmes before 2005 due to the overemphasis given to rural areas by the government. However, the urban development policy designed in 2005 recognized that rural development cannot be achieved without urban development and the linkages between urban and rural areas (MUDHCo, 2005). According to the policy document, the development of one reinforces the other through linkages. The document, however, underlined that the direction and speed of urban development are determined by the direction and speed of rural development. So that rural development has an impact on urban development. Similarly, since urban areas collect rural products and supply agricultural inputs, if urban areas are not developed then rural development is retarded. The policy document also underscores that rural-urban linkages ensure rural and urban development as well as national development.

The policy document also accentuates that urban development cannot be realized without good governance. If efficient service, democracy, peace and stability and rule of law are not established, urban development can't be achieved. The policy document highlighted the major development problems of urban areas in the country. These are lack of infrastructure and services, lack of housing, lack of sanitation and entertainment facilities, weak rural-urban and urban-urban linkages and lack of self-autonomy among others. Therefore, urban development policy is needed in order to put proper directions on urban development and good governance and the way out of all these problems. However, the type and magnitude of the problems are not listed in the document in accordance with the size of urban centers. The extents of these problems are different in different size of towns due to differences in their contexts. For example, housing is better available in small towns unlike large towns; however, the quality of houses is very low. Besides, some basic municipal services are not available in small towns unlike large towns.

In order to solve these problems and ensure rapid development, the major activities to be undertaken in urban areas are listed in the policy document. The major activities for rapid urban development are expansion of micro and small enterprises, housing development, participatory *kebele* development, supply of land and infrastructure, expansion of education and training, expansion of health and entertainment services, industrial development, environmental conservation and urban governance. Some of these development activities are pro-poor. For example, MSEs are identified as a key role playing sector in poverty reduction as the government

targeted the creation of employment through these enterprises. This is because MSEs have a role to create employment for the youths. However, the major activities for rapid urban development are largely restricted in major towns of the country in practice. They are less performed in small towns particularly in small towns. MSEs are expanded in large towns and housing and industrial expansion projects are launched in large towns. Enterprises are not established in the study towns as the government gives much emphasis to the major towns.

During the field survey the *kebele* officials of each town reported that land in Wojel, Yetmen and Felege Birhan were not provided by the government neither through lease nor placement systems. Consequently, people in these towns have accessed land through purchase from farmers along the main road. The policy emphasized that infrastructure could be provided on the basis of their role in economic and social growth in the country. However, many small towns had no municipality waste management service and waste disposal site. These show the neglect of small towns by the government. The other most important point raised in the urban policy document is the need for the categorization of urban areas in the country. The federal government was responsible to categorize urban centers of population size 20,000 and above which was realized in 2005. The urban development strategy paper also emphasized that there is a need to categorize urban areas in order to address their problems in accordance with their problems.

Even though this is a good approach to alleviate problems and bring development, towns of size below 20,000 are not categorized. As a result, the government is not addressing their problems in accordance with their status and problem on the ground. So ignoring these towns is neglecting the larger segments of the population from development. Though the population size of each town is small as compared with the major towns, the number of these small towns is very large. Moreover, these towns are serving their residents and the surrounding rural areas. This is not a good approach if the country wants to speed up rates of urbanization without developing these numerous urban centers. Regardless of these, regions categorize their own urban centers including the smaller ones. For example, Wojel is an emerging town and Yetmen and Felege Birhan are sub-municipality towns in Amhara region. Therefore, the urban development policy of Ethiopia, designed in 2005 did not give any directions based on the size of towns in the country. Smaller towns cannot attract investors from somewhere else due to lack of infrastructure and trained labour force in these towns unlike the larger towns.

On the basis of the urban development policy the government designed various urban development programmes in different times. These are PASDEP, GTP1 and GTP2. However, only the main development programmes of GTP2 will be discussed in the following section since the plan periods for the former two are completed.

### **Major Urban Development Programmes in GTP2**

The government of Ethiopia designed various long-term and short-term development programmes and projects to address the major problems of urban areas including poverty. Leaving the earlier programmes aside, GTP2 is the national development programme from 2015/16 to 2020/21. Every sector designed its own development programmes on the basis of the national GTP2. Therefore, the GTP2 of MUDHCo is the urban development programmes to be implemented from 2015/16 to 2020/21. According to MUDHCo (2015), this plan was designed after analyzing the development problems of the country and weaknesses of GTP1 as well as the level and rate of urbanization in the country which will be reached 25 and 30 per cents at the end of GTP2 and GTP3 respectively.

The urban development programmes in GTP2 centers self-autonomous towns of population size 20,000 and above. Twelve major urban development programmes are designed in GTP2. These urban development programmes and plans are based on the nine pillars. The nine pillars listed in the plan are: 1) urban leadership capacity building, 2) micro and small enterprise development and urban safety net, 3) development of urban good governance, 4) urban plan, land development and management, 5) residential house development and management, 6) provision of integrated infrastructure, 7) urban financial development and leadership, 8) sanitation and urban greenery and 9) sustainable and climate change resilient urban development. The twelve urban development programmes in GTP2 are designed based on these pillars.

The 12 main urban development programmes in GTP2 include: 1) leadership capacity building, 2) micro and small enterprises development, 3) urban food security and employment creation, 4) urban good governance and capacity building, 5) urban plan preparation and implementation, 6) urban land development and management improvement, 7) making urban plans, cadastre and land use right registration 8) housing development and management, 9) provision of integrated

infrastructure development, 10) urban finance development and leadership, 11) urban sanitation and greenery development improvement and 12) ensuring accessibility and security of urban development to the public. There are 19 urban development sub programmes in GTP2.

The new development programmes in GTP2 are the rural housing, property tax implementation and urban productive safety net programmes. The government planned to build 1.7 million houses in 8,000 rural development centers using the capacity of the people and local resources in the plan period. The idea is to make these rural development centers for market, service and small agro-processing industries for the rural people. Likewise, property tax in 91 large towns is being implemented in this plan period. This can increase the financial capacity of these towns. One of the other new programmes which targeted the poor households is the Urban Productive Safety Net Project (UPSNP) designed in 2015. This has a life span of ten years. The implementation was started at the beginning of 2016. The basic objective of the project is to increase income of the targeted households living below the national poverty line in some selected urban areas of the country. This project is an element of the Urban Food Security and Job Creation Strategy which will benefit 4.7 million urban poor living in 972 cities and towns (MUDHCo, 2015). Three major target groups are identified in the project. The first group is the destitute such as street children, homeless and beggars who need housing, healthcare, counseling and often repatriation to families in addition to financial support. The second target group is the elderly and disabled who are living in households with no working-age members who need long-term financial support. The final group, the largest group, is those with working-age members but with too little work in low quality employment.

In order to help the beneficiaries move out of poverty and graduate from the programme, the UPSNP adopted a three-phased integrated pathway. In the first phase beneficiaries will receive transfers (conditional on beneficiaries meeting their co-responsibilities) and guidance on the employment pathway (both self and wage employment) to follow. In the second phase conditional transfers will continue and beneficiaries will receive training and further financial support to increase their employability. In the third phase beneficiaries will have the option to continue to engage in public works to supplement their employment income. As to the document, support will be provided for a maximum of three years but some beneficiaries may choose to graduate earlier.

The three main components of the project are: a) Safety Net Support, b) Livelihood Services and c) Institutional Strengthening, Project Management and Coordination. The safety Net Support is through conditional and unconditional safety net transfers. Under conditional transfers the project supports Labour Intensive Public Works (LIPW). This supports the financing and development of sustainable community assets and public services implemented using labour intensive methods (see some of the selected LIPW in Table 7.3). These are not of course the only LIPW. The document revealed that other public works will be identified by the project through strong local communities' participation with the set selected criteria which is a good approach to development as it involves the local people in the selection of public works. Besides the improvement of income, the project can build the human assets of beneficiary households. The implementation project can build basic technical skills in construction, catering or home care activities (MUDHCo, 2015). It can also improve the financial assets of the beneficiary households.

**Table 7.3: Examples of Typical LI PW Subprojects**

Typical Subprojects	Description
<b>Roads</b>	- Cobblestone
<b>Green Infrastructure</b>	- Urban parks and greenery development projects - Nurseries for beautification
<b>Urban Sanitation (Liquid Waste)</b>	- Community washing facilities - Community public toilets/ventilated improved pit latrines - Community sewerage facilities and collection - Community soak away pits and septic tanks - Community drainage canals - Community roads drainages
<b>Urban Sanitation (Solid Waste Management)</b>	- Dry waste collection up to primary collection center
<b>Social Infrastructure</b>	- Day Care Centers - Health Posts - Classroom construction/renovation
<b>Infrastructure that increases the productivity of urban work</b>	- Building production sheds - Building market sheds for small business - Provision of childcare - Preparing food meals

Source: MUDHCo, 2015

The livelihood services will support interventions that will facilitate graduation from the programme and promote moving out of poverty. The target groups for these interventions are individuals in households receiving conditional transfers who desire more and higher paid work. In the case of institutional strengthening and programme management component, it supports the development and strengthening of project systems for targeting, monitoring and evaluation and capacity building (human resource, training, administrative and physical capacity) and strengthening programme management (coordination, financial management, procurement and safeguards). The project will cost 559 million US dollars which will be from both the government of Ethiopia and the World Bank (MUDHCo, 2015).

The project will be implemented phase by phase starting from large towns having a population size of over 100,000. The first five years phase, 2016-2020, of the project targets eleven major cities such as Addis Ababa, Adama, Assayita, Assosa, Desse, Dire Dawa, Gambela, Hawassa, Harar, Jijiga and Mekele. These are the two administrative towns and one town from each region. This will be financed by the World Bank. A total of 752, 000 beneficiaries are targeted in this phase. Out of the total beneficiaries, three quarters are from Addis Ababa. The total beneficiaries in this phase are the poorest 15 per cent and about 70 per cent of people living below the poverty line.

The project has some expected social benefits. The expected social benefits as pointed out by MUDHCo (2015:8) are:

*Social benefits include employment (including demand for skilled and unskilled labor, increase in income for local communities and indirect employment opportunities from provision of services to construction workers, such as sale of food and beverages); improvement of environmental health; improved access to basic health services; enhancing the productive potential of mothers and welfare of the vulnerable; improving the aesthetic appeal of cities; improvement in food security of the urban poor; improved transportation, resulting in improved access to markets and social support networks; avoidance of damaging floods in urban areas; and multiplied effects of providing integrated infrastructure and services.*

### **7.2.1.2. Rural Land Policy**

Article 12 sub-article 1a of Amhara National Regional State Zikre Hig number 18, proclamation number 133/2006 stated that:

*Notwithstanding provision under sub-article 1 of article 11 of this proclamation any holder having a right over using the land, it may be decided to be deprived from the right of using the land by the following reasons: a) The detail to be determined in regulation, where he is engaged in non-farming activity and earns for his livelihood thereto.*

However, according to article 15 sub-article 2 of the proclamation of Amhara Region, persons residing in town and engaged in small income activities to support their lives shall be considered farmer for the aim of succession.

Regulation No.51/2007 for Rural Land Administration and Use System Implementation of the Amhara National Regional State, article 14 sub article 1 a and b stated the conditions of the deprivation of the rights of landholdings in rural areas in the region. Rural landholding rights may be deprived of with these reasons among others: a) Be employed in a permanent job which may be earned an income not less than average monthly salary determined by the government to be paid in minimum starting salary; b) be engaged in work field other than agricultural activity and excisable one.

This is, therefore, an opportunity for the rural-urban migrants who engaged in small businesses in the study towns. This is because migrants who engaged in small businesses can continue to earn income from agriculture until their income from the non-farm activities improved. The agricultural land is insurance for most of the households in urban areas. When these households faced shocks they rent out their agricultural land to cope the shock they faced. That is why as discussed in chapter six, large proportion of households in these towns owned agricultural land (see further details in Section 6.3). In contrast, the land is not distributed to the landless from those who migrated in some other places including small towns for business and other jobs regardless of the assets they have developed and the wealth they have accumulated. Some households continue to hold the agricultural land even after they become rich.

The land policy of the government at the macro level (no land redistribution policy) encouraged many rural youths to engage in non-farm activities and migrate to urban areas. In a situation like this the government has to design a policy to develop the market centers for not only for farmers but also for those who engage in non-farm activities. The group discussants reported that the rising of living cost in urban areas forced some government employees to engage in business activities and agriculture to complement their income.

### **7.2.2. Institutions**

Institutions to be discussed here is about the game players and rule of the game. It is true that some governmental institutions; game players; like education, health, etc are available in the study towns and these institutions are impacting the livelihoods of households by providing various services. For example, both education and health institutions in these towns are essential in improving the most important human assets such as education and health. As discussed in chapter four, all the study towns have one elementary and junior secondary school and one high school. Elementary and junior secondary schools in these towns are also centers of adult education so that adults are benefiting from these schools. However, unlike the schools in intermediate and large size towns night programmes were not available in all schools of the study towns. Health centers are working to improve the health of residents of each study town as well as rural areas through their public health education programmes besides the treatments they are giving for the sick. What is most important is, however, not the availability of these institutions rather the quality of the services they are providing and the resultant level of satisfaction of the clients.

As pointed out by some of the household heads, the schools in each study town have some major problems. The major problems of the schools are lack of books and supplies, lack of teachers and poor teaching quality and poor management in all the schools, absence of drinking water in Wojel elementary and junior secondary school, shortage of teachers and crowded class rooms in Felege Birhan. In connection with this, the level of satisfaction of households in the quality of the services provided by the schools was asked. Accordingly, as shown in Table 7.4, the level of satisfaction of household heads was different. The level of satisfaction of 45 per cent of the households was high followed by medium level of satisfaction which accounted for 23 per cent.

The data on individual study town showed that the level of satisfaction of the highest proportion (33%) of heads of the households was very high in Yetmen followed by high (18%). As opposed to Wojel and Yetmen, the level of satisfaction of heads of households in Felege Birhan was medium which accounted for over half (56%) of the respondents followed by high (30%). Therefore, people in Felege Birhan were less satisfied with the quality of the services the schools are providing followed by Wojel. The level of satisfaction of heads of households in Yetmen was better than the other study towns. The possible explanation to this is that the schools in Yetmen had better experienced teachers than the other study towns.

**Table 7.4: Level of Satisfaction of the Household Heads in Schools & Health Services**

Level of Satisfaction in the Quality Education	Wojel		Yetmen		Felege Birhan		Total	
	N	%	N	%	N	%	N	%
Very high	15	16.5	30	33.3	10	7.0	55	17.0
High	41	45.1	16	17.8	42	29.6	99	30.7
Medium	21	23.1	11	12.2	80	56.3	112	34.7
Low	2	2.2	1	1.1	1	0.7	4	1.2
Very low	0	0.0	1	1.1	0	0.0	1	0.3
I don't know	12	13.2	31	34.4	9	6.4	52	16.1
<b>Total</b>	<b>91</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Quality of Health Service</b>								
Very high	9	9.9	5	5.6	3	2.1	17	5.3
High	20	22.0	11	12.2	45	31.7	76	23.5
Moderate	18	19.8	40	44.4	88	62.0	146	45.2
Poor	5	5.5	16	17.8	1	0.7	22	6.8
Very poor	0	0.0	2	2.2	0	0.0	2	0.6
I don't know	39	42.9	16	17.8	5	3.5	76	23.5
<b>Total</b>	<b>91</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Field Survey, 2014

The school principals were also asked about the problems they faced. According to the principal of each school; lack of teachers competence, disciplinary problems like absenteeism and late coming of teachers, lack of text and reference books (for example, Amharic 1:4 in Felege Birhan Elementary and Wojel high school), lack of supportive staff like secretary and guard, teachers replacement before the end of the academic year, the absence of laboratory rooms, chemicals and apparatus in all high schools, absence of water and lack of budget, absence of plasma and light in Wojel and Yetmen high schools, lack of latrine for students and lack of class rooms. Consequently, all these problems identified reduce the quality of the service the schools are

providing to the society and the levels of satisfaction of the society in these towns are generally low. As to the principals, all these problems are affecting the quality of education in the respective schools.

As discussed in chapter four, health centers and private clinics are found in all the study towns. However, these centers were not without problems. Household heads identified some major problems of the local health institutions. These are unhygienic facilities, total absence of inpatient service due to the absence of bed, lack and absence of drugs, low quality of drugs, poor professional discipline (late coming and absence), unsuccessful treatment, absence of high level professionals, etc. The key informants from each health center responded that there is a delay in treatment due to lack of high, intermediate and low level health professionals. The other major problem identified by the key informants were lack of drugs, the availability of out of date drugs and the provision of drugs from the government not based on the demand of the institution. Because of the lack of drugs patients are mostly referred to buy from private pharmacy or drug stores which raise their level of dissatisfaction. The most important facility in outpatient diagnostic (OPD), examination beds, are lacking in health centers. The other problems raised in Wojel health center were absence of water and vehicles and combustion site. According to the key informants, all these problems are affecting the quality of the health services they are providing to the society and these are the major cause of the dissatisfaction of the customers.

Concerning the level of satisfaction of heads of households, the level of satisfaction of nearly half (45%) of heads of the households of the study towns was moderate. Looking into the data by individual study town, considerable proportion (22%) of heads of the households in Wojel were high followed by moderate (20%). In contrast, the level of satisfaction of the great majority (44%) in Yetmen and 62% in Felege Birhan) were moderate followed by low in Yetmen (18%) and high in Felege Birhan (32%). The high level of dissatisfaction in Felege Birhan reflects the low quality of health services in the town than the other study towns. However, both the schools and health centers in the study towns had some pro-poor programmes. The schools were helping students who are from the poor family. Likewise, the health centers provide health services for the poorest of the poor for free.

The other governmental institution available in each study town was *kebele*. Besides, sub-municipalities were available in Yetmen and Felege Birhan. The sub-municipalities were responsible for the *woreda* council but they were reporting to the leading municipality in the *woreda*. The leading municipalities gave technical assistance to the sub-municipalities. The sub-municipalities in these towns were not well-organized. The offices in both towns were not well organized in terms of trained personnel and office furniture according to the leaders due to lack of finance. In other words, the sub-municipalities had weak institutional capacity. Both *kebeles* and sub-municipalities were not generating sufficient revenue for the accomplishment of various development activities and provision of municipality services in their jurisdiction. The revenue sources for the *kebeles* and sub-municipalities were very much limited. According to the *kebele* administrators of each town the revenue sources for the *kebele* were *kebele* house rent, penalty (from those who couldn't participate in development activities and committed disciplinary problems), sale of assets like grass and wood, budget from the respective *woreda* (*subside 50,000 Birr for Yetmen per year*).

Likewise, interview with the sub-municipality leaders of Yetmen and Felege Birhan revealed that the revenue sources for the sub-municipalities were very much limited. The sub-municipality in Yetmen was collecting revenue from only two sources out of the thirteen available income sources given by law to the sub-municipality. The main revenue sources of the sub-municipalities include on market tax (market stall fee, non-stationed traders fee and livestock market dues in only Felege Birhan), agricultural and commercial goods loading and/or unloading fee. The other revenue sources for the sub-municipality of Felege Birhan were charge for provision of technical & related services like boundary demarcation peg, standard housing plan and engineering service, bus terminal service charge, land permit registration fee, fee for registration of contract with regard to property (fee for transfer of title of land property and registration and preservation of collateral subject to loan contract) and penalty from those who do not pay their tax timely. To put in another way, the sub-municipalities were not collecting revenue from a myriad of sources particularly service charges on registration on death, birth and marriage/divorce, etc. Above all, the leader of the sub-municipalities reported that the sub-municipalities were not effectively collecting income from these sources due to the lack of collectors and low level of awareness of the people since these tax systems are new for them.

According to the leaders of the sub-municipalities, the revenues collected were used largely for salary and office routines. Some amount of money was used for the provision of hard infrastructures in each town. The infrastructures provided were drainage, road maintenance and opening of new inner roads and water pipeline provision in Felege Birhan and opening of inner roads and water pipelines maintenance in Yetmen. However, according to the leaders, the main development question of the residents of each town were mainly the provision of infrastructure such as road, street light, water, bus station, etc which were left unaddressed due to the weak revenue generating and coordinating capacity of the sub-municipalities.

**Table 7.5: The Number of Persons Needed and Employed for Each Process Unit of the Sub-Municipalities**

Process Unit	Number of Persons needed	Number of Persons Employed	
		Yetmen	Felege Birhan
Leader	5 including leader	1	1
Land Development Management Process Unit	7	1	0
Plan Implementation Sanitation and Beautification Process unit	5	0	0
Construction Regulation and Housing Infrastructure Process Unit	5	0	1
Revenue collection and Monitoring Process Unit	3	2	2
Purchasing, Finance and Property Administration Process Unit	7	1	3
Total	32	5	7

Source: The Sub-Municipalities of Yetmen and Felege Birhan, 2014

With regard to the human power of the sub-municipalities, each sub-municipality had no enough professionals. Only seven in Felege Birhan and five in Yetmen out of the 32 personnel needed including the leader were employed in the sub-municipalities (Table 7.5). The sub-municipalities were unable to provide the whole municipality services due to the shortage of professionals. They were not providing many of the municipality services. There were no municipal solid waste management system, water provision and fee collection and other infrastructures provision. Furthermore, due to the shortage of revenue collectors the sub-municipalities were unable to diversify the income collection options available to them. The only thing they plan to work was on the preparation of master plan and certification of the holdings in each town. According to the

leaders, the sub-municipalities were not fully functioning due to lack of budget and the required staffs. They were providing very limited and rudimentary services in each town.

According to the leaders of the respective sub-municipalities, employment is not yet completed; even the employed ones are not working well because of the lack of budget. In order to fully discharge the responsibilities (administering the urban land, expansion of basic infrastructure through the revenue collected from various sources), certification of holdings, town beautification) given to them, the manpower for the sub-municipality must be fulfilled. According to the leaders, the people's strong desire was to have a holding certificate. If they certified they can use as a collateral for borrowing money from the microfinance institution and banks. Because of these each town has a plan to work on the certification of holdings.

### **Trade Licensing Law**

This is rule of the game which had a profound negative effect in the livelihood of households in the study towns. The study found that the trade licensing law prohibited many traders in small towns from trading many related businesses using one license. One interviewee from Yetmen said that he was not able to have more than one license for two or more than two trading activities which are interrelated. Consequently, life is becoming difficult for him since the income he is earning from one business is very meager. According to this person enough surplus and income cannot be obtained from a single business because of the absence of sufficient demand in the town. According to the trade licensing law, if one wants to make business on cloth and at the same time become a tailor he/she must have two business licenses for the two. This is confirmed by an expert in the area in the Woreda Trade and Transport office. Thus, this person is responsible to pay income tax for the two business activities which are a huge burden for him/her. In addition, fees for licensing the two are burdens on them.

Carter (1995) and Solomon (2008) argued that specialization in small town is a rare practice resulting from the lack and absence of sufficient demand. So that most households engaged in various trading activities at the same time as income from trading in a single item is not sufficient to cover the needs of the households and the business is unable to sustain since there are no threshold for every item.

### 7.2.3. Processes

#### 7.2.3.1. Processes of Participation in Development

As explained in chapter four, each town has various infrastructures provided in different times. The participation of the people in the provision of these infrastructures was immense. According to the key informants, people's participation in development activities is increasing from time to time. The communities participated in the construction of general secondary school, health center and water and provision of electricity in various ways in each study town. The household survey revealed that households contributed either labour or money or both in various development activities such as water, school, health center, etc. As illustrated in Table 7.6, nearly three fourths (73%) of the households participated in one of the aforementioned development activities. A closer inspection of Table 7.6 revealed that the non-poor households 10 percentage points higher than the poor households in terms of participation. The possible explanation to this was that the poor had limited financial assets than the non-poor households and the poor had no sufficient time for labour contribution since many are engaged in their livelihood activities for a living.

**Table 7.6: Percentage of Households Participated by Development Activities**

Development Activities	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No Participation	2	5.9	6	10.5	8	8.8	11	35.5	14	23.7	25	27.8	27	49.1	27	31.4	54	38.3	40	33.3	47	23.3	87	27.0
Water	2	5.9	0	0.0	2	2.2	8	25.8	12	20.3	20	22.2	1	1.8	0	0.0	1	0.7	11	9.2	12	5.8	23	7.1
School	4	11.8	10	17.5	14	15.4	2	6.5	0	0.0	2	2.2	1	1.8	0	0.0	1	0.7	7	5.8	10	5.0	17	5.3
Roads	0	0.0	1	1.8	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	1	1.2	1	0.7	0	0.0	2	1.0	2	0.6
Water, School & Road	12	35.3	24	42.1	36	39.6	1	3.2	1	1.7	2	2.2	20	36.4	51	59.3	71	50.4	33	27.5	76	37.6	109	33.9
Water & Road	5	14.7	7	12.3	12	13.2	0	0.0	0	0.0	0	0.0	1	1.8	2	2.3	3	2.1	6	5.0	9	4.5	15	4.7
Water & School	4	11.8	2	3.5	6	6.6	9	29.0	31	52.5	40	44.4	2	3.6	4	4.7	6	4.3	15	12.5	37	18.3	52	16.1
School & Road	5	14.7	7	12.3	12	13.2	0	0.0	0	0.0	0	0.0	3	5.5	1	1.2	4	2.8	8	6.7	8	4.0	16	5.0
Water, School & Health Center	0	0.0	0	0.0	0	0.0	0	0.0	1	1.7	1	1.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5	1	0.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>55</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>141</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>322</b>	<b>100</b>
<b>Type of Particip.</b>																								
Labour	1	3.1	2	3.9	3	3.6	8	40.0	6	13.3	14	21.5	11	39.3	8	13.6	19	21.8	20	25.0	16	10.3	36	15.3
Birr	2	6.2	3	5.9	5	6.0	3	15.0	3	6.7	6	9.2	1	3.6	1	1.7	2	2.3	6	7.5	7	4.5	13	5.5
Labour & Birr	26	81.2	40	78.4	66	79.5	9	45.0	36	80.0	45	69.2	15	53.6	40	67.8	55	63.2	50	62.5	116	74.8	166	70.6
Labour, Birr & Mobilizing People	3	9.4	6	11.8	9	10.8	0	0.0	0	0.0	0	0.0	1	3.6	10	16.9	11	12.6	4	5.1	16	10.3	20	8.5
<b>Total</b>	<b>32</b>	<b>100</b>	<b>51</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>45</b>	<b>100</b>	<b>65</b>	<b>100</b>	<b>28</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>87</b>	<b>100</b>	<b>80</b>	<b>100</b>	<b>155</b>	<b>100</b>	<b>235</b>	<b>100</b>

Source: Field Survey, 2014

Some households participated in only one development activities and others participated in two or more than two development activities (see Table 7.6). The major contributions of many of the households were money and labour. Out of the total households, 71 per cent contributed both labour and money. Some 15, 9 and 6 per cents of the households contributed labour; labour, money and mobilizing people and money respectively. The number of days and the amount of money contributed by the households are also presented in Table 7.7 below.

**Table 7.7: Labour in Days and the Amount of Money Contributed by Households**

Labour Contribution in Days	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<16	12	37.5	22	43.1	34	41.0	30	96.8	52	88.1	82	91.1	38	69.1	41	47.7	79	56.0	80	67.8	115	58.7	195	62.1
16-31	15	46.9	21	41.2	36	43.4	1	3.2	4	6.8	5	5.6	7	12.7	17	19.8	24	17.0	23	19.5	42	21.4	65	20.7
32-47	2	6.2	4	7.8	6	7.2	0	0.0	0	0.0	0	0.0	5	9.1	11	12.8	16	11.3	7	5.9	15	7.7	22	7.0
48-63	3	9.4	0	0.0	3	3.6	0	0.0	3	5.1	3	3.3	5	9.1	16	18.6	21	14.9	8	6.8	19	9.7	27	8.6
>63	0	0.0	4	7.8	4	4.8	0	0.0	0	0.0	0	0.0	0	0.0	1	1.2	1	0.7	0	0.0	5	2.6	5	1.6
<b>Total</b>	<b>32</b>	<b>100</b>	<b>51</b>	<b>100</b>	<b>83</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>55</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>141</b>	<b>100</b>	<b>118</b>	<b>100</b>	<b>196</b>	<b>100</b>	<b>314</b>	<b>100</b>
<b>Mean</b>					<b>22</b>						<b>11</b>						<b>31</b>		<b>20.7</b>		<b>23.5</b>		<b>t=1.11*</b>	
<b>Birr</b>																								
<501	25	83.3	30	61.2	55	69.6	11	84.6	30	73.2	41	75.9	14	77.8	31	63.3	45	67.2	50	82.0	91	65.5	141	70.5
501-1000	4	13.3	10	20.4	14	17.7	2	15.4	5	12.2	7	13.0	4	22.2	15	30.6	19	28.4	10	16.4	30	21.6	40	20.0
1001-1500	1	3.3	2	4.1	3	3.8	0	0.0	3	7.3	3	5.6	0	0.0	1	2.0	1	1.5	1	1.6	6	4.3	7	3.5
1501-2000	0	0.0	5	10.2	5	6.3	0	0.0	1	2.4	1	1.9	0	0.0	2	4.1	2	3.0	0	0.0	8	5.8	8	4.0
2001-2500	0	0.0	0	0.0	0	0.0	0	0.0	2	4.9	2	3.7	0	0.0	0	0.0	0	0.0	0	0.0	2	1.4	2	1.0
>2500	0	0.0	2	4.1	2	2.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.4	2	1.0
<b>Total</b>	<b>30</b>	<b>100</b>	<b>49</b>	<b>100</b>	<b>79</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>41</b>	<b>100</b>	<b>54</b>	<b>100</b>	<b>18</b>	<b>100</b>	<b>49</b>	<b>100</b>	<b>67</b>	<b>100</b>	<b>61</b>	<b>100</b>	<b>139</b>	<b>100</b>	<b>200</b>	<b>100</b>
<b>Mean</b>					<b>557.85</b>						<b>446.3</b>						<b>443.75</b>						<b>t=3.14**</b>	

Source: Field Survey, 2014

\*P=0.27 and \*\*P=0.01

The great majority (62%) of the households contributed less than 16 days followed by from 16 to 31 days which accounted for 21 per cent. Some differences were observed between the poor and the non-poor households where the poor (68%) were larger than the non-poor (59%) in which their contribution was less than 16 days. Whereas the non-poor households were slightly higher than the poor households in other categories (see Table 7.7). These results show that the poor are largely busy in their own livelihood in order to meet their livelihood objectives than the non-poor households. The average number of days a household contributed for the development works was 22.5. The average was 20.7 days for the poor and 23.5 days for the non-poor households. There is some variation between the poor and the non-poor, but the variation was not statistically significant at the 0.05 level of significance (t=1.11, DF=217). Looking into the labour

contribution of individual town, on the average each household contributed 22, 11 and 31 number of days in Wojel, Yetmen and Felege Birhan respectively. Labour contribution is, therefore, different among the study towns.

Similarly, considerable percentage (71%) of the households contributed less than 501 Birr. The poor (82%) were higher than the non-poor households (66%). The second highest proportion (20%) of the households contributed from 501 to 1,000 Birr in which the non-poor was a bit higher than the poor households which accounted for 22 and 16 per cents respectively. The proportion of the non-poor households was higher than the poor in other categories (see Table 7.7). No consumption poor households contributed above 1,500 Birr, however, some 9 per cent of the consumption non-poor households contributed above this amount. The average contribution of the non-poor and the poor households were 568.30 and 311.55 Birr respectively. The average contribution of the non-poor was higher than the poor and this was statistically significant at the 0.01 level of significance ( $t=3.14$ ,  $DF=128$ ). These results clearly show that the amount of Birr the poor contributed was relatively smaller than the non-poor households resulting from the limited asset the poor possessed especially the financial assets. In general, the average amount of money contributed for the construction of the development works in the study towns was 489.3 Birr. Looking into individual study town, the average amount of Birr contributed per household was 557.85, 446.30 and 443.75 in Wojel, Yetmen and Felege Birhan respectively. Households in these towns have, therefore, improved their access to infrastructures and services through their participation in the provision of these infrastructures and services.

### **7.2.3.2. Process of Decentralization**

Ethiopia established a democratic system of government in 1995 after its constitution was ratified and signed by the then president of the country. Consequently, the two large towns of the country, Addis Ababa and Dire Dawa, gained the privilege in self-administration since 1995 when the federal system of government was established in the country. The other towns with population size of 20,000 and above gained this privilege after 15 years in 2005 immediately after the urban development policy was formulated. These towns began to administer themselves since 2005, that is, more autonomy has been given for these towns since then. Looking at the decentralization process of Amhara region, eight towns gained the autonomy of self-

administration in 2005. The number of self administering towns increased to 40 in the region in 2015 (IUDB, 2015). Only two towns (Debre Markos and Mota) were self-autonomous in 2005 in Eastern Gojjam, but self-autonomous towns in the zone are now four. This has given them more financial and human power in order to solve their own problems especially in the provision of basic services and infrastructure in their jurisdiction.

In contrast, the towns with population size less than 20,000 have no self-autonomy until now. Of course, the GTP2 stressed that more autonomy will be given to smaller towns which have high potential for growth in the plan period (MUDHCo, 2015). However, 105 and 85 towns out of 423 urban centers in Amhara Region had municipality and sub-municipality status. About 193 towns in the region were leading towns.

### **7.3. Livelihood Strategies**

The livelihood strategies of households treated are the productive strategies though some depended on non-productive strategies. Accordingly, a total of ten major strategies were identified during the field survey. These were manufacturing (flour mills and handicrafts), food and drinks, trade, service, wage employment, agriculture, retirement, casual labourer and assistance and begging. Of these, all are productive livelihood strategies except retirement and assistance and begging. As depicted in Table 7.8, the primary livelihood activity of a third (33%) of the households was trade followed by food and drinks (20%) and agriculture (15%). Some variations were found among the figures of the study towns. The figure for trade accounted for 36, 33 and 29 per cents in Wojel, Felege Birhan and Yetmen respectively. This was followed by food and drinks in Wojel and Felege Birhan and agriculture in Yetmen accounting for 19, 26 and 24 per cents respectively. Some 11, 14 and 13 per cents of the households relied on manufacturing in Wojel and Felege Birhan and food and drinks in Yetmen respectively. Unlike the large towns the primary livelihood strategy of considerable percentage (9% in Wojel, 24% in Yetmen and 12% in Felege Birhan) of the households was agriculture. The reason why large proportion of households was engaged in agriculture in Yetmen was associated with the high proportion of the migrant heads of households in the town as well as the less engagement of these people in high income generating activities.

Therefore, the overwhelming majority of the households in these towns were self-employed unlike the large towns of Ethiopia. Only a few percentages (11 in Wojel, 14 in Yetmen and 5.0 in Felege Birhan) of the households was employed either in government or private organizations. These results show that employment creating organizations particularly private organizations and government institutions (as these towns are not the seat of *woreda* government) are non-existent in these towns. There were no huge differences between the proportions of the poor and the non-poor households in every livelihood strategy in the study towns (see Table 7.8). Both the poor and the non-poor households engaged in every activity almost equally, but they probably differ in the scale of engagement which of course needs an investigation.

**Table 7.8: Primary or Major Livelihood Activities of Households**

Type of Activity	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Manufacturing	6	17.6	4	7.0	10	11.0	2	6.5	6	10.2	8	8.9	6	10.7	14	16.3	20	14.2	14	11.6	24	11.9	38	11.8
Food & drinks	3	8.8	14	24.6	17	18.7	4	12.9	8	13.6	12	13.3	12	21.4	25	29.1	37	26.2	19	15.7	47	23.3	66	20.4
Trade	13	38.2	20	35.1	33	36.3	4	12.9	22	37.3	26	28.9	18	32.1	29	33.7	47	33.3	35	28.9	71	35.1	106	32.8
Service	1	2.9	5	8.8	6	6.6	0	0.0	1	1.7	1	1.1	3	5.4	3	3.5	6	4.3	4	3.3	9	4.5	13	4.0
Wage Employee	5	14.7	5	8.8	10	11.0	7	22.6	6	10.2	13	14.4	5	8.9	3	3.5	7	5.0	17	14.1	14	6.9	31	9.6
Agriculture	3	8.8	5	8.8	8	8.8	9	29.0	13	22.0	22	24.4	7	12.5	10	11.6	17	12.1	19	15.7	28	13.9	47	14.6
Retirement	2	5.9	1	1.8	3	3.3	0	0.0	1	1.7	1	1.1	0	0.0	0	0.0	0	0.0	2	1.7	2	1.0	4	1.2
Casual Labour	0	0.0	3	5.3	3	3.3	4	12.9	2	3.4	6	6.7	2	3.6	2	2.3	4	2.8	6	5.0	7	3.5	13	4.0
Assistance & Begging	1	2.9	0	0.0	1	1.1	1	3.2	0	0.0	1	1.1	3	5.4	0	0.0	3	2.1	5	4.1	0	0.0	5	1.5
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>141</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>License</b>																								
With License	12	42.9	28	52.8	40	49.4	4	18.2	26	55.3	30	43.5	13	27.7	30	38.5	43	34.4	29	29.9	84	47.2	113	41.1
Without License	16	57.1	25	47.2	41	50.6	18	81.8	21	44.7	39	56.5	34	72.3	48	61.5	82	65.6	68	70.1	94	52.8	162	58.9
<b>Total</b>	<b>28</b>	<b>100</b>	<b>53</b>	<b>100</b>	<b>81</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>69</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>97</b>	<b>100</b>	<b>178</b>	<b>100</b>	<b>275</b>	<b>100</b>

Source: Field Survey, 2014

The study found that about 240 (74%) of the households depended on single livelihood strategies. However, some of the households had other productive livelihood strategies. Some 83(27%) of the households had secondary livelihood strategies and only a few (6) non-poor households in the study towns had more than two livelihood strategies. Some 21(17%) of the poor and 62(31%) of the non-poor households had secondary livelihood strategies. Out of these households, as demonstrated in Table 7.9, the major secondary livelihood strategies of households include agriculture (31%), food and drinks (27%) and trade (24%). Many of the non-poor households had secondary livelihood strategies than the poor households. These indicate

that the poor has limited livelihood strategies probably emanated from the limited assets to be converted to productive livelihood strategies.

**Table 7.9: Secondary Livelihood Strategies of Households**

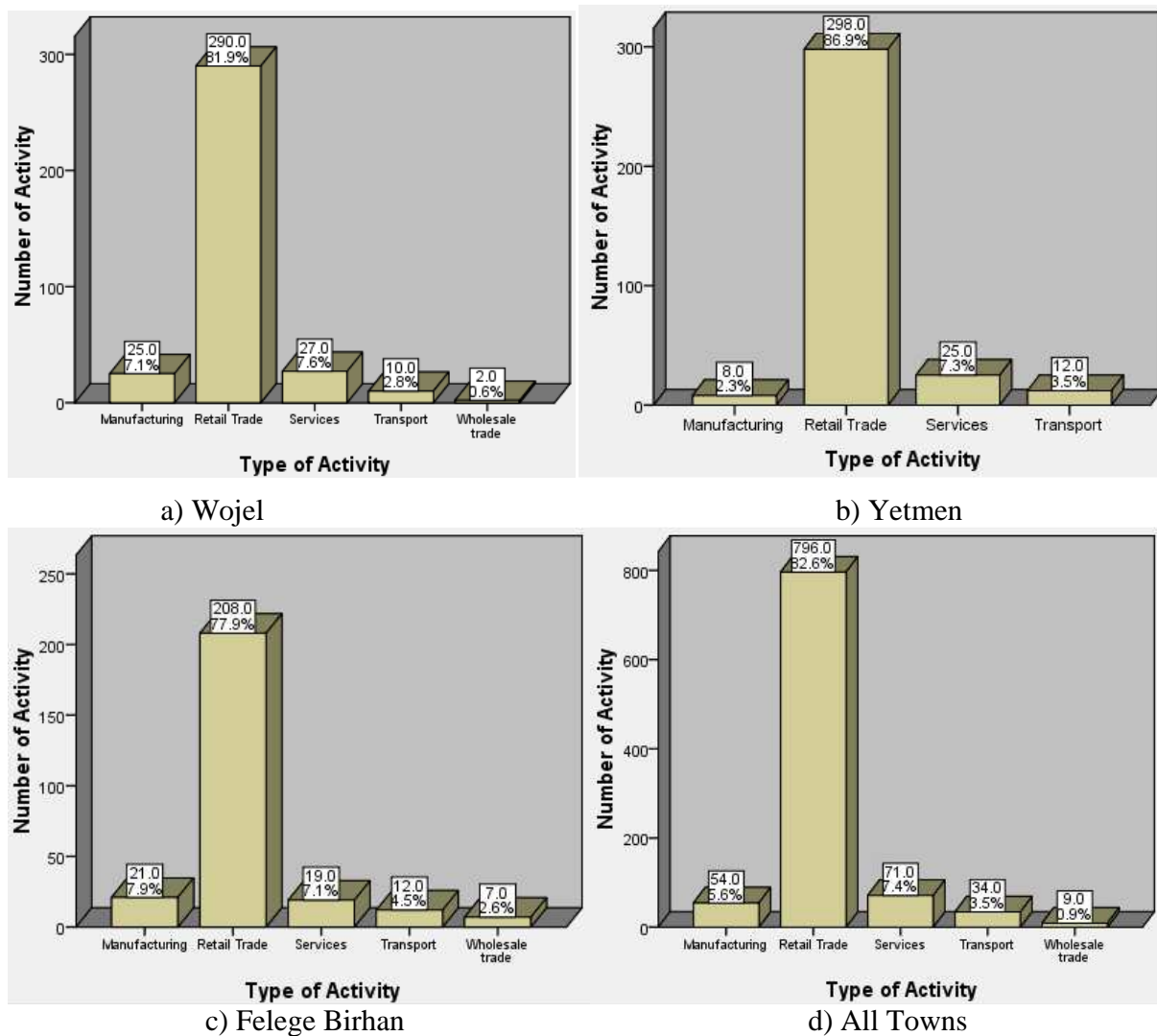
Type of Activity	Wojel				Yetmen						Felege Birhan						All Towns					
	Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Manufacturing	0	0.0	0	0.0	1	11.1	3	12.0	4	11.8	0	0.0	2	8.7	2	5.7	1	4.8	5	8.1	6	7.2
Food & Drinks	4	28.6	4	28.6	2	22.2	5	20.0	7	20.6	3	25.0	8	34.8	11	31.4	5	23.8	17	27.4	22	26.5
Trade	3	21.4	3	21.4	0	0.0	3	12.0	3	8.8	6	50.0	8	34.8	14	40.0	6	28.6	14	2.3	20	24.1
Services	1	7.1	1	7.1	1	11.1	1	4.0	2	5.9	0	0.0	1	4.3	1	2.9	1	4.8	3	4.8	4	4.8
Agriculture	4	28.6	4	28.6	5	55.6	12	48.0	17	50.0	1	8.3	4	17.4	5	14.3	6	28.6	20	32.3	26	31.3
Employment	1	7.1	1	7.1	0	0.0	1	4.0	1	2.9	0	0.0	0	0.0	0	0.0	0	0.0	2	3.2	2	2.4
Assistance & Begging	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	16.7	0	0.0	2	5.7	2	9.5	0	0.0	2	2.4
Retirement	1	7.1	1	7.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.6	1	1.2
<b>Total</b>	<b>14</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>12</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>21</b>	<b>100</b>	<b>62</b>	<b>100</b>	<b>83</b>	<b>100</b>

Source: Field Survey, 2014

As stated above, the major livelihood strategies of the great majority of the households were self-employment. The survey data revealed that about 60 per cent of the households engaged in business activities without license. The disaggregated data by individual study town also showed that more than half (51% in Wojel and 57% in Yetmen) and two thirds (66%) of the households in Felege Birhan engaged in business activities without license. The percentage of households who engaged in non-licensed business activities in Felege Birhan was higher than the other study towns. This is because the percentage of households who engaged in food and drinks which is largely non-licensed is large in Felege Birhan than the other study towns. The other possible reason may be the weak capacity of the *woreda* in licensing. Thus, over half of the surveyed households were engaged in informal activities and as explained below many of these activities were home-based.

The great proportion of the poor (70%) engaged in business activities without licensing than the non-poor households (53%). In spite of the differences across the study towns, this was true in each study town. Less than half of the surveyed households had license for their business. Large proportion of the non-poor (47%) was engaged in licensed business activities than the poor households (30%). Even though the percentages across the study towns differ, this was true in each study town.

In connection with this, data on the licensed livelihood strategies of the households were obtained from Trade and Transport Office of each study town. As depicted in Figure 7.5, out of the total licensed activities, huge proportion (81%) were retail trade. The figure was 82% in Wojel, 87% in Yetmen and 73% in Felege Birhan. The data obtained from the offices also revealed that the working places of the retail trades in each study town were market and shops. Retail traders largely engaged in selling commodities and cereals crops. The wholesale trade is not clearly written in the document so that classification has become very difficult.



**Figure 7.5: Percentage of Licensed Activities in the Study Towns**

Source: Trade and Transport Office of the Respective *Woredas*', 2014

Concerning the working premises of the businesses and manufacturing activities, the vast majority were home-based. As displayed in Table 7.10, the major working places were residential house/compound, shops, rural area and market place. Some 30 per cent, 21 per cent, 12 per cent and 12 per cent of the households worked in these places respectively. The disaggregated data by individual study town also revealed that the large majority (37% in Wojel, 15% in Yetmen and 32% in Felege Birhan) of the households was performing their business activities in their residence/residential compound. Many of the households were undertaking their business activities in their home or residential compound. As discussed in the physical asset section of the previous chapter, housing is the most important physical asset of households because many of the households use their home to perform their businesses. Consequently, some households use either one or more than one room to carry out their livelihood activities (see Section 6.2.1 of the previous chapter for further details).

**Table 7.10: Place of Work of Households for the Livelihood Activities**

Place of Work	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Residential House /Compound	10	33.3	22	39.3	32	37.3	4	13.7	8	15.1	12	15	15	28.3	29	34.2	44	31.7	29	26.1	59	30.6	88	28.9
Residential Compound	0	0.0	4	7.2	4	4.7	3	10.3	6	11.3	9	10.9	0	7.6	5	6.0	9	6.5	3	2.7	15	7.8	18	5.9
In Shops	5	16.6	7	12.5	12	14	5	17.2	14	26.4	19	23.2	9	17.0	23	27.4	32	23.4	19	17.1	44	22.8	63	20.7
On Road Side	2	6.7	3	5.4	5	5.8	3	10.3	0	0.0	3	3.7	3	5.7	3	3.6	6	4.4	8	7.2	6	3.1	14	4.6
Mobile	3	10.0	8	14.3	11	12.8	2	6.9	3	5.7	5	6.1	3	5.7	4	4.8	7	5.1	8	7.2	15	7.8	23	7.6
Rural Area	3	10.0	5	8.9	8	9.3	7	24.1	8	15.1	15	18.3	6	11.3	6	7.1	12	8.8	16	14.4	19	9.8	35	11.5
Market Place	6	20.0	7	12.5	13	15.1	2	6.9	1	1.9	3	3.7	11	20.8	8	9.5	19	13.9	19	17.1	16	8.3	35	11.5
Mobile & Rural/Market	1	3.3	0	0.0	1	1.2	2	6.9	3	5.7	5	6.1	1	1.9	1	1.2	2	1.5	4	3.6	4	2.1	8	2.6
Shop & Mobile /Rural/ Market	0	0.0	0	0.0	0	0.0	1	3.4	10	18.9	11	13.4	1	1.9	5	6.0	6	4.4	2	1.8	15	7.8	17	5.6
<b>Total</b>	<b>30</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>29</b>	<b>100</b>	<b>53</b>	<b>100</b>	<b>82</b>	<b>100</b>	<b>53</b>	<b>100</b>	<b>84</b>	<b>100</b>	<b>137</b>	<b>100</b>	<b>111</b>	<b>100</b>	<b>193</b>	<b>100</b>	<b>304</b>	<b>100</b>

Source: Field Survey, 2014

#### 7.4. Livelihood Outcomes

It is obvious that households engaged in various livelihood strategies in order to improve their livelihood or achieve a livelihood objective, which is improving their well-being. This objective is also determined by PIPs, livelihood assets and vulnerabilities. As discussed in chapter five, the well-being of households was measured using consumption as an indicator of well-being.

Consequently, about 37, 34 and 39 per cents of the households in Wojel, Yetmen and Felege Birhan respectively were consumption poor while the remaining percentages of households were consumption non-poor during the field survey. In addition to the poverty status of households, the livelihood status of households was assessed in comparison with the previous livelihood status of households following Tegegne (2011). Accordingly, the livelihood of both the poor and the non-poor households were either improved or decreased or not changed at all from their previous situation. The following table demonstrates the livelihood outcomes of households as perceived by the household head.

**Table 7.11: Whether Livelihood of the Household Is Improved or Not**

Change	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Improved	17	50.0	32	56.1	49	53.8	10	32.3	27	45.8	37	41.1	14	25.5	58	67.4	72	51.1	41	34.2	117	57.9	158	49.1
Not changed	11	32.4	17	29.8	28	30.8	8	25.8	14	23.7	22	24.4	29	52.7	24	27.9	53	37.6	48	40.0	55	27.2	103	32.0
Decreased	6	17.6	8	14.0	14	15.4	13	41.9	18	30.5	31	34.4	12	21.8	4	4.7	16	11.3	31	25.8	30	14.9	61	18.9
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>55</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>141</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>322</b>	<b>100</b>

Source: Field Survey, 2014

As presented in Table 7.11, nearly half (49%) of the households reported that their livelihood was improved from the previous years. Some variations were observed among the study towns in which the figure was a bit higher in Wojel (54%) followed by Felege Birhan (51%) and Yetmen (41%). However, some 20 per cent of the households reported a decrease in their livelihood. Huge discrepancies were observed among the study towns where highest proportion (34%) of the households in Yetmen reported a decrease in their livelihood. The figures were 15 per cent in Wojel and 11 per cent in Felege Birhan. The figure in Yetmen was high partly due to the establishment of other market centers such as Gubeya, Workamba and Sebshengo due to the opening of new gravel road which retain households around these towns for marketing which was in Yetmen earlier. Because of the opening of these market centers many of the business shifted from Yetmen to these new market centers especially to Gubeya. The table also illustrated that nearly a third (32%) of the households reported that their livelihood was not changed from the previous years. The figure was higher in Felege Birhan (38%) followed by Wojel (31%) and Yetmen (24%).

A closer look at Table 7.11 also revealed that a quarter (26%) of the poor households who reported a decrease was higher than the non-poor households (15%). In contrast, the percentage (58%) of the non-poor households who reported improvement in their livelihood was significantly higher than the poor households (34%). A similar pattern was observed in each study town (see Table 7.11). The possible explanation to this is due to the cumulative effect the rich households gained from their diverse productive assets, livelihoods strategies and better business profits as discussed in chapter six and previous sub-sections. The livelihood of over a third of the poor was improved. This implies that though they are consumption poor their livelihood improved through time.

**Table 7.12: Primary Reasons for the Improvement of the Livelihood of Households**

Reason for Improvement	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Salary improved	2	11.8	1	3.1	3	6.1	1	10.0	2	7.4	3	8.1	0	0.0	0	0.0	0	0.0	3	7.3	3	2.6	6	3.8
<i>Equb</i>	0	0.0	4	12.5	4	8.2	0	0.0	1	3.7	1	2.7	0	0.0	2	3.4	2	2.8	0	0.0	7	6.0	7	4.4
Remittance	2	11.8	0	0.0	2	4.1	0	0.0	1	3.7	1	2.7	1	7.1	0	0.0	1	1.4	3	7.3	1	0.9	4	2.5
Business /market improved	10	58.8	17	53.1	27	55.1	3	30.0	12	44.4	15	40.5	4	28.6	20	34.5	24	33.3	17	41.5	49	41.9	66	41.8
Additional job/work	0	0.0	4	12.5	4	8.2	4	40.0	4	14.8	8	21.6	6	42.9	19	32.8	25	34.7	10	24.4	27	23.1	37	23.4
Improved yield & product price	2	11.8	3	9.4	5	10.2	0	0.0	1	3.7	1	2.7	0	0.0	1	1.7	1	1.4	2	4.9	5	4.3	7	4.4
<i>Equb</i> & additional work & improved trade/salary	0	0.0	2	6.2	2	4.0	2	20.0	2	7.4	4	10.8	0	0.0	7	12.0	7	9.7	2	4.9	11	9.4	13	8.2
Better business profit & additional work	0	0.0	1	3.1	1	2.0	0	0.0	3	11.1	3	8.1	3	21.4	8	13.8	11	15.3	3	7.3	12	10.3	15	9.5
Remittance & improved business	1	5.9	0	0.0	1	2.0	0	0.0	1	3.7	1	2.7	0	0.0	1	1.7	1	1.4	1	2.4	2	1.7	3	1.9
<b>Total</b>	<b>17</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>49</b>	<b>100</b>	<b>10</b>	<b>100</b>	<b>27</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>58</b>	<b>100</b>	<b>72</b>	<b>100</b>	<b>41</b>	<b>100</b>	<b>117</b>	<b>100</b>	<b>158</b>	<b>100</b>

Source: Field Survey, 2014

Households mentioned different reasons for the improvement of their livelihoods. As illustrated in Table 7.12, the most important reasons from the highest to the lowest were business or market improvement (42%), additional work/job (23%) and both better business profit and additional job (10%). Even though the figures are different in different study towns, these were also the reasons for the improvement of the livelihoods of the majority of the households in each study town. The main reasons were business or market improvement followed by additional job or work. Likewise, no significant differences were observed between the poor and the non-poor

households (see Table 7.12). Even though government support and employment creation was included as an option, no one mentioned government support as a reason for their livelihood improvement.

Households also reported the various reasons for the decrease of their livelihoods. The major reasons for the decrease of the livelihood of some of the households were due to the various shocks they faced in the previous years (Table 7.13). The shocks which contributed in the decline of livelihoods were illness (16%), death of bread winner (18%), divorce (12%), loss of a job (7%), and inflation (26%). The other reason mentioned for the decline of their livelihood was lack of market which accounted for 10 per cent of the households. Some households also reported that due to illness they sold their assets for medicine/medical treatment. In spite of the discrepancies in proportions, these were also the major reasons for the decline of livelihoods in each study town.

**Table 7.13: Primary Reasons for the Decline of the Livelihood of Households**

Reasons for the Decline	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Illness	1	16.7	1	12.5	2	14.3	0	0.0	3	16.7	3	9.7	4	33.3	1	25.0	5	31.2	5	16.1	5	16.7	10	16.4
Death of the bread winner	0	0.0	0	0.0	0	0.0	4	30.8	4	22.2	8	25.8	3	25.0	0	0.0	3	18.7	7	22.6	4	13.3	11	18.0
Divorce	2	33.4	1	12.5	3	21.4	2	15.4	2	11.1	4	12.9	0	0.0	0	0.0	0	0.0	4	12.9	3	10.0	7	11.5
Loss/lack of job	1	16.7	1	12.5	2	14.3	0	0.0	1	5.6	1	3.2	1	8.3	0	0.0	1	6.2	2	6.5	2	6.7	4	6.6
Inflation	1	16.7	3	37.5	4	28.6	4	30.8	5	27.8	9	29.0	2	16.7	1	25.0	3	18.7	7	22.6	9	30.0	16	26.2
Lack of business profit/market	0	0.0	1	12.5	1	6.7	2	15.4	1	0.0	3	9.7	1	8.3	1	25.0	2	12.4	3	9.7	3	10.0	6	9.8
Asset sold/confiscated & inflation	1	16.7	1	12.5	2	14.3	1	7.7	2	11.1	3	9.7	1	8.3	1	25.0	2	12.4	3	9.7	4	13.3	7	11.5
<b>Total</b>	<b>6</b>	<b>100</b>	<b>8</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>18</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>12</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>16</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>61</b>	<b>100</b>

Source: Field Survey, 2014

A closer inspection of Table 7.13 also revealed that major variations were not observed between the poor and the non-poor in terms of the reasons for the decline of their livelihoods. However, some variations were observed for the reason of death of the bread winner which was the cause for the decline for 23 per cent of the poor and 13 per cent of the non-poor households.

## **Summary**

The aim of this chapter was to assess the vulnerability context, livelihood strategies, PIPs and livelihood outcomes of households in the study towns. As far as the vulnerability context is concerned, the study found that both population and price of goods and services were in an increasing trend. The growth of the population of these towns is of course not a challenge, but an opportunity for the various business activities in these towns. The results of the present study also showed that poverty and price of food items were high in the rainy season and relatively low in winter season which show the seasonality of poverty and food prices. The business profits were also different in different seasons. The maximum profits for many of the businesses were gained in the harvest and post-harvest seasons-especially in the market days of these seasons. The study also found that considerable proportion (55%) of the households faced shocks. Water interruptions, illness of a household member and food shortage were the major types of shocks identified by the research. Almost equal percentage of the poor and the non-poor faced these shocks. Light interruption was the major shock identified by the group discussants in all the study towns.

The country has an urban development policy designed in 2005, which breaks the trends of urban development process without an urban policy. However, the policy is not based on the size of towns as their problem differs according to their size. For instance, housing is better available, but the quality of the residential houses is generally very low in small towns. The government designed and implemented various development programmes not in small towns but in major towns of the country since the formulation of the policy. The current urban development programmes in GTP2 has three new elements in it. These are the rural housing, property tax implementation in major towns and productive safety net programmes. The productive safety net is very useful to help the poor in urban areas. It envisaged in benefiting 4.7 million urban poor for the coming 10 years. This will improve the human and financial assets of the poor in urban areas of the country. The rural land policy of Amhara Region is an opportunity for households in urban areas who had agricultural land and perennial crops in rural areas as the policy allows land holder to continue to hold the land if they are not government employee. Agriculture, thus, complements the income of some of the households in these towns and it is the main stay of life for some others. As to the institutions, the various institutions assessed had weak institutional

capacity which pulls back the implementation of the various development programmes in the towns. The study found that the residents of the study towns are very much dissatisfied with the quality of the services provided by these institutions. The study also revealed that the process of participation in development activities in these towns is good. People contributed both labour and money for the provision of various infrastructures in these towns.

As regards the livelihood strategies, households engaged in various productive livelihood strategies. These were manufacturing, food and drinks, trade, service, wage employment, agriculture, etc. The overwhelming majority (90%) of the households were self-employed. Some households engaged in more than one livelihood activities. The study also found that about three fifths (60%) of the households engaged in livelihood activities without license and the working premises for the majority (30%) of the businesses were home and residential compound. Concerning the livelihood outcomes, the study found that the livelihoods of 49 per cent, 32 per cent and 20 per cent of the households in the study towns was improved, not changed and decreased respectively. The major reason for the improvement was increase in business profit while the main reason for the decline was the shocks they faced.

## **CHAPTER EIGHT**

### **THE CONTRIBUTION OF RURAL ASSETS, LIVELIHOOD SECURITY AND DETERMINANTS OF POVERTY**

#### **Introduction**

The livelihoods of households were discussed in the previous two chapters. This chapter deals with three most important issues of the research: the contribution of rural assets to the livelihoods of households, the livelihood security of households and the determinants of poverty in the study towns. The chapter is, therefore, organized in three main sections and several sub-sections. The first section presents the contribution of rural assets to the livelihoods of households. The second section examines livelihood security of households. The last section identifies the main determinants of poverty in the study towns.

#### **8.1. The Contribution of Rural Assets to the Livelihoods of Households**

The primary and secondary income sources of households were discussed in chapter six. It is very much useful to discuss the monthly income of households from these sources before the presentation of the results of the contribution of rural assets to the monthly household income. Thus, the monthly income of households from all these sources is discussed in this section. The data collected from households revealed that the livelihoods of some of the households depend on assets from the rural areas, that is, households pursue a living from agricultural land, grazing land, quarrying site, social assets such as friends and relatives, animal fodder and sources of cooking energy from the rural areas.

##### **8.1.1. Total Household Monthly Income**

As demonstrated in Table 8.1, the great majority (46%) of the households earned from 1,001 to 2,000 Birr per month followed by less than 1,001 Birr per month which accounted for 28 per cent of the households. In other words, the monthly income of nearly three fourths (74%) of the households was less than 2,001 Birr while the remainder proportion of households earned greater than this amount per month. The average monthly household income in the study towns was

1,840.80 Birr. The share of agriculture to the monthly income of households in the study towns was computed out of these total incomes of households.

**Table 8.1: Total Monthly Household Income in Birr**

Income Category	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-Poor		Total		Poor		Non-Poor		Total		Poor		Non-Poor		Total		Poor		Non-Poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<1001	12	35.3	2	3.5	14	15.4	21	67.7	7	11.9	28	31.1	34	60.7	13	15.1	47	33.1	67	55.4	22	10.9	89	27.6
1001-2000	22	64.7	25	43.9	47	51.6	10	32.3	31	52.5	41	45.6	21	37.5	40	46.5	61	43.0	53	43.8	96	47.5	149	46.1
2001-3000	0	0.0	12	21.1	12	13.2	0	0.0	11	18.6	11	12.2	1	1.8	15	17.4	16	11.3	1	0.8	38	18.8	39	12.1
3001-4000	0	0.0	8	14.0	8	8.8	0	0.0	1	1.7	1	1.1	0	0.0	6	7.0	6	4.2	0	0.0	15	7.4	15	4.6
4001-5000	0	0.0	4	7.0	4	4.4	0	0.0	3	5.1	3	3.3	0	0.0	5	5.8	5	3.5	0	0.0	12	5.9	12	3.7
5001-6000	0	0.0	3	5.3	3	3.3	0	0.0	1	1.7	1	1.1	0	0.0	2	2.3	2	1.4	0	0.0	6	3.0	6	1.9
6001-7000	0	0.0	1	1.8	1	1.1	0	0.0	3	5.1	3	3.3	0	0.0	0	0.0	0	0.0	0	0.0	4	2.0	4	1.2
>7000	0	0.0	2	3.6	2	2.2	0	0.0	2	3.4	2	2.2	0	0.0	5	5.9	5	3.5	0	0.0	9	4.5	9	2.7
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>
<b>Mean</b>	<b>1099.60</b>		<b>2777.20</b>		<b>2150.40</b>		<b>809.33</b>		<b>3104.30</b>		<b>2295.00</b>		<b>930.60</b>		<b>2452.70</b>		<b>1852.40</b>		<b>947.00</b>		<b>2734.55</b>		<b>1840.80</b>	
<b>t</b>																			<b>5.07*</b>					

Source: Calculated from field survey data, 2014

\*P=0.00

The data by the poverty status of households showed that the vast majority (55%) of the poor earned less than 1,001 Birr per month, but the figure for the non-poor households in this income category was only 11 per cent. On the contrary, the large majority (48%) of the non-poor households earned from 1,001 to 2,000 Birr per month followed by from 2,001 to 3,000 Birr which accounted for 19 per cent. None of the poor households earned income greater than 3,000 Birr per month (see Table 8.1). However, 23 per cent of the non-poor households earned greater than 3,000 Birr per month. The average monthly income of the poor and the non-poor households was 947 and 2,735 Birr respectively. The average monthly income of the non-poor was almost three times the average monthly income of the poor households in the study towns. There was a very high income difference between the two household groups and the variation was statistically significant as the  $t(321)=5.07$ ,  $P=0.01$  test showed. The same results were found in each study town (see Table 8.1).

### 8.1.2. Arable and Grazing Land

Households in the study towns pursue a living from arable land and grazing land. The contribution of these rural assets to the household income was considerable. With regard to agricultural land, as presented in chapter six, about a third (32%) of the households possessed

agricultural land. Excluding the rented and the sharecropping land, the overwhelming majority (90%) of the households had two and less than two hectares of agricultural land (Table 8.2). Only 1 out of 10 households had a holding size of greater than two hectares. The average landholding size of households was 1.41 hectares. The holding size in hectare per household was 1.4 in Wojeil, 1.0 in Yetmen and 1.7 in Felege Birhan. The average holding size in these towns was, therefore, higher than the holding size of Ethiopia (1.17 hectares) and Amhara region (1.22 hectares) in 2013 as reported by CSA (2013) except in Yetmen.

**Table 8.2: Land Holding Size and Livestock Possession of the Households**

Holding Size in Hectare	Wojeil						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<1	4	40.0	6	27.3	10	31.2	5	35.7	9	36.0	14	35.9	2	18.2	5	25.0	7	22.6	11	31.4	20	29.9	31	30.4
1-2	6	60.0	14	63.6	20	62.5	9	64.3	13	52.0	22	56.4	7	63.6	12	60.0	19	61.3	22	62.9	39	58.2	61	59.8
2.1-3	0	0.0	0	0.0	0	0.0	0	0.0	2	8.0	2	5.1	1	9.1	1	5.0	2	6.5	1	2.9	3	4.5	4	3.9
>3	0	0.0	2	9.1	2	6.2	0	0.0	1	4.0	1	2.6	1	9.1	2	10.0	3	9.7	1	2.9	5	7.5	6	5.9
<b>Total</b>	<b>10</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>20</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>35</b>	<b>100</b>	<b>67</b>	<b>100</b>	<b>102</b>	<b>100</b>
<b>Mean</b>	<b>1.1</b>		<b>1.7</b>		<b>1.4</b>		<b>0.9</b>		<b>1.1</b>		<b>1.0</b>		<b>1.7</b>		<b>1.7</b>		<b>1.7</b>		<b>1.2</b>		<b>1.5</b>			<b>t=0.96*</b>
<b>TLU</b>																								
0.1-2	7	77.8	7	50.0	14	60.9	2	40.0	10	58.8	12	54.5	5	55.6	10	43.5	15	46.9	14	60.9	27	50.0	41	53.2
2.1-4	2	22.2	3	21.4	5	21.7	2	40.0	6	35.3	8	36.4	3	33.3	7	30.4	10	31.2	7	30.4	16	29.6	23	29.9
4.1-6	0	0.0	0	0.0	0	0.0	1	20.0	1	5.9	2	9.1	1	11.1	3	13.0	4	12.5	2	8.7	4	7.4	6	7.8
>6	0	0.0	4	28.6	4	17.4	0	0.0	0	0.0	0	0.0	0	0.0	3	13.0	3	9.4	0	0.0	7	13.0	7	9.1
<b>Total</b>	<b>9</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>5</b>	<b>100</b>	<b>17</b>	<b>100</b>	<b>22</b>	<b>100</b>	<b>9</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>23</b>	<b>100</b>	<b>54</b>	<b>100</b>	<b>77</b>	<b>100</b>
<b>Mean</b>	<b>1.27</b>		<b>4.35</b>		<b>3.15</b>		<b>2.84</b>		<b>2.12</b>		<b>2.3</b>		<b>2.16</b>		<b>3.22</b>		<b>2.93</b>		<b>1.96</b>		<b>3.17</b>			<b>2.82</b>
<b>t</b>																							<b>2.08**</b>	

Source: Calculated from field survey data, 2014

\*P=0.17 \*\*P=0.04

The data by the poverty status of households showed that the percentage of the poor (94%) who possessed two and less than two hectares of land was a bit higher than the non-poor households (88%). There was also variation in the average holding size of the poor (1.22) and the non-poor households (1.47) in hectares. These results imply that poverty is partly associated with the agricultural land ownership and holding size of households. However, the difference was not statistically significant as  $t(100) = 0.96$ ,  $P=0.17$  shows. Similar results were found across the study towns, but all of the poor households in all the study towns except in Felege Birhan had a holding size of two and less than two hectares. These households make a living from the agricultural land they possessed through seasonal crop production and perennial crops which includes eucalyptus trees for firewood and cash crops such as *gesho* and others. As displayed in

Table 8.5, the great majority (60%) of the households who possessed agricultural land gave their agricultural land to the sharecroppers and 36 per cent used family labour in the 2013/14 crop harvesting season.

Concerning the grazing land, some households depended on grazing land for their livelihoods. These households who had different kinds of livestock relied on communal grazing land of the adjacent rural *kebeles*. As discussed in chapter six, a quarter (25%) of the households owned livestock. The figure was 29, 25 and 23 per cents in Wojel, Felege Birhan and Yetmen respectively. These households reported that they had access to the adjacent rural communal grazing land. They also had access to rivers without major obstacles from the rural people. However, some households faced some difficulties in accessing the communal grazing land of the adjacent rural *kebeles*. According to the qualitative data from some informants, sometimes some members of the rural communities prevent them from the pasture land because of the fear of grazing land degradation. The practice of animal husbandry in these towns was traditional. Modern rearing of animals in the study towns was a very rare practice. Some of the households reported that they may not rear animals if the rural communal grazing land is prohibited since rearing of animals through purchase of fodder is almost a difficult task due to the high price in the area. Rearing of animals in the study towns depended on rural grazing land.

The data in Table 8.2 revealed that households possessed different quantities of livestock in Tropical Livestock Unit (see the conversion scale in Appendix B). The possession of over half (53%) of the households was less than 2.1 TLU followed by from 2.1 to 4 which accounted for 30 per cent of the households. The two together accounted for 83 per cent of the households which indicated that the majority of the households in the study towns possessed small number of livestock. This might be associated with the availability of space in the residence. In spite of the small possession, households earned a living through rearing of animals. They used oxen to plough, cow for milk and donkeys for transportation. No single respondent was found rearing of animals for commercial purpose. Almost all households rear animals for household consumption and for other purposes.

The data by the poverty status of households revealed that no major differences were observed between the poor and the non-poor households in each livestock possession category though

some proportion (13%) of the non-poor households possessed greater than 6 TLU. However, the average livestock possessions in the study towns were 3.17 and 1.96 TLU for the non-poor and the poor households respectively. The average possession of the non-poor was higher than the poor households and this difference was statistically significant as  $t(75)=2.08$ ,  $P=0.02$  test showed. This was the same across all the study towns except in Yetmen.

### 8.1.3. Other Rural Assets

Other rural assets which contributed to the livelihood of households in the study towns include quarrying site and social assets. The study also found that some households in these households relied on natural assets such as stone for a living. The researcher interviewed leader of the quarrying association in Felege Birhan. The association had nine members of which seven members had seven donkeys for each and two members had five donkeys for each for the transportation of stone from the quarrying site to the buyers. Each member of the association employed one labourer. Quarrying was the main livelihood activity for all members of the association and the labourers even though the wives of some were engaged in petty trade. Every member of the association earned 30 to 90 Birr per day excluding the costs of labour (20 Birr per day), fodder for donkey and quarrying site. These people were earning this amount of income from this activity from September to June. According to the leader, these people never earn income from this activity during the rainy season since residents of the town usually do not build houses during this season. Most of them become idle while few engaged in petty trade in this season.



**Figure 8.1: Quarrying Site (Left) and a Heap of Stones (Middle and Right)**

The pictures presented above are from Felege Birhan and Wojel. The middle picture was taken from Wojel and the others were from Felege Birhan. The left picture in Figure 8.1 is the

quarrying site where people are loading the donkey. The right two pictures show when these people are unloading the stones from the donkeys. The leader reported that he was administering eight members of the household with the income he was earning through this activity. He lived in a one room housing unit together with other seven family members. He was earning additional income by renting six single room housing units though the income from this was meager. According to this person, quarrying is the major income generating activity of the household.

As far as the contribution from the social asset is concerned, the livelihoods of households in the study towns depended on the social assets from the rural areas. The study found that the business startup capital and assistance/remittance for some of the households were obtained from relatives and friends from the rural areas. The households who gained these startup capital and assistance accounted for 28 per cent and 3 per cent respectively. The sources of startup capital for 33 per cent of the non-poor and 20 per cent of the poor households were rural areas. The figure in Felege Birhan was less than Wojel and Yetmen (see Table 8.3).

**Table 8.3: The Percentage of Households who depend on other Rural Assets**

Assets	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Startup capital	7	20.6	21	36.8	28	30.8	8	25.8	20	33.9	28	31.1	9	16.1	25	29.1	34	23.9	24	19.8	66	32.7	90	27.9
Assistance & remittance	1	2.9	3	5.3	4	4.4	0	0.0	1	1.7	1	1.1	0	0.0	4	4.6	4	2.8	1	0.8	8	4.0	9	2.7
Animal fodder	5	14.7	8	14.0	13	14.3	3	9.7	13	22.0	16	17.8	7	12.5	17	19.8	24	16.9	15	12.4	38	18.8	53	14.4
Cooking energy	18	52.9	22	40.7	40	44.0	6	19.4	8	13.6	14	15.6	18	32.1	29	33.7	47	33.1	42	34.7	59	29.2	101	31.3
<b>Total</b>	<b>34</b>	<b>*</b>	<b>57</b>	<b>*</b>	<b>91</b>	<b>*</b>	<b>31</b>	<b>*</b>	<b>59</b>	<b>*</b>	<b>90</b>	<b>*</b>	<b>56</b>	<b>*</b>	<b>86</b>	<b>*</b>	<b>142</b>	<b>*</b>	<b>121</b>	<b>*</b>	<b>202</b>	<b>*</b>	<b>323</b>	<b>*</b>

Source: Field Survey, 2014

\* not added due to multiple response

Similarly, the sources of cooking energy for about 31 per cent of the households were directly obtained from the rural areas. The figure was high in Wojel followed by Felege Birhan which accounted for 44 and 33 per cents respectively. The sources of cooking energy for about 35 per cent of the poor and 29 per cent of the non-poor households were the rural areas. The sources of cooking energy for these households were own plants like eucalyptus trees and own collection of animal dung and firewood from the rural areas. Likewise, 14 per cent of the households in the study towns obtained animal fodder from the rural areas. The proportion in Felege Birhan and Yetmen was higher than Wojel which accounted for 17 and 18 per cents respectively. Nearly two

fifths (19%) of the non-poor and 12 per cent of the poor households obtained animal fodder from rural areas. These households used their own crop residuals and purchase from others. The question to be raised at this juncture is about the amount of monthly income households earned from the rural assets.

#### 8.1.4. Monthly Household Income from Agriculture

Since it is very difficult to measure the contribution of other assets to the household income only the contribution of agriculture (both from crop harvesting and rearing of animals) to the household income was calculated. The data on the households' monthly income from agriculture are presented in Table 8.4. As depicted in the table, over half (56%) of the households earned less than 501 Birr per month followed by from 501 to 1,500 Birr which accounted for over a quarter (26%) in the 2013/14 crop harvesting season. As can be seen in the table, the proportion of households' decreases as the amount of monthly income increases. The proportion in the first income category was the same (over 50%) across all the study towns except in Wojel with the proportion of 65 per cent. The average monthly household income from agriculture was 655 Birr in the season.

**Table 8.4: Monthly Household Income from Agriculture in 2013/14 Crop Harvest Season**

Income in Birr	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<501	10	76.9	14	58.3	24	64.9	9	64.3	12	42.9	21	50.0	7	63.6	10	47.6	17	53.1	26	68.4	36	49.3	62	55.9
501-1000	0	0.0	6	25.0	6	16.2	4	28.6	8	28.6	12	28.6	3	27.3	8	38.1	11	34.4	7	18.4	22	30.1	29	26.1
1001-1500	3	23.1	2	8.3	5	13.5	1	7.1	2	7.1	3	7.1	1	9.1	2	9.5	3	9.4	5	13.2	6	8.2	11	9.9
1501-2000	0	0.0	1	4.2	1	2.7	0	0.0	3	10.7	3	7.1	0	0.0	0	0.0	0	0.0	0	0.0	4	5.5	4	3.6
>2001	0	0.0	1	4.2	1	2.7	0	0.0	3	10.7	3	7.1	0	0.0	1	4.8	1	3.1	0	0.0	5	6.8	5	4.5
<b>Total</b>	<b>13</b>	<b>100</b>	<b>24</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>28</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>21</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>38</b>	<b>100</b>	<b>73</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Mean</b>	<b>420.05</b>		<b>660.95</b>		<b>576.30</b>		<b>515</b>		<b>841.20</b>		<b>732.50</b>		<b>501.50</b>		<b>718.7</b>		<b>644.05</b>		<b>478.6</b>		<b>746.7</b>		<b>654.95</b>	
<b>t</b>																							<b>1.99*</b>	

Source: Calculated from field survey data, 2014

\* P=0.05

The disaggregated data by the poverty status of households indicated that slightly over two thirds (68%) of the poor households earned less than 501 Birr per month from agriculture. About half (49%) of the non-poor households earned less than this amount of income per month which was 19 percentage points smaller than the poor households. The proportions of the non-poor were higher in other income categories except from the 1,001 to 1,500 Birr income category. The

same result was observed across all the study towns. The average monthly agricultural income of the non-poor and the poor households were 747 and 479 Birr respectively (Table 8.4). The average income of the non-poor was higher than the poor households and this was statistically significant as  $t(109)=1.99$ ,  $P=0.025$  test showed. Likewise, the average agricultural income of the poor was less than the non-poor households in all the study towns (see Table 8.4). The probable explanation to this is the difference in the landholding size as discussed in the preceding paragraphs, livestock possession as well as differences in modern agricultural input usage which needs of course a research.

**Table 8.5: Monthly Share of Agricultural Income and Means of Production**

Share of Agricultural income in %	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1-10.9	3	23.1	6	25.0	9	24.3	1	7.1	7	25.0	8	19.0	1	9.1	4	19.0	5	15.6	5	13.2	17	23.3	22	19.8
11-20.9	3	23.1	9	37.5	12	32.4	1	7.1	4	14.3	5	11.9	1	9.1	5	23.8	6	18.8	5	13.2	18	24.7	23	20.7
21-30.9	2	15.4	6	25.0	8	21.6	2	14.3	6	21.4	8	19.0	2	18.2	5	23.8	7	21.9	6	15.8	17	23.3	23	20.7
31-40.9	1	7.7	2	8.3	3	8.1	1	7.1	2	7.1	3	7.1	1	9.1	1	4.8	2	6.2	3	7.9	5	6.8	8	7.2
41-50.9	1	7.7	0	0.0	1	2.7	2	14.3	2	7.1	4	9.5	1	9.1	1	4.8	2	6.2	4	10.5	3	4.1	7	6.3
>50	3	23.1	1	4.2	4	10.8	7	50.2	7	25.0	14	33.4	5	45.5	5	23.8	10	30.3	15	39.4	13	17.8	28	25.2
<b>Total</b>	<b>13</b>	<b>100</b>	<b>24</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>28</b>	<b>100</b>	<b>42</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>21</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>38</b>	<b>100</b>	<b>73</b>	<b>100</b>	<b>111</b>	<b>100</b>
<b>Mean</b>	<b>37.0</b>		<b>21.20</b>		<b>26.7</b>		<b>56.1</b>		<b>36.6</b>		<b>43.1</b>		<b>55.71</b>		<b>35.0</b>		<b>42.1</b>		<b>49.44</b>		<b>31.07</b>		<b>37.54</b>	
<b>t</b>	<b>-2.93*</b>																							
<b>Means of Production</b>																								
Family labour	5	55.6	8	38.1	13	43.3	4	28.6	12	48.0	16	41.0	4	36.4	3	15.8	7	23.3	13	38.2	23	35.4	36	36.4
Sharecropping to others	4	44.4	13	61.9	17	56.7	9	64.3	13	52.0	22	56.4	7	63.7	13	68.4	20	66.7	20	58.8	39	60.0	59	59.6
Labour from relatives	0	0.0	0	0.0	0	0.0	1	7.1	0	0.0	1	2.6	0	0.0	1	5.3	1	3.3	1	2.9	1	1.5	2	2.0
Employing labour	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	10.5	2	6.7	0	0.0	2	3.1	2	2.0
<b>Total</b>	<b>9</b>	<b>100</b>	<b>21</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>14</b>	<b>100</b>	<b>25</b>	<b>100</b>	<b>39</b>	<b>100</b>	<b>11</b>	<b>100</b>	<b>19</b>	<b>100</b>	<b>30</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>65</b>	<b>100</b>	<b>99</b>	<b>100</b>

Source: Calculated from field survey data, 2014

\*P=0.01

The question to be raised at this point is, therefore, about the contribution of agriculture to the household income. The data on the contribution of agriculture to the total monthly income of households are presented in Table 8.5 above. As can be seen in the table, the contribution of agriculture to the monthly income was large in some households and small in some others. Agriculture contributed less than a third (31%) for the total monthly income of 61 per cent of the households who earned income from agriculture. The proportion was higher in Wojel (78%)

followed by Felege Birhan (56%) and Yetmen (50%). The contribution of agriculture to the household income was more than 50 per cent for a quarter of the households. These results, therefore, showed that agriculture is one of the major income sources for considerable number of households in the study towns though the contribution for over three fifths was less than a third. The main reason for the low contribution of agriculture to the household income was that the majority (60%) of the households who owned land sharecrop out where every party gained only half of the products of the land (see Table 8.5). The figure in Felege Birhan was higher than the average figure, but it was smaller than the average figure in the other study towns.

The data by the poverty status of households showed that the share of agricultural income for more proportion of the non-poor in the lower income category was higher than the poor households. In contrast, the contribution of agriculture to the household income was greater than half of the total income for more proportion of the poor (39%) than the non-poor households (18%). The average percentage share also showed that the contribution of agriculture to the monthly household income of the poor was higher than the non-poor households which accounted for 49 and 31 per cents respectively. This difference was statistically significant as  $t(109)=-2.93$ ,  $P=0.01$  test showed. The same results were observed across all the study towns (see Table 8.5). The implication of this result is that agriculture is the major income generating livelihood activity for the poor than the non-poor households which calls the attention of the government in helping the poor who engaged in agriculture. That is why landholding size is found statistically insignificant determinant of poverty. Though agricultural income of the non-poor was higher than the poor households, agriculture was not the major income generating activity for the majority of the non-poor households. To put in other way, the major income generating livelihood activity of the non-poor households was not agriculture. However, agriculture was the main stay of life for most of the poor households in the study towns.

## **8.2. Livelihood Security**

### **8.2.1. Indicators of Livelihood Security**

Six dimensions of livelihood security of households were selected for this study. Each dimension of the livelihood security was represented by more than one quantifiable indicator (see Table 8.6). These indicators are proxies for livelihood security of households. The indicators selected

for each dimension were from one or more than one assets of the livelihood framework. For example, indicators of economic security were from the human, financial and physical assets. Some of the indicators were from the human assets (such as indicators for health and education dimension), some others were from the physical assets (such as indicators of water and housing dimensions) and some were from the financial assets (such as indicators of the economic dimension). The selection of indicators that represent each dimension of the livelihood security of households was on the bases of the appropriateness and capacity of the variables to represent a given component extracted from the previous empirical studies on poverty and adjusted to the context of the study population. These indicators were used to measure the in/security status of households in the study towns. This is a technique which is mostly used by researchers to measure the vulnerabilities of households in a poor neighborhood or urban settlement and climate change.

These indicators were the causes of livelihood outcomes more specifically livelihood security as displayed in the sustainable livelihood framework and confirmed by various poverty and livelihood empirical studies both in rural and urban settings so that the research design is internally valid as the internal validity according to Ary et al. (2010) in a cross-sectional study is inferred from the theoretical ideas and empirical findings. The criteria of the selection of these indicators were based on the availability of these indicators in many households. All indicators in the table except those with asterisk at the end of the statement of the indicator had a positive relationship with the livelihood security of households, that is, the higher the value of the indicator the better the livelihood security of households. In contrast, those indicators with asterisk have a negative relationship with the livelihood security of households, that is, the higher the value of each indicator the lower the livelihood security of households. Therefore, livelihood security of households is dependent on these indicators. Household's livelihood security may be better if the combined effect of the selected variables is positive and otherwise.

Values were assigned for the nominal data on indicators in housing dimension. For the housing tenure; 4 was assigned for own housing, 3 was assigned for *kebele* housing, 2 was assigned for housing free of rent and 1 was assigned for housing rented from the private renter. Similarly, values were assigned for the materials of houses for wall (1 for wood and mud, 2 for stone and mud, 3 for wood and cement, 4 for blocks plastered with cement and 5 for stone and cement),

roof (1 for plastic, 2 for thatch and 3 for corrugated iron sheet), ceilings (1 for no ceiling, 2 for fertilizer sack sheet, 3 for clothe and 4 for chip wood) and floors (1 for mud or dung and 2 for cement screed) and these were added to get the quality of residential houses. Highest values were assigned for better qualities, but the values do not exactly show the difference between the materials. They only indicate that the quality of one material is higher than the other. The utilities included were light, phone, kitchen, oven, latrine, bathing and drinking water. Similarly, 1 was assigned for unsafe source and 3 were assigned for safe source.

**Table 8.6: Indicators of Selected Dimensions of Livelihood Security**

<b>Dimension</b>	<b>Indicator</b>
<b>Economic</b>	Per person monthly income of the household in Birr
	Per person value of durable assets of the household in Birr
	Per cent of independent household members
	Per person current savings of the household in Birr
	Number of current livelihood activities of the household
<b>Food</b>	Dietary diversity (number of food groups consumed per day)
	Food frequency (number of meals and snacks per day)
	Per day per adult equivalent calorie intake
	Number of food convenient months of a household in the year
<b>Health</b>	Number of days unable to work and attend schooling due to sickness *
	Level of sickness of the ill*
	Expenditure for treatment *
	Quality of health services as rated by the household head
<b>Education</b>	Literacy rate of the household
	Access to education services as rated by the household head
	Per cent of household members who completed grade 6 and above
	Educational status of the household head
<b>Water</b>	Frequency of per week water interruptions*
	Per person monthly cost of water*
	Source of drinking water for the household
	Walking distance from house to water source in minutes*
<b>Housing</b>	Number of persons of a household per room or crowdedness*
	Number of housing utilities
	Quality of composition of a house assigned by values of the materials
	Housing tenure assigned by values of each type of tenure

\*the inverse of the value of the indicator was used in the calculation of the index

Some indicators identified in the proposal were ignored because they had several missing values, for example, many had no pregnant women and the difficulty of computing their values. Some

assets such as livestock and land were excluded because they contributed to household income. Credit was also excluded because those who had adequate capital may not borrow which is, therefore, not a good indicator of livelihood security. Literacy rates in the household and per cent of household members who completed grade six and above were calculated for ages greater than six. The factor analysis was made for each dimension since the indicators of each dimension were selected based on the existing literature on livelihood. If it is carried out for the whole variables it may assign less weight for those which have few indicators. Factor analysis by each dimension, therefore, assigns more or less equal weights for each dimension.

### **8.2.2. Livelihood Security Status**

The data on the livelihood security of households are presented in the following table. Households whose livelihood security index 0.45 and above had secure livelihoods whereas households whose livelihood security index below this value had insecure livelihood. This is because the former met at least the average value of the composite indices of the households in the study towns and the later did not. Therefore, the livelihood secure households constitute 65 per cent of the total surveyed households while the livelihood insecure households constitute 35 per cent of the households. The degree of in/security was different across the livelihood in/secure households.

As presented in Table 8.6, the livelihood of only 3 per cent of the households was highly secure whereas a quarter (25%) and two fifths (40%) of the households was moderately and low secure respectively. In contrast, the livelihood of about 6 per cent of the households was moderately insecure while the livelihood of over a quarter (28%) of the households was low insecure. It was only 0.3 per cent of the households whose livelihood was highly insecure. The data by individual study town showed that the livelihood of about 28, 27 and 44 per cents of the households in Wojel, Yetmen and Felege Birhan respectively was insecure. Livelihood insecure households were much higher in Felege Birhan than the other study towns. The possible reason to this is that the livelihood strategies of many of the households in this town were food and drinks and casual labour than the other study towns.

Chinnadurai et al. (2012) called the high insecure households as emergency level households, the moderately insecure households as acute level households and the low insecure households as

coping level households. Coping level household is a household in an insecure situation but still able to cope. They are insecure in few dimensions or assets of livelihood security and cope by selling other assets. Acute level household is a household insecure in multiple dimensions of livelihoods. Emergency level household is a household deprived in almost all selected dimensions of livelihood security and receives any kind of assistance from friends or relatives and the level of insecurity is almost close to zero. The household is almost affected in every aspects of the livelihood.

**Table 8.7: Composite Livelihood Security Index of Households by Consumption Poverty**

CHLSI	Wojel						Yetmen						Felege Birhan						All Towns					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Highly Insecure	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.8	0	0.0	1	0.7	1	0.8	0	0.0	1	0.3
Moderately Insecure	2	5.9	1	1.8	3	3.3	2	6.5	2	3.4	4	4.4	11	19.6	2	2.3	13	9.2	15	12.4	5	2.5	20	6.2
Low Insecure	9	26.5	13	22.8	22	24.2	9	29.0	11	18.6	20	22.2	22	39.3	27	31.4	49	34.5	40	33.1	51	25.2	91	28.2
Low Secure	18	52.9	25	43.9	43	47.3	13	41.9	15	25.4	28	31.1	19	33.9	31	36.0	50	35.2	50	41.3	71	35.1	121	37.5
Moderately Secure	5	14.7	17	29.8	22	24.2	7	22.6	25	42.4	32	35.6	3	5.4	23	26.7	26	18.3	15	12.4	65	32.2	80	24.8
Highly Insecure	0	0.0	1	1.8	1	1.1	0	0.0	6	10.2	6	6.7	0	0.0	3	3.5	3	2.1	0	0.0	10	5.0	10	3.1
<b>Total</b>	<b>34</b>	<b>100</b>	<b>57</b>	<b>100</b>	<b>91</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>59</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>56</b>	<b>100</b>	<b>86</b>	<b>100</b>	<b>142</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Calculated from field survey data, 2014

The data on the link between consumption poverty and livelihood security of households are displayed in Table 8.7. The data by poverty status of the households revealed that the livelihoods of the great majority (72%) of the non-poor was secure than the poor households which accounted for 54 per cent while 46 per cent of the poor and 27 per cent of the non-poor had insecure livelihood. The proportion of the poor in each degree of insecurity was higher than the non-poor households while the proportion of the non-poor in each degree of security was higher than the poor (see Table 8.7). Similarly, the proportion of the poor who was insecure in all the study towns was higher than the non-poor households (see Table 8.6). The implication of these results is that the livelihood of great proportion of the non-poor households is insecure even though the poor were higher than the non-poor households. Furthermore, the consumption poor households might be insecure in multiple dimensions. The proportion of households in each degree of the livelihood security is different in different dimensions of livelihood security, which is a topic of discussion in the following section.

The livelihood security of households was crosstabulated with the major livelihood activity of households. Consequently, as can be seen in Table 8.8, out of the moderately insecure households, the highest percentage engaged in trade and agriculture which independently accounted for 20 per cent followed by food and drinks which accounted for 15 per cent. Out of the total low livelihood insecure households, those who were engaged in food and drinks constitute 30 per cent followed by trade as well as agriculture which accounted for 21 and 15 per cents respectively. The livelihood of higher proportion (30%) of government employees was highly secure.

**Table 8.8: Household Livelihood Security Index by Major Livelihood Activity**

Livelihood Activity	Highly Insecure			Moderately Insecure			Low Insecure			Low Secure			Moderately Secure			Highly Secure			Total		
	N	%R	%C	N	%R	%C	N	%R	%C	N	%R	%C	N	%R	%C	N	%R	%C	N	%R	%C
Manufacturing	0	0.0	0.0	2	5.3	10.0	12	31.6	13.2	10	26.3	8.3	12	31.6	14.8	2	5.3	20.0	38	100	11.8
Food & drinks	0	0.0	0.0	3	4.5	15.0	27	40.9	29.7	25	37.9	20.8	9	13.6	11.1	2	3.0	20.0	66	100	20.4
Trade	0	0.0	0.0	4	3.8	20.0	19	17.9	20.9	46	43.4	38.3	35	33.0	43.2	2	1.9	20.0	106	100	32.8
Service	0	0.0	0.0	1	7.1	5.0	1	7.1	1.1	6	42.9	5.0	5	35.7	6.2	1	7.1	10.0	14	100	4.3
Employee in private organization	0	0.0	0.0	1	20.0	5.0	3	60.0	3.3	1	20.0	0.8	0	0.0	0.0	0	0.0	0.0	5	100	1.5
Government employee	0	0.0	0.0	2	8.0	10.0	6	24.0	6.6	7	28.0	5.8	7	28.0	8.6	3	12.0	30.0	25	100	7.7
Agriculture	0	0.0	0.0	4	8.5	20.0	14	29.8	15.4	20	42.6	16.7	9	19.1	11.1	0	0.0	0.0	47	100	14.6
Retirement	0	0.0	0.0	0	0.0	0.0	2	50.0	2.2	1	25.0	0.8	1	25.0	1.2	0	0.0	0.0	4	100	1.2
Casual labour	1	7.7	100	1	7.7	5.0	6	46.2	6.6	2	15.4	1.7	3	23.1	3.7	0	0.0	0.0	13	100	4.0
Assistance & begging	0	0.0	0.0	2	40.0	10.0	1	20.0	1.1	2	40.0	1.7	0	0.0	0.0	0	0.0	0.0	5	100	1.5
<b>Total</b>	<b>1</b>	<b>0.3</b>	<b>100</b>	<b>20</b>	<b>6.2</b>	<b>100</b>	<b>91</b>	<b>28.2</b>	<b>100</b>	<b>120</b>	<b>37.2</b>	<b>100</b>	<b>81</b>	<b>25.1</b>	<b>100</b>	<b>10</b>	<b>3.1</b>	<b>100</b>	<b>323</b>	<b>100</b>	<b>100</b>

Source: Calculated from field survey data, 2014

As presented in the table, the livelihood of households who were private organization employees and engaged in casual labour and assistance and begging were more insecure than the others who engaged in other livelihood activities. The percentages of the insecure households who engaged in these activities were 80, 62 and 60 respectively. The livelihood of high proportion of these households was moderately and highly insecure (see Table 8.8). This is due to the fact that households who engaged in these activities earn little income so that these households have no or little savings. On the other hand, relatively small percentages (32%, 22% and 14%) that were government employees and engaged in trade and service respectively were insecure in their livelihood. To put in other words, the livelihood of about 86 per cent, 78 per cent and 68 per cent of the households who engaged in these activities respectively in the study towns was insecure.

This was followed by manufacturing and agriculture which accounted for 63 per cent and 62 per cent respectively. The livelihood of the majority of the households who engaged in all livelihood activities was moderately insecure. These results reflect that the livelihoods of households who engaged in any type of activities in these towns were insecure though the extent differs. The question to be raised at this point is from which dimension the highest contribution to CHLSI comes from which is a point of discussion in the following sub-section.

### **8.2.3. Livelihood Security by Dimensions**

The categorization of households' livelihood security in each dimension was based on the average and standard deviation of the composite livelihood security index so that households were highly insecure in some dimensions and less insecure in others as compared with the average composite livelihood security index. This contributed for the easier interpretation of the indices of dimensions of the livelihood security as well as the highest contributor to the CHLSI can be easily identified.

The percentages of households in economic, food and housing dimensions in each livelihood security category are presented in Table 8.9. As to the livelihood security index in economic dimension, almost all (93%) of the households were insecure in this dimension as compared with the average CHLSI. About 69 per cent were highly insecure and 19 per cent were moderately insecure. Only 3 per cent of the poor and 10 per cent of the non-poor households were secure in this dimension. The high proportion of the insecure households in this dimension is due to the high proportion of the non-savers which contributed the high vulnerability of households and the huge difference between the highest and lowest values in all indicators of this dimension which again reduced the value of each indicator resulting from the high denominator in standardizing it. This pulls down the livelihood security of the households. About 95 per cent of the poor and 54 per cent of the non-poor households were highly insecure in this dimension. The contribution of this dimension to the composite livelihood insecurity of households was, therefore, immense.

Concerning the livelihood security index in food dimension, about 95 per cent of the households were secure in this dimension. It was only 5 per cent of the households who were insecure in this dimension. This dimension pushes up the livelihood security index of each household in the study towns. As can be seen in the table, some differences were found between the percentages

of the poor and the non-poor households. About two per cent of the non-poor and nine per cent of the poor was insecure in this dimension of the livelihood security. However, the proportion of the poor was higher in low secure category while the non-poor were higher in highly secure category (see Table 8.9). Thus, the contribution of this dimension to the livelihood security of the household was very high whereas its contribution to insecurity was very low.

**Table 8.9: Household Livelihood Security Index in Economic, Food and Housing Dimensions**

Degree of Livelihood Security	HLSIED						HLSIFD						HLSIHD					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Highly Insecure	115	95.0	109	54.0	224	69.3	2	1.7	1	0.5	3	0.9	31	25.6	37	18.3	68	21.1
Moderately Insecure	2	1.7	59	29.2	61	18.9	0	0.0	1	0.5	1	0.3	29	24.0	23	11.4	52	16.1
Low Insecure	0	0.0	14	6.9	14	4.3	9	7.4	3	1.5	12	3.7	13	10.7	35	17.3	48	14.9
Low Secure	0	0.0	4	2.0	4	1.2	28	23.1	12	5.9	40	12.4	18	14.9	27	13.4	45	13.9
Moderately Secure	0	0.0	0	0.0	0	0.0	76	62.8	138	68.3	214	66.3	24	19.8	60	29.7	84	26.0
Highly Secure	4	3.3	16	7.9	20	6.2	6	5.0	47	23.3	53	16.4	6	5.0	20	9.9	26	8.0
<b>Total</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Calculated from field survey data, 2014

With regard to the housing dimension, about 48 per cent of the households were secure in housing while 52 per cent of the households were insecure in this dimension. Looking at the livelihood security by poverty, 47 per cent of the non-poor and 61 per cent of the poor households were housing insecure. The proportion of the poor was higher in the insecure category whereas the non-poor were higher in the secure category in this dimension of the livelihood security (see Table 8.9). The contribution of this to the composite livelihood security of households was, therefore, moderate.

Livelihood security data of households in water, education and health dimensions are illustrated in Table 8.10. Concerning the water dimension, nearly a quarter (23%) of the households were insecure while the remaining over three fourths (77%) were secure in this dimension. Slightly over a quarter (27%) and a fifth (20%) of the poor and the non-poor households respectively was water insecure. These results showed that the contribution of this dimension to the composite livelihood security was, therefore, high as the majority of households were secure in this dimension.

As to the education dimension, about 46 per cent of the households were insecure in this dimension. The remainder of the households was secure in education. Nearly three fourths (59%) of the poor and two fifths (39%) of the non-poor households were insecure in this dimension. High proportion of the poor was education insecure than the non-poor households. Thus, there was a moderate contribution of education to the composite household livelihood security of households in the study towns.

**Table 8.10: Household Livelihood Security Index in Water, Education and Health Dimensions**

Degree of Livelihood Security	HLSIWD						HLSIEDD						HLSIHLD					
	Poor		Non-poor		Total		Poor		Non-poor		Total		Poor		Non-poor		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Highly Insecure	1	0.8	2	1.0	3	0.9	36	29.8	38	18.8	74	22.9	9	7.4	23	11.4	32	9.9
Moderately Insecure	15	12.4	20	9.9	35	10.8	16	13.2	13	6.4	29	9.0	6	5.0	6	3.0	12	3.7
Low Insecure	17	14.0	19	9.4	36	11.1	19	15.7	27	13.4	46	14.2	6	5.0	10	5.0	16	5.0
Low Secure	44	36.4	77	38.1	121	37.5	13	10.7	24	11.9	37	11.5	6	5.0	7	3.5	13	4.0
Moderately Secure	23	19.0	30	14.9	53	16.4	17	14.0	32	15.8	49	15.2	2	1.7	2	1.0	4	1.2
Highly Secure	21	17.4	54	26.7	75	23.2	20	16.5	68	33.7	88	27.2	92	76.0	154	76.2	246	76.2
<b>Total</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>	<b>121</b>	<b>100</b>	<b>202</b>	<b>100</b>	<b>323</b>	<b>100</b>

Source: Calculated from field survey data, 2014

As regards the health dimension, nearly a fifth (19%) of the households was insecure whereas the remainder of the households was secure. Slightly over three fourths (76%) of the households was highly secure in health dimension. Nearly the same percentages of the poor (17) and the non-poor (19) households were insecure in this dimension. Therefore, the contribution of health dimension to the composite livelihood security was high as over three fourths of the households were secure in this dimension.

In general, about 95 per cent of the households were secure in food dimension, 81 per cent were secure in health dimension, 77 per cent were secure in water dimension, 54 per cent were secure in education dimension, 48 per cent were secure in housing dimension and 7 per cent were secure in economic dimension. Therefore, the highest contributors to the CHLSI from the highest to the lowest were food, health and water dimensions. The least contributor to the livelihood security of households was economic dimension. The paired correlation tests between the dimensions of the livelihood security were found statistically significant.

### **8.3. The Determinants of Poverty**

The contribution of rural assets to the livelihood of households and livelihood security have discussed so far. The turn now is on the determinants of poverty in the study towns. It is obvious that any poverty study without the analysis of its determinants is incomplete. The extent of poverty was presented in chapter five and the determinants of poverty will be explained in this section. Logistic regression analysis usually called logit was used to identify the most important determinants of poverty of households in the study towns since the outcome or response variable is binary. The logistic regression analysis helped to explain why some households were poor and others were not in the study towns.

#### **8.3.1. Definitions of the Variables**

As stated earlier, the outcome variable for the logistic regression analysis was poverty which is a binary or dichotomous variable. A lot of explanatory or predictor variables were selected from the empirical studies of poverty and livelihoods in Ethiopia and other countries. The selected predictor variables were from different assets and other components of the sustainable livelihoods framework. These were from the household, individual (head) and geographical (community) characteristics. These variables and their expected association with poverty are presented in Table 8.11 below. The probability of a household being poor or falling below the poverty line in the study towns might be determined by all or some of the selected variables from these groups of characteristics. Some of these characteristics were described in the previous three chapters except the community characteristics. The selected predictor variables have either positive or negative associations with the outcome variable.

**Table 8.11: Definitions of the Explanatory Variables and their Association with Poverty**

No	Name of the Variable	Definition of the Variable	Type of Variable	Nature of Association
1	Sex (sexhead)	Sex of the household head; Male=1 & Female=0	Dummy	+
2	Age (agehh)	Age of the household head	Interval	+
3	Migration status (migrat)	Migration status of the household head; Migrant=1; Non-migrant=0	Dummy	+
4	Marital status (marishh)	Marital status of the household head; reference category is married	Cat Dummy	+
5	Size (hhsiz)	Size of the household	Interval	+
6	Education (eduhh)	Educational status of heads of households	Interval	-
7	Morbidity (health)	Whether there is sick household member or not Yes=1, No=0	Dummy	+
8	Expenditure on health (expehal)	Total amount of expenditure on health in a year before the time of survey	Interval	+
9	Number of days absent due to sickness (numdays)	Number of days absent from the usual activity due to sickness	Interval	+
10	Agriculture land (landhect)	Size of agricultural land in hectare	Interval	-
11	Livestock (livest)	Animal possession; Yes=1 & No=0	Dummy	-
12	Livestock (totllu)	Number of livestock owned by households in TLU	Interval	-
13	Television/radio (ratelevis)	Television or radio ownership; Yes=1 & No=0	Dummy	-
14	Shelter tenure (houtenur)	Shelter tenure of the household; 0=rented & 1=own reference category is rented	Cat Dummy	-
15	Number of room (numroom)	Number of rooms used for business activities	Interval	-
16	Number of persons (crowd)	Number of persons per room or crowdedness	Interval	+
17	Housing utilities (utilities3)	Number of housing utilities	Interval	-
18	Location relative to road (roadqu)	Quality of the main road; 3=asphalted for Wojel, 2= gravel for Yetmen 1= detached road for Felege Birhan; reference category is Felege Birhan	Cat Dummy	-
19	Municipality (municip)	Presence/Absence of Municipality Yes=1 & No=0	Dummy	-
20	Population size (popsize)	Population size of towns	Interval	+
21	Association (accocitio)	Membership in local associations; Yes=1 & No=0	Dummy	-
22	Shocks (shock)	Shocks households faced; Yes=1 & No=0	Dummy	+
23	Livelihood activity (nolive)	Number of household livelihood activities	Interval	-
24	Saving (amosav)	Total amount of household saving in Birr	Interval	-
25	Credit in Birr (amocred)	Total amount of money a household borrowed	Interval	+
26	Income (moninc)	Total amount of monthly household income in Birr	Interval	-

Source: Compiled from Literature and Own Observation

As stated above, the explanatory variables were selected from the various assets and other components of the sustainable livelihood framework as the outcome variable is poverty. The predictor variables chosen from the human assets were from health, education and demographic characteristics of the household and head of the household. These were whether there is sick household member or not, expenditure on health in Birr and number of days the sick was absent from the usual activity due to sickness from health. The level of education of the household head scaled into five (do not able to read & write 1, read and write 2, elementary completed 3, high

school completed 4 and above high school 5) from education. Size of the household, sex and age of the household head were selected from the individual and household characteristics. Empirical studies suggested that household size and sex have positive relation with poverty. The family of the poor is large and large number of adult members depend on a few economically active members of the poor household (Haughton & Khandker, 2009). Sex of the household head might influence the level of poverty in the household. Empirical studies showed that the adult males have better opportunity of employment than females. Empirical evidence from Cambodia and Vietnam showed that female headed households are poorer than the male headed households because of their low levels of literacy, lower wages and less access to land or equal employment (Haughton & Khandker, 2009). The other predictor variables selected are migration and marital status of the household head as well as population size of the study towns.

Agricultural landholding size of the household was the other predictor variable selected from the natural assets. Various available studies suggested a negative relationship of this variable with poverty. The predictor variables selected from physical assets was the number of livestock measured in Total Livestock Unit, television/radio ownership, shelter tenure and housing utilities such as light, kitchen, latrine, bathing and water (households may generate income from these), number of rooms and number of persons per room. Some community level characteristics such as the quality of roads labeled as 3 for asphalted road, 2 for first level gravel road and 1 for second level gravel road (the numbers assigned did not show the exact difference in the quality of roads); population size and the presence and absence of sub-municipality in the town were selected.

The predictor variables selected from social assets were, whether a household is a member of at least one of the local associations or not. Similarly, whether a household faced shocks or not have positive relations with poverty from the vulnerabilities component, number of income generating activities from the livelihood strategies component of the sustainable livelihood framework were selected as predictor variables. Now a day, livelihood diversification is taken as one of the way outs of poverty as diverse livelihood is less vulnerable to shocks (Ellis, 1999). It has a negative association with poverty. The predictor variables selected from the financial assets were the total amount of saving, total amount of money credited and income measured in Birr.

After the literature based selection of the variables, those variables which have significant association with the dependent variable were selected after the data on each variable were collected and poverty was measured by testing their association with poverty using Pearson's Chi-Square (see Appendix D1). Those predictors which had statistically significant association with poverty were regressed in order to identify the main determinants of poverty in the study towns. These were made in order to reduce the number of explanatory variables in regression or not to put too much variables as this overestimate the coefficients.

### 8.3.2. Model Specifications

As stated above, the logistic regression analysis was used to identify the most important determinants of poverty in the study towns. The logistic regression model is:

$$P(Y = 1) = \frac{e^{(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n)}}{1 + e^{(\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n)}} \dots \dots \dots (1)$$

Where P is the probability of occurring the dependent variable Y, poverty, where 1 was assigned for the poor and 0 was assigned for the non-poor households, e is the Euler number which is the base of the natural logarithm which helps for the transformation of the non-linear relationship of the dependent variable with the explanatory variables,  $\beta_0$  is constant or the Y-intercept when x is zero and  $\beta_1, \beta_2, \dots, \beta_n$  are coefficients of the independent variables. These coefficients are slopes or gradients of the graph of the equation. Maximum-likelihood estimation was used to estimate the constant and coefficients of the independent variables. This could select coefficients that make the observed values most likely to have occurred (Field, 2005). However, the odds ratios (odd ratio or change in odds is the change in odds resulted from a unit change in the predictor) were interpreted instead of the coefficients as these are simple to interpret as the values are standardized. The odds ratios were determined after the odds of an event were calculated. The odds of an event occurring are defined as the probability of an event occurring divided by the probability of that event not occurring (Field, 2005). The odds of an event were computed using the model:

$$\text{Odds} = \frac{P(\text{becoming poor})}{P(\text{not becoming poor})} \dots \dots \dots (2)$$

Where the probability of being poor can be computed using equation 1 while the probability of not becoming poor or P (Y=0) is 1 – P (Y=1). The model of odds ratio is therefore:

$$\text{Odds Ratio} = \frac{\text{Odds after a unit change in the predictor}}{\text{Original odds before a unit change}} \dots\dots\dots (3)$$

The values of the numerator and denominator for the odds ratio were obtained through equation two before and after a unit change in poverty. The method of logistic regression used was backward: likelihood ratio since the purpose of logistic regression in this study is to explore the most important factors of poverty and the method is free of type II error (accepting the null hypothesis when it is false) as it identifies the most significant factor backwards rather than ignoring the insignificant one forward (Field, 2005). Indicator was the method of contrast employed as this is the standard dummy variable coding method and the first category was the reference category for the categorical variables.

The model was fitted after all the assumptions and requirements of logistic regression were tested using the necessary tests of measurement. Pearson’s chi-square and simple correlation were used to check the association between dependent and independent variables and the degree of association if there is. The results of these tests showed that all the continuous variables (household size, age of the household head, educational status of head, housing crowdedness, number of livelihood activities, amount of credit received, amount of saving in Birr, income and livestock) and categorical variables (radio/television possession and membership of local association) have significant association with poverty, but the remaining selected variables have no statistically significant association with poverty at the 0.05 level of significance (see Appendix D1 & 2). As presented in the appendix no explanatory variable has very strong association with other variables which also indicate the absence of multicollinearity problem.

The model was fitted after multicollinearity of the explanatory variables which had significant association with poverty tested using tolerance and variance inflation factor (VIF) by running linear regression and using simple correlation (see Appendix D2). According to Menard cited in Field (2005), a tolerance value less than .1 certainly indicates a co linearity problem. Similarly, according to Myers cited in Field (2005) a VIF value greater than 10 indicates multicollinearity among the predictors. Therefore, the result from multiple linear regression indicated the absence

of tolerance value less than .1 and VIF value greater than ten. These indicate that multicollinearity between the predictor variables was not a problem. Therefore, the variables which had statistically significant association with poverty with no multicollinearity problem were entered for the regression analysis.

After the explanatory variables were regressed with poverty, the goodness-of-fit of the model was tested using the log-likelihood (LL) statistic which compares the actual and predicted values of the dependent variable with their probability of occurring and not occurring which is analogous to the residual sum of squares in multiple regression. This is the unexplained variation after the model is fitted. The log-likelihood model used is:

$$\text{Log-likelihood} = \sum_i^n \{Y_i \ln(P(Y_i)) + (1 - Y_i) \ln [1 - P(Y_i)]\} \dots\dots\dots (4)$$

Where P(Y<sub>i</sub>) is the probability of occurring an event poverty in this case for the i<sup>th</sup> person and this could denote Y<sub>i</sub> and 1-Y<sub>i</sub> is the probability not occurring an event. These were added after they multiplied by their respective natural logarithm. The higher the log-likelihood mean that the statistical model is poorly fitted and this indicates the more unexplained variation and vice versa.

The log-likelihood is based on comparing the log-likelihood of the different logistic regression models, which is usually based on the logit model using the constant only and the new logit model with other added variables in this case the fitted model. Then the change is compared using  $X^2 = 2[LL(\text{new}) - LL(\text{baseline})]$ . The degree of freedom is the number of parameters in the new model minus the number of parameters in the baseline model (the constant) at the 0.05 level of significance. Then if LL of the new model is lower than the base and if this is statistically significant the new logit model is best fit than the old one. The Hosmer & Lemeshow  $X^2(8) = 7.7$ ,  $P = 0.46$  also showed that significant differences were absent between the observed and predicted values indicating the fitness of the model. The model  $X^2(7) = 236.52$ ,  $P = 0.01$  also showed that the model was best-fit than the model only the constant was included. All these tests of the model showed that the model was best-fit and was better than nothing. It is best-fit by all the parameters used.

The other methods of assessing the goodness-of-fit of the model were R<sup>2</sup> of Cox and Snell, Nagelkere and Hosmer & Lemeshow. If the values of R<sup>2</sup> are closer to 1, then the predictor

variables best predict the outcome variable. But none of the statistics in all the three never reach to 1 (Field, 2005). That is why the three are used. These are stated as:

$$R^2_{CS} = 1 - e^{\frac{-2(LL(model) - LL(baseline))}{n}} \dots\dots\dots (5)$$

$$R^2_N = R^2_{CS} / 1 - e^{[-2(LL(baseline))/n]} \dots\dots\dots (6)$$

$$R^2_{HL} = \frac{-2LL_{New\ model}}{-2LL_{Original\ model}} \dots\dots\dots (7)$$

Where  $R^2$  is coefficient of determination, CS is Cox and Snell, N is Nagelkere and HL is Hosmer and Lemeshow. Thus, the computed  $R^2$  of these was 0.53, 0.72 and 0.43 respectively. In addition, predicted probabilities were examined to assess the fitness of the model. Whether the coefficients of the covariates were significantly different from zero or not were tested using the Wald statistic at the 0.05 per cent level of significance so that the model was built using the covariates which had coefficients significantly different from zero by excluding the covariates whose coefficients were not significantly different from zero. These made significant contribution to the prediction of the outcome. The model of the Wald statistic used is:

$$Wald = \frac{Bi}{SEBi} \dots\dots\dots (8)$$

Where B is the coefficient of the  $i^{th}$  explanatory variable and SE is its standard error of the coefficient.

Whether the model correctly classifies the cases or not was examined using the classification table and scatter plot. The former is in per cent and the later is in graphical distribution. Thus, the fitted model correctly classifies 85 per cent of the predicted values (87 per cent of the non-poor and 82 per cent of the poor) (see Appendix D5). The classification plot also shows that the overwhelming majority of the predicted values lay at the ends of the graph (see Appendix D7). If the model correctly classifies the cases many of the cases must lay at the ends of the plot and some at the middle, if not many lay at the middle of the plot and a few at the ends (Field, 2005). In connection with this, three cases (two from the poor such as cases 13 and 226 and one from

the non-poor such as case 242) were misclassified (see Appendix D6). The standardized and studentized residuals of these cases were greater than two.

Residuals were also examined using cook's distance, leverage values and standardized residual to identify the influential cases. The main purpose of examining residuals was to isolate points that exert an excessive influence on the model and to isolate points for which the model fits poorly (Field, 2005). To assess the former, Cook's distance and DFBeta of the parameters were used and to assess the later the residuals especially the studentized residual, standardized residual and deviance statistics were used.

Even though the purpose of knowing the influential cases is not to exclude them, it helps to know the reason why the case was exceptional (Field, 2005). Exceptionally high values of cook's distance are a cause for concern/influential case (a value greater than 1 is problematic) and any value of DFBeta greater than 1 indicate possible influential cases (Field, 2005). Thus, no cook's distance value in this logit analysis was found greater than and equals to one. Similarly, there was no value of DFBeta greater than and equal to 1 for all coefficients of the explanatory variables. In addition to these, leverage statistics or hat values, which should lie between 0 (the case has no influence whatsoever) and 1 (the case exerts complete influence over the model) tell us about whether certain cases are wielding undue influence over the model (Field, 2005). Many of these values were found close to 0 and no value was found close to one. All these test results showed that there was no influential case having an effect on the model.

According to Field (2005), studentized residual, standardized residual and deviance statistics have the common property that 95% of the cases in an average, normally distributed sample should have values which lay within  $\pm 1.96$  and 99% of cases should have values that lay within  $\pm 2.58$ . Therefore, any values outside of  $\pm 3$  are cause for concern and any outside of about  $\pm 2.5$  should be examined more closely. Therefore, the standardized and normalized values generated were predominantly less than  $\pm 2$ . However, the normalized residual of case 13, 226 and 242 were 3.12, 12.8 and -5.3 respectively as well as -2.6 standardized residual for case 242 and 3.19 and -2.6 deviance values for cases 226 and 242. These were areas where the model fits poorly. These cases are also identified as misclassified cases by the logit model (see Appendix D6).

### 8.3.3. Results and Discussions

The results of the logistic regression are presented in Table 8.12 below. As revealed in the table, six out of the explanatory variables which had significant association with poverty were the most important predictors of poverty as the P values for the coefficients of these variables were less than 0.05. These statistically significant determinants of poverty in the study towns were identified in the ninth step of the backward stepwise regression. Out of these significant predictors, one was from the human assets, three were from the physical assets and the other two were from the financial assets. These clearly confirm that asset endowments of the households were the major determinants of poverty in the study towns. It was not only the possessions of these assets but also the quantities of these assets were the determinants of poverty in these towns. The seventh predictor variable which was statistically significant was the interaction between population size and the absence/presence of municipality. These seven significant explanatory variables together explain 72 per cent of the variation of poverty in Nagelkerke's  $R^2$  (see Table 8.12).

**Table 8.12: Significant Coefficients and Odds Ratios for the Independent Variables**

Variable Name	B	S.E.	Wald	df	Sig.	Odds Ratio	95% C.I. for Odds Ratio		
							Lower	Upper	
Household Size	0.5954	0.1629	13.3630	1	0.0003	1.8137	1.3181	2.4957	
Housing crowdedness	-1.6608	0.5885	7.9645	1	0.0048	0.1900	0.0599	0.6021	
Radio/television possession(1)	-2.5551	0.5591	20.8871	1	0.0000	0.0777	0.0260	0.2324	
Livestock in TLU	-0.3568	0.1665	4.5937	1	0.0321	0.6999	0.5051	0.9699	
Total credit in Birr	-0.0001	0.0001	7.1860	1	0.0073	0.9999	0.9997	1.0000	
Monthly household income in Birr	-0.0040	0.0006	48.2657	1	0.0000	0.9960	0.9949	0.9971	
Municipality by population size	-0.0001	0.0001	4.9369	1	0.0263	0.9999	0.9998	1.0000	
Constant	7.0431	1.2945	29.6021	1	0.0000	1144.9334			
Model $X^2$								236.52*	
Pseudo $R^2$ (Cox & Snell)								0.53	
Pseudo $R^2$ (Nagelkerke)								0.72	
Pseudo $R^2$ (Hosmer & Lemeshow)								0.43	
Number of Cases								314	

Source: Calculated from own survey data, 2014

\* P=0.001

The results in Table 8.12 also illustrated that most of the predictor variables had the expected directions of association with poverty. A cursory look at the table shows that monthly income, housing crowdedness, radio/television possession, total credit, livestock and the interaction between population size and municipality had negative association with poverty whereas household size had positive association with poverty. In a nutshell, the probability of being poor decreases as households' possession of assets increases except the household size. Even though the other selected variables were not statistically significant, the directions of their association with poverty were as expected (see Appendix D1).

Looking at the odds ratio of each significant variable, monthly household income was one of the major determinants of poverty in the study towns. The odds ratio in Table 8.11 showed that as the monthly household income increases by one unit (1 Birr), the odds that poverty can be occurring or predicted reduces by a factor of 0.9, when the other predictor variables are controlled. Though income reduces the probability of occurring poverty, the degree was not as anticipated. This might be because households might probably underreport their monthly income and income itself is determined by the possession of other assets like agricultural land.

The odds ratio of the household size indicated that as the size of the household increases by one unit (one person), the odds of occurring poverty increases by 1.8 times. This result shows that large size households have higher probability of being poor than small size households. This probably reflects the labour management differences between the poor and the non-poor households. Even though labour was better available in the large size households, it was not properly managed and mobilized by head of the households in the poor households unlike the non-poor households in order to generate adequate income from their livelihood activities to lift the household from below the poverty line. This result also reflects that the per capita income of large size households was smaller than the per capita income of small size households.

The odds ratio for the housing crowdedness revealed that as crowdedness increases by one unit (one person per room), the odds of occurring poverty decreases by a factor of 0.18. This was a result which was not expected. However, households who lived in crowded housing units might use some of the rooms from their residential housing units for the home-based business activities such as *tella* and tea selling. As explained in chapter 6, some rooms from the residential units

were exclusively used to generate income so that these households might live in a crowded situation. This shows that more numbers of rooms were used for the livelihood activities so that the profit from these activities might be improved as there is enough space for store and marketing. It is not the tenure which matters most rather the location and the number of rooms of the house as many are doing their business at home. Housing is, therefore, an important productive asset for the households in the study towns as their housing units are used for both residence and place of work.

As demonstrated in the same table, radio/television possession was one of the determinants of poverty. The odds ratio in radio/television possession indicated that the probability of being poor of this asset owners is 0.028 lower than those who had no this asset. This is because households may obtain important market information and learn new methods of production and business on radio/television. Furthermore, those who have television and tape recorder for playing music can attract better customers for selling *tella* and tea so that these households could generate better income from their livelihood activities than their counterparts.

Another variable which had significant association with poverty was the amount of money borrowed by the household. The odds ratio of this predictor revealed that a one unit (1 Birr) increase of credit reduces poverty by a factor of 0.99. This shows that even though the borrowers were small, those who borrowed money from different sources may get out of poverty if the money they borrowed is invested either to start a new business or expand the existing one. This shows the role of credit in reducing poverty as the money is invested for the purpose they borrowed.

Livestock was found to be one of the main determinants of poverty in the study towns. The odds ratio of this variable illustrated that a one unit increase of livestock in total livestock unit decreases the odds of occurring poverty by 0.7 times in these towns. This is due to the fact that households consume animal products like egg and milk and generate income by selling these products and renting some domestic animals like donkeys for transportation. Moreover, some farm households used oxen for ploughing. In simple terms, this is one of the productive physical assets for some households in these towns.

The study also found that the presence or absence of municipality coupled with population size was another major determinant of poverty in the study towns. As the interaction of population size and municipality increases by one unit the odds that poverty can be occurring reduces by a factor of 0.9 times. This is because as the size of the town increases the town has the chance to be raised to a sub-municipality status and the municipality might work to reduce poverty by providing various municipality services. Even though these two had no significant association with poverty, independently the two had statistically significant association so that the interaction between the two determines poverty in these towns.

Out of the total variables which had significant association with poverty; saving, being a member of association, number of livelihood activities, level of education, landholding size, housing utilities and yearly expenditure on health were found statistically insignificant when they regressed. To explain why some of these variables were not statistically significant at the desired level, agricultural landholding size was found to be less significant than expected might be because those who have agricultural land might not engaged in other high profit making business activities as additional source of income and the majority of them did not cultivate the land instead they gave to the sharecroppers which reduces their agricultural income by half and some used hired labourers rather than the household labour which incurs more cost in production. The number of livelihood activities found insignificant because as discussed in the previous chapter only few households had more than one livelihood strategy. The other reason may be because the level of engagement of households to an activity is more important than the number of livelihood activities. However, the sign shows negative association between the two.

It is worth mentioning and discusses the basic determinants of poverty in small towns identified by the group discussants and key informants. The group discussants identified the absence of being the seat of *woreda* administration as the major determinant of poverty. In the history of urbanization of Ethiopia, being the center of administration is important for the development of towns. The growth and decline of towns in the country is associated with their political importance and center of administration (Akalou, 1973). More importantly, status of administration is useful for the development of the urban center. For example, currently regional capitals are growing faster than other towns in the country. According to the group discussants, if

these towns are the seat of *woreda* administrations, the residents of these towns will benefit in many ways than one.

Firstly, as the group discussants in all the study towns identified, being center of administration could create direct employment opportunities by government offices in areas which need unskilled and semiskilled work. In connection with this, one key informant from Yetmen said “we are in another form of poverty because our children are leaving us to find jobs somewhere else resulting from lack of employment creation opportunities in this town”. The key informant from Felege Birhan also said “income from various businesses and employment opportunities were better in this town when it was the seat of *awraja* and *woreda* administrations than now”. The quotes from these two persons indicate the deep rootedness of poverty in these towns caused by lack of employment opportunities.

Secondly, the various employees and their families in various government institutions have different demands (food, clothe, shelter, etc). Thus, to meet these demands the existing businesses and services will expand and new ones will be opened. The demand will attract traders and investors from other areas so that the town will grow as “success breeds success” and the residents of the town will benefit from this growth and the private sector will generate employment in these towns. In spite of this, the towns are losing their own wealth instead of attracting from somewhere else. According to the group discussants, the wealth leaves for Addis Ababa, regional capital, zonal capital and *woreda* capitals. These towns are losing both wealth and labour so that employment creation by the private sectors are lacking in these towns. This is also partly associated with lack of investment in these towns.

Thirdly, the residents will benefit by renting houses to meet the shelter demand of the government employees. One land lord from Wojel said “I build houses to rent out, but most are not rented out and even the rented ones are with little money”. This show that households are unable to generate income from their houses as opposed to large towns and these households cannot diversify their livelihood strategies in these towns.

Fourthly, the group discussants identified that the government may provide various infrastructures in the town so that access to infrastructure in the town will be improved. As a

result the residents' access to infrastructure can be improved. The group discussants further elaborated that if the towns are centers of *woreda* administration, the people will save time and cost of traveling to the *woreda* capital for administrative reasons.

Lastly, as these towns are center of administrations the linkages between these towns and the surrounding rural areas as well as other urban areas will be strengthened. Consequently, the various businesses in these towns might be benefited from these linkages. Though people come for administrative reasons they could spend money to get services and satisfy their daily needs such as food and drinks.

The other determinants of poverty which caught the attention of the group discussants were the absence of urban plan and certificate of holding of land and the housing units. According to the group discussants, the absence of urban plan prohibited the residents of the towns in the provision of infrastructure like roads and drainages. Furthermore, the absence of site plans in the study towns deters households from using the housing units as collateral for a loan from banks and microfinance institution in order to start new business and expand existing ones. As pointed out in chapter six, several households reported collateral problem as a reason for not borrowing money from the creditors.

## **Summary**

This chapter has attempted to explore the contribution of rural assets to the livelihood of households, the livelihood security of households and the determinants of poverty. With regard to the contribution of rural assets to the livelihood of households, the livelihoods of considerable proportion of households in the study towns depended on assets from rural areas such as agricultural land, grazing land, quarrying site, social assets and sources of cooking energy. The study found that significant proportion of households earned significant amount of income (655 Birr per month) from agriculture. The average income of the poor (479 Birr per month) and the non-poor households (747 Birr per month) from agriculture was significantly different. The contribution of agriculture for nearly a quarter (25%) of the households who engaged in agriculture was greater than 50 per cent of the total monthly income. The share of agriculture to the monthly household income for the remaining percentage of the households was less than a third (31%). Though the average monthly income from agriculture was smaller than the non-poor

households, the contribution of agriculture to the monthly income of the poor households was higher than the non-poor households. These results indicate that agriculture was the primary source of household income for great proportion of the poor in the study towns.

As far as the livelihood security of households is concerned, the study found that the livelihood of slightly over a third (35%) of the households was insecure while the livelihood of 65 per cent of the households was secure. The proportions of livelihood insecure and secure households differ in different dimensions of livelihood security. The livelihoods of households who were private organization employees and engaged in casual labour and assistance and begging were more insecure than the others who engaged in other livelihood activities especially government employees and engaged in service and trade. High proportion (93%) of the households was insecure in economic dimension followed by housing (52%) and education (46%). While relatively small proportion (5%) of the households was insecure in food dimension. This made the contribution of each dimension to the composite livelihood security index different. The contribution of health, food and water to the composite household livelihood security was high. On the contrary, the contribution of economic dimension to the composite household livelihood security was low. While the contribution of housing and education to the composite household livelihood security was moderate.

As to the determinants of poverty, the study found that household size, housing crowdedness, radio/television possession, credit, monthly household income, livestock and the interaction between population size and municipality are the main determinants of poverty in the study towns. The logistic regression analysis showed that all these variables were negatively associated with poverty except the household size. The probability of being poor and non-poor in these towns is determined by these factors. Besides, the qualitative data showed that absence of *woreda* and other higher level administration and town and site plans were the basic determinants of poverty in the study towns.

## **CHAPTER NINE**

### **CONCLUSIONS, THEORETICAL AND POLICY IMPLICATIONS AND RECOMMENDATIONS**

#### **Introduction**

This is the last chapter of the dissertation which presents conclusions and recommendations of the study. The conclusions drawn from the results and findings of the study are presented in the first section. The conceptual and policy implications as well as the research gaps are discussed in the second section of the chapter. The last section of the chapter forwards some recommendations on the bases of the main results and findings of the study.

#### **9.1. Conclusions**

The study was set out to explore the extent of poverty and the nexus between poverty and livelihoods of households in small towns of East Gojjam and has measured poverty and identified the livelihood assets, vulnerabilities, livelihood strategies and livelihood outcomes of the poor and non-poor households. The study has also sought to examine the contribution of rural assets to the livelihood of households, livelihood security of households and the determinants of poverty in the study towns. The topics of this research are pressing issues which received the attention of governments and other actors of development and academicians as the former is to take corrective measures and the later is to uncover it. The results of this study will, therefore, help the government and policy makers to recognize the problems of small towns as the study brings the problems of these towns to the attention of the government and policy makers. The results will help the government to design small towns targeted poverty reduction programmes as the two measures of poverty and livelihood security index have the potential to identify the poorest of the poor and the most insecure households to target for adaptation interventions. The knowledge contributions of the study will be considerable as the study uncovers poverty in these towns.

Existing empirical evidence showed that the extent of poverty is not equal across Ethiopia. The CSA reports in different times indicated that poverty reduces in the country through time. In

spite of the decline of poverty, the reduction is not equal in all areas of the country. Moreover, poverty study at the national and regional level covers the reality in small towns. Furthermore, the CSA poverty survey can't be disaggregated below the zonal level and small towns like the study areas of this research because of the small sample size. In order to effectively tackle poverty in the country, a micro-level poverty research is needed as the contexts of all urban areas differ. The existing research on urban poverty indicated that poverty in small and intermediate towns is bigger than the larger towns of Ethiopia (Muzzini, 2008). The high level of poverty in these towns clearly show that further disaggregation of urban poverty by size of towns undoubtedly gives a different level of incidence of poverty and access to infrastructure and basic services. This difference in the level of income or consumption dimension of poverty is also the reflection of differences in the causes of poverty and the degree of insecurity of the livelihoods of households.

The contexts of the study towns are that these towns are non-capital small towns; they are unplanned and many had no municipalities and employment opportunities. That is why 9 out of 10 households in the study towns were self-employed and basic municipality services like sanitation and provision of infrastructure are lacking in these towns. The existing studies in poverty emphasized on income and consumption dimension of poverty. This study uses quantitative methods and measured poverty using the conventional and new measures of poverty. The study is based on mixed approach and this is important to off-set the weaknesses of one another. The study areas are small, but have big problems such as lack of access to sanitation services, very low quality of residential housing units, high incidence of consumption and multidimensional poverty and livelihood insecurity.

The study sought to answer the following basic research questions: 1) Are the depth, gap and severity of both consumption and multidimensional poverty of households high in small towns? 2) What are the livelihood strategies and the main sources of vulnerability of livelihoods of households in small towns? 3) How do households draw livelihood strategies from rural assets and do rural asset-based activities have significant contribution to the livelihood of households in these towns? 4) Does the extent of livelihood insecurity status of households high in the study towns? Do the poor in small towns have high insecurity of livelihoods than the non-poor households? In which dimension of the livelihood insecurity the consumption poor households of

the small towns are highly insecure? 5) What household head, household and community demographic and socio-economic characteristics are the most significant determinants of consumption poverty in small towns? These questions were, therefore, answered by the research which will be discussed in the following consecutive paragraphs.

The first basic research question raised was on the incidence, depth and gap of poverty. In connection with this, this study found that poverty in small towns is high and deep rooted. About 37 per cent of the households in the study towns were consumption poor. The poverty gap and poverty severity in the study towns were 11 and 4 per cents respectively which indicates that poverty was deep rooted and inequality between the poor was high in these towns. Therefore, it needs enormous resources to move the poor out of poverty in these towns. These results, therefore, support one of the arguments of this research that poverty in small towns is greater than larger towns in the country since the level of urban poverty was below 30 per cent in 2014. The study also found that over one half (55%) of the selected households in the study towns deprived multiple indicators simultaneously. The figure was higher than the national urban average (46%) as reported by OPHI (2014). The incidence of poverty was also high by this measure. Therefore, small towns are worse off in the level of poverty than large towns of the country.

The present study also revealed that the multidimensional poor households deprived 47 per cent of the weighted indicators which is lower than the national urban average (50%) as reported by OPHI (2014). The MPI of the study towns was 26 per cent, that is, on the average households deprived 26 per cent out of the total potential deprivations. This was three percentage points higher than the MPI of urban areas of Ethiopia in 2014. All the indices of multidimensional poverty indicated that the level of multidimensional poverty in these towns was higher than the level of poverty of urban areas of Ethiopia. In terms of the raw head count ratios; about 95, 85 and 84 per cents of the households in these towns deprived floor materials, durable assets and cooking fuel respectively. These indicators were, therefore, the highest contributor of the MPI of households in addition to schooling and source of electricity. These indicators contributed more than their weight. Out of the three dimensions selected (education, health and living standard); living standard was the highest contributor to MPI as it contributed 13 per cent more than its weight. Concerning the indicators contribution to the MPI, the study found that the highest

contribution comes from floor materials, durable assets and cooking fuel in the study towns. Source of drinking water in Wojel and years of schooling in Felege Birhan were other highest contributors to the MPI of the respective towns.

Both measures yielded high incidence of poverty in the study towns. ODI (2010) calls this poverty traps which is a feature of poverty in the country. Nevertheless, the study found that the incidence of acute multidimensional poverty in all the study towns was greater than consumption dimension of poverty. Concerning the relationship between consumption and multidimensional poverty, the two had statistically significant association. Greater proportion of the consumption poor households was found to be multidimensional poor, that is, greater proportion (73%) of the consumption poor households deprived multiple indicators than the consumption non-poor households (44%). The measure of multidimensional poverty also found that some of the consumption non-poor households were multidimensional poor. The two measures, thus, confirmed that all households of both consumption and multidimensional poor are poorer than other households who are identified as poor by one of the measures of poverty.

The second basic research question raised was related to the livelihood assets, activities, opportunities and vulnerabilities of households. As regards the livelihood assets, the study found that households possessed different assets though the percentages of households differ in different assets. To start with, over three fifths (62%) of the households was literate, 16 per cent had some skills and 76 per cent had no ill member. All households relied on unpaid family labour for their work and 77 per cent depended on one member of the household. The human assets of households in the study towns were not well developed. This is because significant proportion (38%) of heads of the households did not able to read and write and the overwhelming majority (84%) of the households had no skills to be sold. The study also found that nearly a quarter (24%) of the households had at least one ill household member and this costs households both money and labour.

With regard to the physical capital, the study revealed that 56 per cent of the households possessed a residential house, which was higher than the national urban average (43%). Slightly over two fifths (41%) lived in two rooms housing units. On the average one person per room was lived indicating the non-existence of over crowdedness in the study towns. The walls of 98 per

cent of the housing units was wood and mud, the floors of 96 per cent was mud and dung, the roofs of all the housing units were corrugated iron sheets and 44 per cent of the housing units had no ceilings of any kind. With regard to the housing utilities; some 18 per cent, 10 per cent, 19 per cent and 83 per cent of the housing units had no kitchen, oven, latrine and bathing facility respectively. The health extension leaders in each town replied that they faced serious challenges in the implementation of some of the health extension packages. According to them, many of the residential houses lack open spaces for the construction of kitchen and latrine. Even those who had open spaces are not able to construct these utilities resulting from the absence of the owners of the house. The owners are living in rural areas, which are difficult for them to find the owners of the residential houses for the implementation of the packages. Households in these towns possessed different productive and non-productive durable assets.

The study found that about a third (32%) of the households owned agricultural land. About a quarter (25%) of the households accessed grazing land from rural areas. The study also found that slightly over four fifths of the households were members of the traditional associations. Households used their social asset to start a business. Over a third (35%) of the households started their business by borrowing from their friends and relatives. Self-employment was the primary source of income for 9 out of 10 households in the study towns. With regard to saving and credit, slightly over two fifths (41%) of the households had savings and over a quarter (26%) of the households borrowed from different sources though the main source was ACSI.

The asset possession of the non-poor households was higher than the poor households in several assets. These results reflect the existence of association between the possessions of livelihood assets with consumption poverty. This was confirmed by chi-square tests for the categorical variables and t-tests for the scale variables. To mention few examples, the literate heads of the non-poor (69%) were 17 percentage points higher than the literate heads of the poor households (52%). Similarly, out of the total households who had skills, 65 per cent were the non-poor. The poor who lived in their own house were six per cent smaller than the non-poor households. Nearly a third of the households worked in their residential housing units. However, no significant differences were observed between the housing materials of the poor and the non-poor households where the consumption non-poor households were equally poor in housing with the consumption poor households. Nearly equal proportions of the poor and the non-poor

households were poor in these housing utilities though the non-poor were slightly higher than the poor. In terms of the possession of durable assets, the poor were smaller than the non-poor households by a greater margin in many durable domestic assets. Some 29 per cent of the poor and 33 per cent of the non-poor possessed agricultural land. Their possession on the average was 1.22 and 1.47 hectares respectively. Concerning the financial assets, the non-poor savers were 13 percentage points higher than the poor savers. The average savings of the non-poor was 2,897 Birr higher than the poor households and the difference was statistically significant. Similarly, the average amount of money borrowed by the non-poor (8,710 Birr) was very much higher than the poor households (5,842 Birr) and the variation was statistically significant. These results on saving and credit indicate that the poor have limited access to savings and credit. These were because the poor had nothing to save and the poor had collateral problems. Though the poor and the non-poor differ in asset possession, both the poor and the non-poor households engaged in the same types of activities, the difference was in the scale of engagement.

As to the vulnerability contexts, population growth in all the study towns is in an increasing trend resulting from natural increase and migration-especially from the surrounding rural areas. The growth of population in these towns might create market opportunities for the existing businesses as these create demand. Similarly, the price of consumer goods and services is in an increasing trend. Though both are in an increasing trend from 2012 onwards, the non-food prices are rapidly increasing from 2013 onwards than the price of food in the region and these are affecting the livelihood of the poor.

As to the seasonality, many households were unable to adequately feed themselves in the rainy season (from June to September), but the problem was low in winter season. This is mainly related to the lack of profits and supply of agricultural products in this season as many of the tea and *tella* shops are without customers for several days in this season. This is also partly related with the high price of food in summer season. The price of goods and services especially agricultural products are relatively higher in summer and spring seasons, but low in winter or post harvest season followed by autumn. This is due to the availability of goods and inputs in the market where agricultural products are better available in the post-harvest season. This is also associated with the high profit households could gain from their livelihood activities in these seasons. The data on the price index also revealed that the index is high in winter and autumn

seasons and low in other seasons. The four years monthly trend of price index of food showed that the index is in a declining trend from October to February and in an increasing trend from February to September though sharp beginning from June due to their trading activity in multiple items. The study also found that the majority of the households earn better profits from their livelihood activities in winter season. The maximum profit and income earned by the large majority of the businesses were December (23%), November (21%), January (18%) and February (12%). In other words, winter season is the maximum profit season for over half (53%) of the businesses in the study towns. All business activities starting from shoe shining to grain collecting were active during the market days especially in this season.

As far as the shocks are concerned, the study found that over half (55%) of the households faced shocks. Households faced one or more than one shock. About 46 per cent of the households faced water interruptions followed by illness of a household member which accounted for nearly a quarter (24%) of the households. The third major shock encountered by 13 per cent of the households was food shortage. Almost all household heads reported that light interruption was very high and this was seriously affecting their daily income considerably.

As far as policies are concerned, the government designed urban development policy in 2005 (MUDHCo, 2005). However, the type and magnitude of the problems of the urban centers are not listed in the document in accordance with the size of the urban centers. As to the policy document, the major activities for rapid urban development are expansion of micro and small enterprises, housing development, participatory *kebele* development, supply of land and infrastructure, expansion of education and training, expansion of health and entertainment services, industrial development, environmental conservation and urban governance. However, in practice all these are being implemented in large and intermediate towns. The policy emphasized that infrastructure could be provided on the basis of their role in economic and social growth in the country. However, many small towns had no municipality waste management service and waste disposal site. All these indicate that the government gives less emphasis to small towns. Furthermore, the government is not addressing their problems in accordance with their status and problems on the ground. So ignoring these towns is neglecting the larger segments of the population from development.

With regard to the development programmes, twelve major urban development programmes are designed in GTP2. The 12 main urban development programmes in GTP2 include: 1) leadership capacity building, 2) micro and small enterprises development, 3) urban food security and employment creation, 4) urban good governance and capacity building, 5) urban plan preparation and implementation, 6) urban land development and management improvement, 7) making urban plans, cadastre and land use right registration 8) housing development and management, 9) provision of integrated infrastructure development, 10) urban finance development and leadership, 11) urban sanitation and greenery development improvement and 12) ensuring accessibility and security of urban development to the public. The new programmes included in this plan are the rural housing, property tax implementation and urban productive safety net programmes. The government planned to build 1.7 million houses in 8,000 rural development centers using the capacity of the people and local resources in the plan period. The idea is to make these rural development centers as market, service and small agro-processing centers for the rural people. Likewise, property tax in 91 large towns is going to be implemented in this plan period. This will increase the financial capacity of these towns. The implementation of UPSP was started at the beginning of 2016. The basic objective of the project is to increase income of the targeted households living below the national poverty line in some selected urban areas of the country. This project is an element of the Urban Food Security and Job Creation Strategy which will benefit 4.7 million urban poor living in 972 cities and towns (MUDHCo, 2015). Three major target groups are identified in the project. The first group is the destitute such as street children, homeless and beggars who need housing, healthcare, counseling and often repatriation to families in addition to financial support. The second target group is the elderly and disabled who are living in households with no working-age members who need long-term financial support. The final group, the largest group, is those with working-age members but with too little work in low quality employment.

It is true that some governmental institutions (game players) like education, health, etc are available in the study towns and these institutions are impacting the livelihoods of households by providing various services. For example, both education and health institutions in these towns are essential in improving the most important human assets such as education and health. However, as pointed out by some of the household heads, the schools in each study town have some major problems such as lack of books and supplies, lack of teachers and poor teaching

quality and poor management. The level of satisfaction of heads in the quality of services differs. The level of satisfaction of 45 per cent of the households was high followed by medium level of satisfaction which accounted for 23 per cent. Likewise, health institutions are available in these towns, but these institutions had the problems of unhygienic facilities, total absence of inpatient service due to the absence of bed, lack and absence of drugs, low quality of drugs, poor professional discipline (late coming and absence), unsuccessful treatment, absence of high level professionals, etc. Due to these the level of satisfaction of nearly half (45%) of heads of the households of the study towns was moderate followed by high which accounted for 24 per cent. Similarly, the sub-municipalities and *kebeles* had weak institutional capacity. Both *kebeles* and sub-municipalities were not generating sufficient revenue for the accomplishment of various development activities and provision of municipality services in their jurisdiction. The revenue sources for the *kebeles* and sub-municipalities were very much limited and each sub-municipality had no enough professionals. The sub-municipalities were not fully functioning due to the lack of budget and the required staffs. They were providing very limited and rudimentary services in each town. However, people's participation in development activities is increasing from time to time. The communities have participated in the construction of general secondary school, health center and water and provision of electricity in various ways in each study town. Households have contributed either labour or money or both in various development activities in the respective town. Nearly three fourths (73%) of the households participated in one of the aforementioned development activities.

A total of ten major livelihood strategies were identified during the field survey. These were manufacturing (flour mills and handicrafts), food and drinks, trade, service, wage employment, agriculture, retirement, casual labour and assistance and begging (though not socially acceptable). The primary livelihood activity of a third (33%) of the households was trade followed by food and drinks (20%) and agriculture (15%). Agriculture was the major income generating activity for 15 per cent of the households in the study towns and this figure is higher than the finding of Muzzini (2008) which was 7 per cent. Therefore, the overwhelming majority of the households in these towns were self-employed unlike the large towns of Ethiopia. Only 10 per cent of the households were employed either in government or private organizations. The figure was 28 per cent for small/intermediate towns as studied by Muzzini (2008). These results show that employment creating organizations particularly private organizations and government

institutions (as these towns are not the seat of *woreda* government) are non-existent in these towns. There are no huge differences between the proportions of the poor and the non-poor households in every livelihood strategy in the study towns. Both the poor and the non-poor households engaged in every activity almost equally, but they probably differ in the scale of engagement in the activities. The data revealed that about 60 per cent of the households engaged in business activities without license. The great proportion of the poor (70%) engaged in business activities without licensing than the non-poor households (53%). Thus, over half of the surveyed households engaged in informal activities and 30 per cent of the households performed their livelihood activities at home and residential compound.

As regards the livelihood outcomes, nearly half (49%) of the households reported that their livelihood was improved from the previous years. In contrast, some 20 per cent of the households reported a decrease in their livelihood while the livelihood of 31 per cent of households was unchanged. The percentage (58%) of the non-poor households who reported improvement in their livelihood was significantly higher than the poor households (34%). On the contrary, slightly over a quarter (26%) of the poor households who reported a decrease was higher than the non-poor households (15%). The possible explanation to this is due to the cumulative effect that the rich households gained from their diverse productive assets, livelihoods strategies and better business profits. The most important reasons for the improvement of their livelihood from the highest to the lowest were business or market improvement (42%), additional work/job (23%) and both better business profit and additional job (10%). Likewise, the major reasons for the decrease of the livelihood of some of the households were due to the various shocks they faced. The shocks which contributed in the decline of the livelihoods of these households were illness (16%), death of the bread winner (18%), divorce (12%), loss of a job (7%) and inflation (26%).

The third basic research question raised was in connection with the contribution of rural assets to the livelihood of households. The study, therefore, found that households pursue a living from agricultural land, grazing land, quarrying site, social assets, animal fodder and cooking energy from the rural areas. Nearly a third (32%) and a quarter (25%) of the households in the study towns possessed agricultural land and livestock respectively. The great majority (60%) of the households who possessed land gave their agricultural land to the sharecroppers and 36 per cent

used family labour to cultivate in the 2013/14 crop harvesting season. All households who rear animals used open grazing land in rural areas. Agriculture was a primary source of income for 15 per cent of the households in these towns. Agriculture contributed less than a third (31%) for the total monthly income of over three fifths (61%) of the households who engaged in agriculture. Its contribution to the monthly income was more than half (50%) for a quarter of the households. Significant proportion of the households obtained startup capital for their business from relatives and friends from rural areas and the sources of cooking energy for a third (33%) of the households were from rural areas. All these results testify that the livelihoods of households in small towns depend on various assets from rural areas.

The fourth basic research question raised was on the magnitude of the livelihood security of households in the study towns. In connection with this, the study found that slightly over a third (35%) of the households were insecure in their livelihood. About 46 per cent of the consumption poor and 27 per cent of the non-poor households had insecure livelihood. Those who engaged in food and drinks were highly insecure followed by those who engaged in trade. With regard to the dimensions of livelihood security, 93 per cent of the households were insecure in economic, 52 per cent were insecure in housing, 46 per cent were insecure in education, 24 per cent were insecure in health, 23 per cent were insecure in water and 5 per cent were insecure in food dimensions. Consequently, the contribution of these dimensions to the composite livelihood security index was different. The highest contributor was food dimension and the least was economic dimension. The other basic question posed in connection with this was about the relationship between consumption poverty and livelihood security of households in the study towns. Thus, the study found that the livelihood of the great majority (72%) of the non-poor was secured than the poor households (54%). The livelihood of households who engaged in private organization, casual labour, assistance and begging were highly insecure than the others who engaged in other livelihood activities. The livelihoods of the insecure households who engaged in these activities were 80, 62 and 60 per cents respectively. This is due to the fact that households who engaged in these activities earn little income so that these households have no savings. On the other hand, only a few percentages, government employee (12%) and engaged in service (14%) and trade (14%) were insecure. About 50 per cent of the retired and 45 per cent who engaged in food and drinks were insecure.

The last basic research question raised was on the determinants of consumption poverty. In connection with this, the study revealed that female-headed households, large size households, households headed by old ages and non-migrants as well as households headed by divorced and widowed persons are more likely to be both consumption and multidimensional poor since the percentages of the poor were higher than the non-poor. The majority of these results were confirmed by Pearson's Chi-Square tests for consumption poverty. To put in other words, consumption poverty had significant association with these characteristics except with the marital and migration status of heads of the households. However, all these characteristics had no statistically significant association with multidimensional poverty except the marital status of the household heads. The logistic regression analysis, however, identified that only the household size, monthly income, housing crowdedness, radio/television possession, livestock, credit and the interaction between municipality and population the most important determinants of poverty in the study towns. All had negative association with poverty except the household size. Out of these significant predictors, one was from the human asset, three were from the physical assets and the other two were from the financial asset. These clearly confirm that asset endowments of the households were the major determinants of poverty in the study towns.

## **9.2. Theoretical and Policy Implications and Research Gaps**

The results and findings of the study have some theoretical and policy implications. Two different measures of poverty were employed in this study. However, both did not identify the same proportion of households though the two have relationships. These have a conceptual implication that the two methods are not the same in their measurement though both identified some proportion of the same households. However, both measures of poverty yielded high proportion of the incidence of poverty in the study small towns. This result has an implication that growth pole oriented development strategy of the country and poverty reduction programmes better benefit larger towns in which industries are better concentrated. However, this cannot help to reduce poverty in small towns like the study areas as growth could not trickle down from larger towns to smaller towns. The concentration of economic activities and the existence of better infrastructural facilities in larger towns could rather attract wealth from smaller towns so that employment creation opportunities in these towns are limited. There is, therefore, a need for the adoption of a different approach for the reduction of poverty in small

towns. In this study, livelihood diversification was found insignificant determinant of poverty and this result was inconsistent with the research results of Ellis (1999). This has a conceptual implication that livelihood diversification cannot always get the poor out of poverty instead it is the degree of their engagement in the livelihood strategies or livelihood intensification that helps the poor to get out of poverty. In order to increase their degree of engagement, the capacity of the poor should be improved through better credit and saving programmes in these towns. Asset possession especially radio/television, livestock and credit are significant determinants of poverty in the study towns. They have negative association with poverty. These results of the logit have a theoretical implication that the poor in these towns can escape from extreme poverty if they better possess these assets.

Some results of the present study have some policy implications. One of the findings of the study is that poverty is high in the study towns. These towns are, therefore, one of the poverty traps in the country which need at most attention of the government and other agents of development. The federal and regional governments, therefore, need to revisit the poverty reduction programmes, strategies and urban development policies. All the development programmes enshrined in urban development policy and GTP2 are large towns centered so that small towns targeted programmes and poverty reduction policies should be formulated as the problem of these towns is different from large towns. Even though housing availability is not a problem in small towns, the quality of the available houses for both the poor and the non-poor households was found very poor. Thus, the federal and regional governments through their respective ministry and bureau should have a special programme in upgrading the quality of these houses, that is, cheap but better quality housing materials for wall, floor and ceiling should be engineered and provided to the people at lower costs. This will raise the level of security of households in the housing dimension. Home-based businesses are found important in the study towns so that special policy should be designed to help improve the productivity and profitability of these home-based businesses by the federal and regional governments. The federal and regional governments should design a policy in order to empower institutions of small towns. These governments should also design a policy for smaller towns for self-administration using a cluster approach. These help to empower small towns and give more financial freedom for the provision of basic services in their own jurisdiction.

Some research gaps were identified in due course of the research. The spatial linkages created by the livelihoods of the poor in order to know whether the poor's livelihood create linkages between different spatial units or not and their impact on poverty is not known. This needs, therefore, an investigation. A comparative study with capital and non-capital small towns is another research gap to be filled in order to fully understand the impact of being the seat of the *woreda* administration to poverty. The dynamics of rural assets based livelihoods in the study towns and the shift from agricultural dependence to non-farm activities dependence of the migrants in these towns are the other research gaps to be filled by anybody who is interested in them. In addition, the challenges of households who engaged in agriculture is not investigated which is a research topic for the future. The study also found that the share of agriculture to household income is low. The reasons for this are not adequately investigated so that others can do a research on this. The other research questions to be answered are why the rich do not want to invest in their locality? Why they move to other places when they become rich? Therefore, research is needed to fill these research gaps and answer these questions.

### **9.3. Recommendations**

The results and findings of this study were immense. It is, therefore, very difficult to forward recommendations on the bases of all these results and findings of this research. Thus, the following recommendations are forwarded on the bases of the major results and findings of this study.

The study found the high incidence of both consumption and multidimensional poverty in the study towns. Thus, the federal and regional governments should design small towns centered poverty reduction programmes in order to reduce poverty in these towns. The raw head count ratios in the multidimensional poverty index indicated that 95, 85 and 84 per cents of the households deprived floor materials, durable assets and cooking fuel respectively. Therefore, poverty reduction programmes of these governments in the study towns should be geared towards these indicators. In other words, huge resources should be put in the livelihood standard and it's indicators-especially floor materials, durable assets and cooking fuel in order to reduce and if possible alleviate these problems from the study towns. The *woreda* government should work to change the tradition of overly dependence on traditional sources of cooking energy in

the study towns. Introducing improved woven in these towns through health extension is not enough. Awareness creations on the importance of modern energy sources on health and environment through the health extension programme should be the prime emphasis of the federal and regional government. In a nutshell, these towns should be the limelight for the regional and federal government like rural areas and large towns.

The results of this research demonstrate the existence of differences in the level of education of heads of the poor and the non-poor households in the study towns where the level of education of heads of the non-poor was relatively better than heads of the poor households. High level of poverty will, therefore, continue in these towns unless their human assets are improved. Trainings for the bread winners of the households particularly who are engaged in traditional handicrafts more specifically on the design, production and marketing of products should be given by Micro and Small Enterprise and *Woreda* Education Offices of the local government. This should be done in collaboration with the local technical and vocational colleges and NGOs. Improving the qualities of the products of the traditional activities might also create non-local market opportunities for the local people. Furthermore, trainings on the entrepreneurship skills should be provided by the local government for the unemployed and the less paid from the poor large household in the study towns. Trainings on how to manage labour should also be provided to the household heads so that these people can properly manage the labour available in the household. In connection with this, the school libraries should be open to the residents of the study towns so that the residents of these towns can have access to the library in order to acquire the necessary skills related to their livelihood activities. Since smaller towns are close to rural areas they will become centers of rural industrialization because some of the minimum infrastructures are available in these towns. Therefore, the regional and local government Education Bureau should strengthen adult education programmes in order to reduce the illiteracy rates and improve the human assets in these towns.

With regard to access to utilities, significant proportion of households had no latrines so that the local government and health extension agents should construct common latrines for those households who have no adequate space to construct their own latrines. In connection with this, the health extension worker in each study town should strongly work in raising the level of awareness of the local people in relation to the importance of latrine to health of the household

and the community as many do not use their latrine. In addition, some public latrines especially around the market areas should be constructed by the local government.

The local government or leading municipalities should prepare site plans for the housing units of the residents of these towns since the overwhelming majority of the housing units had no site plans so that the residents can use their house as collateral for borrowing money from banks and microfinance institutions. This will, therefore, contribute the reduction of poverty in the study towns. Similarly, the leading municipalities in the respective *woreda* should prepare master plans for the towns and aggressively implement these plans in order to properly guide the growth of these towns.

The study found that there was no small towns targeted development programmes in GTP2. Though the population size of each town is small as compared with the major towns, the total number of these small towns is very large. These towns are serving their residents and the surrounding rural areas. This is not a good way if the country wants to speed up rates of urbanization without developing these numerous urban centers and fostering rural-urban linkages. Thus, the federal government should stop one-size-fits-all approach or blanket application of policies and design small towns centered development policies or as many regional planners suggested spatially differentiated development strategies. In connection with this, the Ministry of Urban Development and Housing Construction should adopt a cluster approach to the administration of small towns so that the growth of small towns will be accelerated as the linkages between these towns improved.

The urban development policy of Ethiopia, designed in 2005 did not give any direction based on the size of towns in the country. The policy is one-size-fits-all policy. Smaller towns cannot attract investors from somewhere else due to the lack of infrastructure and trained labour force as well as absence of agglomeration economies in these towns. Thus, the federal government through its Ministry of Urban Development and Housing Construction should work to mobilize the resources from these towns by the provision of incentives, assistances and trainings to the local entrepreneurs and collectors of agricultural products to help them engage in agro-processing manufacturing activities by the formation of share companies. The local businessperson themselves should involve in the establishment of agro-processing industries in

these towns. They should involve in the processing of finished and semi-finished goods for the local and the non-local demand. This will create employment opportunities in these towns, development of the towns as the establishment of a firm further attracts investment from some other places, fosters production linkages between urban and rural areas and reduction of poverty. This will also check the flow of wealth and the rich to the large towns. This also reduces migration to large towns and hence the pressure on large towns in terms of population due to migration. It also helps to attain the objective of GTP2, that is, to shift from agricultural led economy to industrial led economy through a strong link between the agricultural and industrial sectors. In short, the government should design a proper programme to mobilize the local resources such as finance, labour and agricultural produce by bringing the local traders in the manufacturing activities. This will improve the livelihood insecurity of households especially in economic dimension in the study towns as their access to employment will be improved.

One of the findings of the study was that traders were obliged to have more than one trading license if they want to trade in more than one item. However, the various urban development models and theories stated that specialized businesses activities are rarely observed in small towns. This is because of the lack of sufficient demand in every item in these towns. Therefore, the trade licensing regulation in small towns should not be the same with large towns. The regional government should follow a different approach in licensing businesses in small towns. That is, one trading license should be issued for at least two related activities like selling of cloth and tailoring. This will improve the income of households in these towns.

The study found that the capacity of the local institutions in the study towns was weak. Therefore, the capacity of these institutions should be improved by the *woreda* and regional governments through trainings of their personnel especially in how to increase the income generating capacity of these institutions. These will increase their income collection capacity so that these institutions can better serve the local people by providing various services and infrastructures. In addition, the *woreda* governments should increase the budget grant of the sub-municipalities and some office furniture and equipments should be provided by these governments. These governments should also hire workers for the sub-municipalities as the sub-municipalities had no the required personnel in terms of both quality and quantity. Moreover, the regional government should provide sub-municipalities in small towns as the logit model

identified that municipality have a tendency to reduce poverty in small towns by providing basic municipality services.

The study also found that rearing of animals in the study towns was not for commercial purpose. Thus, the local and *woreda* governments and NGOs should work on this to change the practice as livestock was found one of the major determinants of poverty in the study towns. In addition, the contribution of agriculture to the household income was low due to the means of production so that households should maximize its contribution to the household income by changing the means of production, that is, they should themselves work instead of renting out their agricultural land. Those households whose primary source of income was agriculture should diversify their livelihood activities by engaging in some businesses and improving the degree of engagement in these activities. This will also improve the livelihood security of households in the study towns. This should be facilitated by the local government.

The study found that credit has negative association with poverty. Thus, the federal and regional government should improve the provision of credit and organize credit associations in order to further improve the livelihood of households by bringing the unemployed labour in the economic system in the study towns.

## References

- Akalou Wolde-michael (1973) Urban development in Ethiopia (1889-1925) early phase. *Journal of Ethiopian Studies*, Volume XI, Number 1, pp.1-16.
- Aklilu Kidanu & Desalegn Rahmato (2002) *Livelihood insecurity among urban households in Ethiopia*. Forum for Social Studies, Discussion Paper No.8.
- Akter, S. & Rahman, S. (2010) *Determinants of livelihood security in poor settlements in Bangladesh*. International Working Paper Series, Paper No 10/01. Retrieved December 12, 2012, from [http://economia.unipv.it/naf/Working\\_paper/WorkingPaper/rahaman.pdf](http://economia.unipv.it/naf/Working_paper/WorkingPaper/rahaman.pdf)
- Alkire, S. & Foster, J. (2007) *Counting and multidimensional poverty*. Chapter three, Oxford Poverty & Human Development Initiative, Oxford University.
- Alkire, S. & Foster, J. (2009) *Counting and multidimensional measurement*. Oxford Poverty & Human Development Initiative Working Paper No.32, Oxford University.
- Alkire, S. & Santos, M. E. (2010b) *Ethiopia country briefing*. Oxford Poverty & Human Development Initiative (OPHI), Multidimensional Poverty Index Country Briefing Series.
- Alkire, S. & Santos, M. E. (2010c) *Acute multidimensional poverty: A new index for developing countries*. OPHI Working paper no. 38, Oxford Poverty & Human Development Initiative, Oxford University.
- Alkire, S. & Santos, M.E. (2010a) *Multidimensional poverty index*. University of Oxford, UK: The Oxford Poverty and Human Development Initiative (OPHI).
- Alkire, S. & Santos, M.E. (2011) *The multidimensional poverty index: construction & analysis*. United Nations Development Programme (UNDP) Human Development Report (HDR) Guideline Module.
- Alkire, S. & Santos, M.E. (2013) *Measuring acute poverty in the developing world: robustness and scope of the multidimensional poverty index*. Oxford Poverty & Human Development Initiative (OPHI) working paper no. 59.
- Alkire, S. (2007) *Choosing dimensions: the capability approach and multidimensional poverty*. Chronic Poverty Research Centre (CPRC) Working Paper 88, Oxford Poverty & Human Development Initiative, Oxford University.
- Alkire, S. (2011) *Multidimensional poverty and its discontents*. OPHI working paper no. 46, Oxford Poverty & Human Development Initiative, Oxford University.
- Alkire, S.; Jose, M. R.; Santos, M. E. & Seth, S. (2011). *Ethiopia country briefing*. Oxford Poverty & Human Development Initiative (OPHI) Multidimensional Poverty Index Country Briefing Series. Available at: [www.ophi.org.uk/policy/multidimensional-poverty-index/mpi-country-briefings/](http://www.ophi.org.uk/policy/multidimensional-poverty-index/mpi-country-briefings/)
- Amhara Livelihood Zone Report (2007) Livelihood profile of Amhara Region, Ethiopia. Unpublished government report.
- Ary, D.; Jacobs, L. C. & Sorensen, C. K. (2010) *Introduction to research in education* (8<sup>th</sup> ed.).

Wadsworth: Cengage Learning.

- Ayalneh Bogale, Hagedorn, K. & Korf, B. (2005) Determinants of poverty in rural Ethiopia. *Quarterly Journal of International Agriculture*, Vol. 44 (2), PP. 101-120.
- Barrett, C. (2005) Mixing quantitative and qualitative methods in analyzing poverty dynamics. In Odhiambo, W., Omiti, J.M., and Muthaka, D.I. (Eds.), *quantitative and qualitative methods for poverty analysis: proceedings of the workshop held on 11 March 2004*, Nairobi, Kenya (pp. 37-57). Nairobi: Kenya Institute for Public Policy Research and Analysis (KIPPRA). Retrieved October 15, 2012, from <http://www.saga.cornell.edu/saga/q-qconf/proceed.pdf>
- Batterbury, S. (2008) *Sustainable livelihoods framework: ten years of researching the poor*. African Environments Programme, Oxford University Center for the Environment (OUCE). Retrieved December 20, 2012, from <http://african-environments.ouce.ox.ac.uk/events/2008/24jan08/batterbury.pdf>
- Berihun Mebratie, Tassew Shiferaw & Gebre Bedada (1996) *Ethiopian village studies*.
- Bevan, P. & Pankhurst, A. (2008) *A sociological perspective on the causes of economic poverty and inequality in Ethiopia*. Paper presented at the Inter-Africa group symposium on poverty, Addis Ababa. Retrieved December 20, 2012, from <http://www.wed-ethiopia.org/docs/A%20Sociological%20Perspective%20on%20Poverty%20in%20Ethiopia.pdf>
- Bihon Kassa & Gebremedhin Yihdegoteklu (2011) the role of small urban towns in improving rural livelihood - case study: Feresmay, Rama and Maykinetal Central Zone, Tigray, Northern Ethiopia. *International Journal of Research in Commerce, Economic and Management*, Vol. 1(7), pp. 10-15.
- Carney, D. (1998) *Sustainable Livelihoods approaches: Progress and possibilities for change*. Retrieved January 25, 2013, from [http://www.eldis.org/vfile/upload/1/document/0812/sla\\_progress.pdf](http://www.eldis.org/vfile/upload/1/document/0812/sla_progress.pdf)
- Carney, D.; Drinkwater, M.; Rusinow, T.; Neefjes, K.; Wanmali, S. & Singh, N. (1999) *Livelihoods approaches compared*. Retrieved December, 16, 20013 from [www.start.org/Program/advanced\\_institute3\\_web/p3\\_documents.../Carney\\_etal.pdf](http://www.start.org/Program/advanced_institute3_web/p3_documents.../Carney_etal.pdf)
- Carter, H. (1995) *The study of urban geography*. Fourth Edition. Replica Press Pvt Ltd, New Delhi.
- Central Statistical Agency (1998) *Statistical report of the 1994 population and housing census of Ethiopia results at country level*. Volume I. Addis Ababa, Ethiopia.
- Central Statistical Agency (2010) *Statistical report of the 2007 population and housing census of Amhara Region results*. Addis Ababa, Ethiopia.
- Central Statistical Agency (2011) *Statistical abstract*. Addis Ababa, Ethiopia.
- Central Statistical Agency (2012) *Welfare monitoring survey 2011 analytical report*. Statistical Bulletin 557. Addis Ababa, Ethiopia.
- Central Statistical Agency (2014) *Statistical report on the 2014 urban employment unemployment survey*. Statistical Bulletin. Addis Ababa, Ethiopia.
- Chambers, R. & Conway, G.R. (1991) *Sustainable rural livelihoods: practical concepts for the*

- 21<sup>st</sup> Century. Institute of Development Studies, University of Sussex, Brighton, UK. Discussion Paper 296. Retrieved November 24, 2012, from <http://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/775/Dp296.pdf>
- Chambers, R. (2006) *What is poverty? Who asks? Who answers?* In United Nations Development Programme International Poverty Center (Publisher), *Poverty in focus: what is poverty? Concepts and measures*. PP.3-4.
- Chinnadurai, M., Nalini, T. & Swaminathan, B. (2012) Livelihood security status in the dry land areas of Bellary district, Karnataka. *International Journal of Science and Nature*, Vol. 3(4), pp. 857-862. Retrieved January 25, 2013, from [http://scienceandnature.org/IJSN\\_Vol3%284%292012.php](http://scienceandnature.org/IJSN_Vol3%284%292012.php)
- Cooperative for Assistance and Relief Everywhere (1999) *Household livelihood security in urban settlements*. CARE International UK Briefing Notes. Retrieved November 28, 2012, from <http://www.alnap.org/pool/files/urban-hls-care-briefing-note-.pdf>
- Creswell, John W. & Plano Clark, V. L. (2011) *Designing and conducting mixed methods research* (2<sup>nd</sup> ed.). California: Sage.
- Creswell, John W. (2009) *Research design: qualitative, quantitative, and mixed methods approaches* (3rd ed.). California: SAGE.
- Cypher, J.M., & Dietz, J.L. (2002) *The process of economic development*. New York, USA: Routledge.
- De Vaus, D. (2002) *Surveys in social research* (5<sup>th</sup> ed.). London: Routledge.
- Degefa Tolossa (2010) Some realities of the urban poor and their food security situations: a case study of Berta Gibi and Gemechu Safar in the city of Addis Ababa, Ethiopia. *Journal of Environment and Urbanization*, Vol. 22(1), pp. 179-198. Retrieved November 12, 2012, from <http://eau.sagepub.com/content/22/1/179>
- Department for International Development (1999) *Sustainable livelihoods guidance sheets*. Retrieved October 21, 2012, from <http://www.eldis.org/vfile/upload/1/document/0901/section2.pdf>
- Department for International Development (2000) *Sustainable livelihoods guidance sheets*. Retrieved October 21, 2012, from <http://www.eldis.org/vfile/upload/1/document/0901/section2.pdf>
- Department for International Development (2002) *Rural-urban linkages*. Key sheet 10. [www.odi.org.uk/keysheets/](http://www.odi.org.uk/keysheets/)
- Dercon, S. & Hoddinott, J. (2005) *Livelihoods, growth, and links to market towns in 15 Ethiopian villages*. Food Consumption and Nutrition Division (FCND), Discussion Paper 194. International Food Policy Research Institute (IFPRI): Washington.
- Development Data Consultants (nd) *Household vulnerability index (HVI) for quantifying impact of HIV and AIDS on rural livelihoods*. Food Agriculture and Natural Resources Policy Analysis Network (FANRPAN): South Africa.
- Drinkwater, M. & Rusinow, T (1999) *Application on CARE's livelihood approach. Paper presented at the National Resource Advisors' Conference (NRAC)*. Retrieved

December 15, 2013 from [www.eldis.org/go/home&id=40253&type=Document](http://www.eldis.org/go/home&id=40253&type=Document)

- Edward, P. (2006) *The ethical poverty line: A moral definition of absolute poverty*. In United Nations Development Programme International Poverty Center (Publisher), *Poverty in focus: what is poverty? Concepts and measures*. PP. 14-16.
- Ellis, F. & Tassew Woldehanna (2005) *Ethiopia participatory poverty assessment 2004-05*. MoFED, Addis Ababa.
- Ellis, F. (1999) *Rural livelihood diversity in developing countries: evidence and policy implications: Natural Resource perspectives*. Overseas Development Institute. Retrieved December 15, 2013 from <http://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/4486/40-rural-livelihood-diversity.pdf?sequence=1>
- EHNRI (1997) *Food composition table for use in Ethiopia: Part III*. Addis Ababa, Ethiopia.
- Farrington, J., Carney, D., Ashley, C., & Turton, C. (1999) *Sustainable livelihoods in practice: early applications of concepts in rural areas*. Overseas Development Institute, UK. Retrieved October 11, 2012, from <http://www.odi.org.uk/resources/docs/2877.pdf>
- Farrington, J., Ramasut, T., & Walker, J. (2002) *Sustainable livelihoods approaches in urban areas: general lessons, with illustrations from Indian cases*. Overseas Development Institute Working Paper 162, UK. Retrieved October 05, 2012 from <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/2706.pdf>
- Field, A. (2005) *Discovering statistics using SPSS (2<sup>nd</sup> rev.ed)*. London: SAGE
- Foster, J., Greer, J., & Thorbecke, E. (1984) A class of decomposable poverty measures. *Econometrica*, Vol. 52(3), PP. 761-766. Retrieved June 15, 2013, from <http://www.jstor.org>
- Frankenberger, T.R. & McCaston, M.K. (1998) *The household livelihood security concept*. Retrieved January 02, 2013, from <http://afghanlivelihoods.com/virtual-library/Livelihoods/household-security-concept.pdf>
- Frankenberger, T.R., Drinkwater, M. & Maxwell, D. (2000) *Operationalizing household livelihood security: a holistic approach for addressing poverty and vulnerability*. Retrieved January 02, 2013, from <http://pqdl.care.org/Practice/HLS%20-%20Operationalizing%20HLS%20-%20A%20Holistic%20Approach.pdf>
- Fukuda-Parr, S. (2006) *The human poverty index: A multidimensional measure*. In United Nations Development Programme International Poverty Center (Publisher), *Poverty in focus: what is poverty? Concepts and measures*. PP. 7-9.
- Gaile, G.L., Tegegne G/E. & Little, P. (1999) *Market functions and linkages as related to food security in South Wollo, Ethiopia: preliminary observations*. Retrieved September 27, 2012, from [http://pdf.usaid.gov/pdf\\_docs/PNACL388.pdf](http://pdf.usaid.gov/pdf_docs/PNACL388.pdf)
- Girma Gezimu G. (2012) Determinants of food insecurity among households in Addis Ababa City, Ethiopia. *Interdisciplinary Description of Complex Systems*, Vol. 10(2), pp. 159-173. Retrieved December 12, 2012, from <http://hrcak.srce.hr/file/124438>

- Gray, D. E. (2009) *Doing research in the real world* (2<sup>nd</sup> ed.). California: Sage.
- Gupta, N. & Sharma, A. N. (2012) *Nature of poverty and identification of poor in small and medium towns*. Retrieved January 05, 2013 from <http://www.ihdindia.org/pdf/NATURE-OF-POVERTY-AND-IDENTIFICATION-OF-POOR-IN-SMALL-AND-MEDIUM-TOWNS.pdf>
- Hadley, C., Linzer, D. A., Tefera Belachew, Abebe G/mariam, Fasil Tessema, & Lindstrom, D. (2011) Household capacities, vulnerabilities and food insecurity: shifts in food insecurity in urban and rural Ethiopia during the 2008 food crisis. *Journal of Social Science & Medicine*, Vol. 73(10), pp. 1534-1542. Retrieved December 01, 2012, from <http://www.sage.wisc.edu/pubs/articles/F-L/Hahn/hahn2009GEC.pdf>
- Hahn, M.B., Riederer, A.M., & Foster, S.O. (2009) The livelihood vulnerability index: a pragmatic approach to assessing risks from climate variability and change: a case study in Mozambique. *Journal of Global Environmental Change*, Vol. 19 (1), PP. 74-88. Retrieved January 10, 2013, from <http://dx.doi:10.1016/j.gloenvcha.2008.11.002>
- Haughton, J. & Khandker, S. R. (2009) *Handbook on poverty and inequality*. Washington, DC: The World Bank. Retrieved January 05, 2013, from <http://www.worldbank.org>
- Industry and Urban Developmet Bureou (2007) የአብክመ ኢንዱስትሪና ከተማ ልማት ቢሮ የ2007 በጀት አመት የዘጠኝ ወራት የእቅድ አፈጻጸም ሪፖርት
- Kamete, Amin Y. (1998) Interlocking livelihoods: farm and small town in Zimbabwe. *Journal of Environment and Urbanization*, Vol. 10(1), pp. 23-34. Retrieved December 06, 2012, from <http://eau.sagepub.com/content/10/1/23.full.pdf>
- Kedir Abbi M. & McKay, A. (2003) *Chronic poverty in urban Ethiopia: panel data evidence*. Paper prepared for international conference on 'staying poor: chronic poverty and development policy', Hosted by Institute for Development Policy and Management, University of Manchester, UK, 7 – 9 April 2003. Retrieved December 02, 2012, from <http://cprc.abrc.co.uk/pubfiles/KedirMckay.pdf>
- Kothari, C.R. (2004) *Research methodology: methods and techniques* (2<sup>nd</sup> rev. ed.). India: New Age International.
- Krantz, L. (2001) *The sustainable livelihoods approach to poverty reduction: an introduction*. Retrieved December 05, 2012, from [http://www.forestry.umn.edu/prod/groups/cfans/@pub/@cfans/@forestry/documents/asset/cfans\\_asset\\_202603.pdf](http://www.forestry.umn.edu/prod/groups/cfans/@pub/@cfans/@forestry/documents/asset/cfans_asset_202603.pdf)
- Laderchi, C. R., Saith, R. & Stewart, F. (2006) Does the definition of poverty matter? Comparing four approaches. In *United Nations Development Programme International Poverty Center (Publisher), Poverty in focus: what is poverty? Concepts and measures. PP.10-11.*
- Lindenberg, M. (2002) Measuring household livelihood security at the family and community level in the developing world. *World Development*, Vol. 30(2), pp. 301–318. Retrieved December 17, 2012, from <http://www.chs.ubc.ca/srilanka/PDFs/Measuring%20household%20livelihood%20security.pdf>

- Madu, I. A. (2012) *Spatial vulnerability of rural households to climate change in Nigeria: Implications for internal security*. Robert S. Strauss Center for International Security and Law Working Paper Number 2, University of Texas. Retrieved January 20, 2013, from <http://www.isn.ethz.ch/isn/Digital-Library/Publications/Detail/?id=152916>
- Maxwell, S. (1999) The meaning and measurement of poverty. In *Poverty briefing*. Overseas Development Institute.
- Miekle, S., Ramsut, T., & Walker, J. (2001) *Sustainable urban livelihoods: concepts and implications for policy*. Retrieved July 17, 2012, from <http://eprints.ucl.ac.uk/35/1/wp112.pdf>
- MoFED (2012) *Ethiopia's progress towards eradicating poverty: an interim report on poverty analysis study (2010/11)*. Ministry of Finance and Economic Development: Addis Ababa, Ethiopia.
- MoFED (2013) *Development and poverty in Ethiopia 1995/96-2010/11*. Ministry of Finance and Economic Development: Addis Ababa, Ethiopia.
- Morse, S., McNamara, N. & Acholo, M. (2009) *Sustainable livelihood approach: A critical analysis of theory and practice*. Geographical Paper No. 189. Retrieved December 11, 2012, from <https://www.reading.ac.uk/web/FILES/geog/GP189.pdf>
- Mowafi, M. (2004). The meaning and measurement of poverty: A look into the global debate. *Development Gateway Foundation*. Retrieved January 05, 2014 from [sas.upenn.edu](http://sas.upenn.edu)
- MUDHCo (2005) *Urban development policy*. Addis Ababa, Ethiopia.
- MUDHCo (2015) *Resettlement policy framework: Urban productive safety net project*. Ministry of Urban Development Housing and Construction, Addis Ababa.
- Muzzini, E., (2008) *Urban poverty in Ethiopia: a multi-faceted and spatial perspective*. The World Bank, Urban Papers (UP-4). Retrieved December 05, 2012, from <http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1169585750379/UP-4.pdf>
- Njeru, E.H.N. (2005) Bridging the qualitative-quantitative methods in poverty analysis. In Odhiambo, W., Omiti, J.M. and Muthaka, D.I. (Eds.), *quantitative and qualitative methods for poverty analysis: proceedings of the workshop held on 11 March 2004, Nairobi, Kenya* (pp. 23-35). Nairobi: Kenya Institute for Public Policy Research and Analysis (KIPPRA). Retrieved October 15, 2012, from [www.saga.cornell.edu/saga/q-qconf/proceed.pdf](http://www.saga.cornell.edu/saga/q-qconf/proceed.pdf)
- ODI (2010) *Spatial inequality and urban poverty traps*. ODI working paper 326.
- Oxford Poverty and Human Development Initiative (2013) *Ethiopia country briefing, Multidimensional Poverty Index Data Bank*. OPHI, University of Oxford. Available at: [www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/](http://www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/)
- Oxford Poverty and Human Development Initiative (2015) *Ethiopia country briefing, Multidimensional Poverty Index Data Bank*. OPHI, University of Oxford, January. Available at: [www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/](http://www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/)

- Peet, R. and Elaine, H. (2009) *Theories of development contentions, arguments, alternatives (2<sup>nd</sup> ed.)*. New York: The Guilford Press.
- Prowse, M. (2008) *Locating and extending livelihoods research*. Brooks World Poverty Institute (BWPI), the University of Manchester Working Paper 37. Retrieved September 05, 2012, from <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3005.pdf>
- Rakodi, C. (2002) *A livelihoods approach – conceptual issues and definitions*. In Rakodi, C. & Lloyd-Jones (Eds), *Urban livelihoods a people-centred approach to reducing poverty*. PP. 3-22. London: Earthscan.
- Rakodi, C., De Haan, A., Drinkwater, M., & Westley, K. (2002) *Methods for understanding urban poverty and livelihoods*. Retrieved October 12, 2012, from [http://schant.socialdev.net/data/COREDOCS/deHaanetal\\_urb\\_pov2.pdf](http://schant.socialdev.net/data/COREDOCS/deHaanetal_urb_pov2.pdf)
- Regulation (2007) *Rural Land Administration and Use System Implementation of Amhara National Regional State*
- Rezvani, M. R., Shakoor, A., Ronizi S. R. A., & Roshan, G. (2009) The role and function of small towns in rural development using network analysis method case: Roniz rural district (Estahban City, Province Fars, Iran). *Journal of Geography and Regional Planning, Vol. 2(9)*. Retrieved October 15, 2012, from <http://www.academicjournals.org/JGRP> ISSN 2070-1845
- Roy, S. (2011) MNREGA: Changing livelihood of the beneficiaries in west Bengal. *Journal of Community Mobilization and Sustainable Development, Vol. 6(1)*, pp. 037-041. Retrieved October 15, 2012, from [http://mobilization.co.in/vol6\\_2/7.%20MM.pdf](http://mobilization.co.in/vol6_2/7.%20MM.pdf)
- Santos, M.E. & Ura, K. (2008) *Multidimensional poverty in Bhutan: Estimates and policy implications*. OPHI Working Paper No. 14.
- Satterthwaite, D. & Tacoli, C. (2003) *The urban part of rural development: the role of small and intermediate urban centers in rural and regional development and poverty reduction*. Retrieved November 20, 2012, from [http://ti-up.dfid.gov.uk/uploads/public/documents/Key%20Documents/rururb\\_wp09.pdf](http://ti-up.dfid.gov.uk/uploads/public/documents/Key%20Documents/rururb_wp09.pdf)
- Scoones, I. (1998) *Sustainable rural livelihoods: a framework for analysis*. Institute of Development Studies Working Paper 72, University of Sussex, Brighton, UK. Retrieved July 08, 2012, from <http://200.17.236.243/pevs/Agroecologia/Sustainable%20Rural%20Livelihoods-Scoones.pdf>
- Solomon Mulugeta (2006) Market oriented reforms and changes in urban household income: a study in selected small towns of Ethiopia. *Eastern Africa Social Science Research Review, Volume 22 (2)*, pp. 1-30.
- Solomon Mulugeta (2008) “The Economic Base of Ethiopian Urban Centers”. *Journal of Ethiopian Studies, Volume XLI, Number 1 and 2*, pp.9-25.
- Tassew Woldehanna (2004) *The experiences of measuring and monitoring poverty in Ethiopia*. For the inaugural meeting of the Poverty Analysis and Data Initiative (PADI) held on May 6-8 2004 in Mombassa, Kenya.

- Tegegne Gebre-Egziabher (2011) *Livelihood and urban poverty reduction in Ethiopia: perspectives from small and big towns*. Addis Ababa, Ethiopia: Organization for Social Science Research in Eastern and Southern Africa (OSSREA).
- Tegegne Gebre-Egziabher (2002) Urban policy and strategy in Ethiopia: some major issues for consideration. *In proceedings of the second national conference on urban development planning and implementation: towards passing the ways for partnership* (pp.65-85).
- Temesgen Deressa, Hassen, R.M. & Ringler, C. (2008) *Measuring Ethiopia farmers vulnerability to climate change across regional states*. International Food Policy Research Institute. Discussion Paper 00806. Retrieved February 01, 2013, from <http://www.ifpri.org/sites/default/files/publications/ifpridp00806.pdf>
- Tesfaye Alemayehu (2006) The analysis of urban poverty in Ethiopia. Thesis, the University of Sydney, Australia. Retrieved May 26, 2012, from [http://editorialexpress.com/cgi-bin/conference/download.cgi?db\\_name=ACE2004&paper\\_id=168](http://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=ACE2004&paper_id=168)
- Todaro, M.P. & Smith, S.C. (2009) *Economic development*. England: Pearsons Education Limited.
- Townsend, P. (2006) What is poverty? An historical perspective. *In United Nations Development Programme International Poverty Center (Publisher), Poverty in focus: what is poverty? Concepts and measures*. PP.5-6.
- UNDP (2006) *Poverty in Focus: What is poverty? Concepts and measures*. International Poverty Center.
- Vincent, K. & Cull, T. (2010) *A household social vulnerability index (HSVI) for evaluating adaptation projects in developing countries*. PEGNet conference 2010: policies to foster and sustain equitable development in times of crises, Midrand, 2-3rd September 2010. Retrieved March 27, 2013 from [http://www.kulima.com/wp-content/uploads/2010/12/PEGNet-conference-2010-\\_Vincent-and-Cull\\_-climate-and-development-panel-160810.pdf](http://www.kulima.com/wp-content/uploads/2010/12/PEGNet-conference-2010-_Vincent-and-Cull_-climate-and-development-panel-160810.pdf)
- Willis, K. (2005) *Theories and practice of development*. New York, USA: Routledge.
- Workneh Negatu, Ali Hassen & Abinet Kebede (2011) A comparative analysis of pastoralists and agro-pastoralists to climate change: a case study in Yabello Woreda of Oromia Region, Ethiopia. *Ethiopian Journal of Development Research, Vol. 33(1)*, pp. 61-95.
- World Bank (2015) *Ethiopia poverty assessment 2014*. Poverty global practice African region. Report No. AUS6744.
- World Food Programme (2009) *Food security and vulnerability in Addis Ababa, Ethiopia. Vulnerability assessment and mapping*. Addis Ababa: WFP-Ethiopia. Retrieved December 27, 2012, from <http://www.alnap.org/pool/files/wfp221390.pdf>
- Zikre Hig (2006) The revised Amhara National Regional State rural land administration and use proclamation: Proclamation No. 133/2006; Bahir Dar
- እናርጅ እናዉጋ ወረዳ ባህል እና ቱሪዝም ጽ/ቤት (2013) የቀድሞዉ ሞግ የአሁኗ ፈለገብርሃን፡ ፈለገብርሃን ከተማ ከ1941-2005. ያልታተመ

## Appendices

### Appendix A

#### 1. Energy composition of different food items (Calorie per 100 gram edible portion) and price of consumed foods

S.N	Food Group	Food item	Calorie per 100 gm	Price in Birr/kg in Wojel	Price in Birr/kg in Yetmen	Price in Birr/kg in Felege Birhan
<b>1</b>	<b>CEREALS</b>					
	White <i>Teff</i>	<i>Enjera</i>	145.0	11.60	12	12
	Mixed <i>Teff</i>	<i>Enjera</i>	150.2	10.20	10.20	10.20
	Red <i>Teff</i>	<i>Enjera</i>	155.9	9.50	10	10
	White Wheat	<i>Enjera</i>	145.6	8	9	8
		Bread	222.0			
		Whole Roasted	391.6			
		Average Calorie	253.1*/306.8	* Felege all		
	Black Wheat	Bread	205.3	8	8	8
		Whole Roasted	391.5			
		Average Calorie	298.4			
	White Barley	Flour	368	8	9	8
		Split Roasted	398.1			
		Average Calorie	383.1			
	Black Barley	Whole Roasted	390	8	8	7
	White Maize	<i>Enjera</i>	153.0	5.60	5.60	6
		Bread	223.4			
		Average Calorie	188.2			
	White Sorghum	Whole Boiled	124.5	7	7	8
	Mixed Sorghum	<i>Enjera</i>	168.1	7	7	8
		Whole Boiled	179.7			
		Average Calorie	173.9			
	Emmer Wheat ( <i>Aja</i> )	Gruel ( <i>Atmit</i> )	93.1	22	21.50	22
	Rice	Unspilted Boiled	110.9	18	18	18
<b>2</b>	<b>PULSES</b>					
	Beans	Whole Boiled	149.5	10	10	9
		Split Wet ( <i>Alicha</i> )	143.8			
		Roasted Boiled	275.9			
		Germinated Roasted	246.6			
		Average Calorie	204.0			
	Chickpeas	Whole Roasted	289.2	8	8	9
	Peas	Sauce ( <i>Alicha Wet</i> )	100.6	12	12	11
		Split wet ( <i>Alicha</i> )	162.0			
		Whole Boiled	157.8			
		Roasted Boiled	271.3			
		Germinated Roasted	245			
	Average Calorie	185.4/224.7*		*Yetmen and Wojel exc sauc and alicha		
	Lentils	Sauce ( <i>Alicha Wet</i> )	151.2	24	24	24

...Continued

		Sauce ( <i>Alicha Wet</i> )	124.1	5	5	6
	Vetch	Whole Boiled	177.7			
		Average Calorie	150.9			
	Fenugreek ( <i>Abish</i> )	Powder	382.4	22	24	24
<b>3</b>	<b>CEREAL PREPARATIONS</b>					
	Macaroni	Boiled	355*	18	18	18
	Spaghetti	Boiled	355*	18	18	18
	Biscuit		500*	86	86	86
<b>4</b>	<b>OIL SEEDS</b>					
	Niger Seed	Whole Roasted	589.6	20	20	16
	Peanut	Roasted	612.8	35	35	35
<b>5</b>	<b>VEGETABLES</b>					
	Onion	Boiled	92.6	11	11	11
	Garlic	Boiled	125.7	20	20	15
	Cabbage	Boiled	23.7	6	6	5
	Ethiopian Kale	Boiled	40.1	5.5	4	5
		Raw	30.7	8	10	10
		Boiled	20.5			
		Average Calorie	25.6			
	Tomato	Raw	46.5	20	20	20
		Boiled	36.6			
		Average Calorie	41.6			
	Green Pepper					
	Pumpkin	Boiled	24.9	1.25	1.25	1.25
<b>6</b>	<b>FRUITS</b>					
	Banana	Raw, Fresh	87.8	12	12	12
	Orange	Raw, Fresh	33.9	15	15	15
	Lemon	Raw, Fresh	55.8	10	10	10
<b>7</b>	<b>TUBERS &amp; STEMS</b>					
		<i>Habesha</i> Boiled	89.7	6	6	3
		Oromo Boiled	100.6			
	Potato	Average Calorie	95.2			
	Beetroot ( <i>Key Sir</i> )	Boiled	43*	12	12	12
<b>8</b>	<b>MEAT</b>					
		Boiled	177.4	90	90	90
		Roasted	212.3*	Yetmen		
		Average Calorie	194.9			
	Beef	Boiled	152.9	70	70	70
		Grilled Roasted	194.4			
		Average Calorie	173.6			
	Mutton	Boiled	200.0	70	70	70
		Grilled Roasted	176.8			
		Average Calorie	188.4			
	Goat Meat					
	Chicken	Whole Boiled	148.1	80	82	67

... Continued

<b>9</b>	<b>MILK, CHEESE &amp; EGG</b>					
	Cow Milk	Raw	73.7	8	8	8
	Yogurt		82.6	12	13	13
	Cheese		132.4	12	8	8
	Egg	Boiled	152.9	48	48	48
		Roasted With Oil	295.1			
		Average Calorie	224			
<b>10</b>	<b>SUGAR &amp; OTHERS</b>					
	Sugar	Raw	385.0	15.30	15.40	16
	Honey	Raw	360.5	60	60	60
	Sugarcane	Raw	95.3	6	4.6	4.6
<b>11</b>	<b>STIMULANTS &amp; DRINKS</b>					
	Coffee	Boiled	169.2	72	72	72
	Tea	Boiled	119.7	100	100	100
	Local Beer ( <i>Tella</i> )		7.9	3	3	3
<b>12</b>	<b>SPICES</b>					
	Spicy Chili	Boiled	195.7	45	45	45
<b>13</b>	<b>OILS &amp; FATS</b>					
	Palm Oil		896.4	30	30	31
	Niger Seed Oil		896.4	48	48	48
	Butter	Raw	760.4	120	120	100

Source: Ethiopian Health and Nutrition Research Institute (EHNRI, 1997) and own field survey, 2014

## 2. ANOVA for food prices and test of assumptions

### Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.036	2	153	.964

### ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25.112	2	12.556	.016	.985
Within Groups	123693.780	153	808.456		
Total	123718.892	155			

### Robust Tests of Equality of Means

	Statistic	df1	df2	Sig.
Welch	.016	2	101.931	.984
a. Asymptotically F distributed.				

**Multiple Comparisons**

	(I) coding or grouping variable	(J) coding or grouping variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Wojel	Yetmen	-.05000	5.57624	1.000	-13.2475	13.1475
		Felege Birhan	.82500	5.57624	.988	-12.3725	14.0225
	Yetmen	Wojel	.05000	5.57624	1.000	-13.1475	13.2475
		Felege Birhan	.87500	5.57624	.987	-12.3225	14.0725
	Felege Birhan	Wojel	-.82500	5.57624	.988	-14.0225	12.3725
		Yetmen	-.87500	5.57624	.987	-14.0725	12.3225
Gabriel	Wojel	Yetmen	-.05000	5.57624	1.000	-13.5067	13.4067
		Felege Birhan	.82500	5.57624	.998	-12.6317	14.2817
	Yetmen	Wojel	.05000	5.57624	1.000	-13.4067	13.5067
		Felege Birhan	.87500	5.57624	.998	-12.5817	14.3317
	Felege Birhan	Wojel	-.82500	5.57624	.998	-14.2817	12.6317
		Yetmen	-.87500	5.57624	.998	-14.3317	12.5817
Games-Howell	Wojel	Yetmen	-.05000	5.67398	1.000	-13.5450	13.4450
		Felege Birhan	.82500	5.52224	.988	-12.3097	13.9597
	Yetmen	Wojel	.05000	5.67398	1.000	-13.4450	13.5450
		Felege Birhan	.87500	5.53121	.986	-12.2811	14.0311
	Felege Birhan	Wojel	-.82500	5.52224	.988	-13.9597	12.3097
		Yetmen	-.87500	5.53121	.986	-14.0311	12.2811

	coding or grouping variable	N	Subset for alpha = 0.05
			1
Tukey HSD <sup>a</sup>	Felege Birhan	52	25.9817
	Wojel	52	26.8067
	Yetmen	52	26.8567
	Sig.		.987
Gabriel <sup>a</sup>	Felege Birhan	52	25.9817
	Wojel	52	26.8067
	Yetmen	52	26.8567
	Sig.		.998
Means for groups in homogeneous subsets are displayed.			
a. Uses Harmonic Mean Sample Size = 52.000.			

### 3. Consumption Basket used to Compute Food Poverty Line, 2014

Sn	Food Group	Sum of energy consumed per day per adult equivalent	Per cent of energy consumed out of the total	Scaled down energy using 2,200 Calories	Price per kg of food item in Birr	Energy per 100 gm of food item	Quantity of food item needed daily to meet 2200 kcal in gm	Total cost to meet the minimum food energy
<b>1</b>	<b>CEREALS</b>							
	White <i>Teff</i>	55693.52	13.5038	297.0842	11.90	145.0	204.8856	2.4381
	Mixed <i>Teff</i>	38366.96	9.3027	204.6597	10.20	150.2	136.2581	1.3898
	Red <i>Teff</i>	37573.82	9.1104	200.4289	9.85	155.9	128.5624	1.2663
	White Wheat	27846.34	6.7518	148.5399	8.35	253.1	58.6882	0.4900
	Black Wheat	343.25	0.0832	1.8310	8.00	298.4	0.6136	0.0049
	White Barley	7481.28	1.8140	39.9072	8.35	383.1	10.4169	0.0870
	Black Barley	5521.11	1.3387	29.4511	7.70	390.0	7.5516	0.0581
	White Maize	14714.94	3.5679	78.4934	5.75	188.2	41.7075	0.2398
	White Sorghum	1830.21	0.4438	9.76283	7.35	124.5	7.8416	0.0576
	Mixed Sorghum	1398.08	0.3390	7.4577	7.35	173.9	4.2885	0.0315
	Rice	431.89	0.1047	2.3038	18.00	110.9	2.0774	0.0374
<b>2</b>	<b>PULSES</b>							
	Beans	17662.12	4.2825	94.2145	9.70	204.0	46.1836	0.4480
	Chickpeas	12282.52	2.9781	65.5183	8.35	289.2	22.6550	0.1897
	Peas	12108.69	2.9360	64.5910	11.70	185.4	34.8387	0.4076
	Lentils	2112.55	0.5122	11.2689	24.00	151.2	7.4530	0.1789
	Vetch	12514.12	3.0343	66.7537	5.35	150.9	44.2370	0.2367
	Fenugreek ( <i>Abish</i> )	161.15	0.0391	0.8596	23.35	382.4	0.2248	0.0052
<b>3</b>	<b>CEREAL PREPARATIONS</b>							
	Macaroni	4438.83	1.0763	23.6779	18.00	355.0	6.6698	0.1201
	Spaghetti	336.39	0.0816	1.7944	36.00	355.0	0.5055	0.0182
	Biscuit	314.24	0.0762	1.6762	86.00	500.0	0.3352	0.0288
<b>4</b>	<b>OIL SEEDS</b>							
	Niger Seed	520.12	0.1261	2.7745	18.70	589.6	0.4706	0.0088
<b>5</b>	<b>VEGETABLES</b>							
	Onion	19768.50	4.7932	105.4505	11.00	92.6	113.8774	1.2527
	Garlic	1115.81	0.2705	5.9520	18.35	125.7	4.7351	0.0869
	Cabbage	324.50	0.0787	1.7310	5.70	23.7	7.3037	0.0416
	Ethiopian Kale	345.20	0.0837	1.8414	4.85	40.1	4.5920	0.0223
	Tomato	598.79	0.1452	3.1941	9.35	25.6	12.4770	0.1167
	Green Pepper	1503.03	0.3644	8.0176	20.00	41.6	19.2730	0.3855
<b>6</b>	<b>FRUITS</b>							
	Banana	694.01	0.1683	3.7020	12.00	87.8	4.2164	0.0506
	Orange	58.46	0.0142	0.3118	15.00	33.9	0.9199	0.0138
<b>7</b>	<b>TUBERS &amp; STEMS</b>							
	Potato	20308.92	4.9242	108.3332	5.00	95.2	113.7954	0.5670

... Continued

<b>8</b>	<b>MEAT</b>							
	Beef	6328.83	1.5345	33.7598	90.00	194.9	17.3215	1.5589
	Mutton	6032.86	1.4628	32.1809	70.00	173.6	18.5374	1.2976
	Goat Meat	578.21	0.1402	3.0843	70.00	188.4	1.6371	0.1146
	Chicken	1913.33	0.4639	10.2062	76.35	148.1	6.8914	0.5262
<b>9</b>	<b>MILK, CHEESE &amp; EGG</b>							
	Milk	34.07	0.0083	0.1817	8.00	73.7	0.2466	0.0020
	Yogurt	189.80	0.0460	1.0124	12.70	82.6	1.2257	0.0156
	Egg	1748.72	0.4240	9.3281	48.00	224.0	4.1643	0.1999
<b>10</b>	<b>SUGAR &amp; OTHERS</b>							
	Sugar	27673.43	6.7099	147.6175	15.6	385	38.3422	0.5981
	Honey	37.26	0.0090	0.1987	60.00	360.5	0.0551	0.0033
<b>11</b>	<b>STIMULANTS</b>							
	Coffee	5464.01	1.3248	29.1465	72.00	169.2	17.2261	1.2403
	Tea	523.29	0.1269	2.7914	100.00	119.7	2.3320	0.2332
<b>12</b>	<b>SPICES</b>							
	Spicy Chili	12812.36	3.1066	68.3446	45.00	195.7	34.9231	1.5715
<b>13</b>	<b>OILS &amp; FATS</b>							
	Palm Oil	34910.54	8.4646	186.2222	30.35	896.4	20.7745	0.6305
	Niger Seed Oil	15419.02	3.7386	82.2492	48.00	896.4	9.1755	0.4404
	Butter	392.60	0.0952	2.0942	113.35	760.4	0.2754	0.0312
	<b>Sum</b>	<b>412427.6851</b>	<b>100.00</b>	<b>2200</b>			<b>1220.7826</b>	<b>18.7429</b>

Source: Calculated from Field Data, 2014

**4. Consumption Basket of the Poorest 25% of the households used to compute Non-food poverty Line**

S.N	Food Type	Price per KG	Energy of food an adult person consumed per day	Quantity of food an adult person consumed per day in gram	Total cost	Total cost using actual data
<b>1</b>	<b>CEREALS</b>					
	White <i>Teff</i>	11.90	257.7588	167.9569	2.00	2.00
	Mixed <i>Teff</i>	10.20	188.6748	124.2204	1.27	1.27
	Red <i>Teff</i>	9.85	153.5917	98.5194	0.97	0.96
	White Wheat	8.35	66.6406	26.3297	0.22	0.21
	Black Wheat	8.00	3.5703	1.1965	0.01	0.01
	White Barley	8.35	14.5054	3.7863	0.03	0.03
	White Maize	5.75	59.9273	29.9696	0.17	0.17
	White Sorghum	7.35	4.3042	3.4572	0.03	0.02
	Mixed Sorghum	7.35	7.4758	4.2989	0.03	0.03
<b>2</b>	<b>PULSES</b>					
	Beans	9.70	53.6074	21.6649	0.21	0.21
	Chickpeas	8.35	15.2977	5.2897	0.04	0.05
	Peas	11.70	33.2423	14.1568	0.17	0.16
	Lentils	24.00	8.7919	5.8147	0.14	0.14
	Vetch	5.35	66.8813	45.4008	0.24	0.23
<b>3</b>	<b>OIL SEEDS</b>					
	Peanut	35.00	1.2189	0.1989	0.01	0.01
<b>4</b>	<b>VEGETABLES</b>					
	Onion	11.00	79.7594	59.7091	0.66	0.66
	Garlic	18.40	4.8455	3.8548	0.07	0.07
	Cabbage	5.70	0.7676	3.2387	0.02	0.02
	Ethiopian Kale	4.85	0.7246	1.8069	0.01	0.01
	Tomato	9.35	1.5864	6.1971	0.06	0.05
	Green Pepper	20.00	4.1809	9.9110	0.20	0.20
<b>5</b>	<b>FRUITS</b>					
	Banana	12.00	1.7673	2.0129	0.02	0.02
	Orange	15.00	0.2888	0.8520	0.01	0.01
	Lemon	10.00	0.037	0.0663	0.00	0.00
<b>6</b>	<b>TUBERS &amp; STEMS</b>					
	Potato	5.00	83.7837	88.0081	0.44	0.32
	Beetroot ( <i>Key sir</i> )	12.00	0.141106	0.3282	0.00	0.00

... Continued

<b>7</b>	<b>MEAT</b>					
	Beef	90.00	23.0879	10.8876	0.98	0.98
	Chicken	76.40	1.6323	1.1022	0.08	0.07
<b>8</b>	<b>MILK, CHEESE &amp; EGG</b>					
	Milk	8.00	5.4922	7.4521	0.06	0.06
	Yogurt	12.70	1.0673	1.2921	0.02	0.02
	Egg	48.00	3.6649	1.2419	0.06	0.06
<b>9</b>	<b>SUGAR &amp; OTHERS</b>					
	Sugar	15.60	82.3853	21.3988	0.33	0.33
	Honey	60.00	3.1436	0.8720	0.05	0.05
	Sugarcane	5.00	9.7407	10.2211	0.05	0.05
<b>10</b>	<b>STIMULANTS &amp; DRINKS</b>					
	Coffee	72.00	22.1727	13.1044	0.94	0.94
	Tea	100.00	2.0592	1.7203	0.17	0.17
	Local Beer ( <i>Tella</i> )	3.00	9.3749	118.6690	0.36	0.36
<b>11</b>	<b>SPICES</b>					
	Spicy Chili	45.00	56.4044	28.8219	1.30	1.30
<b>12</b>	<b>OILS &amp; FATS</b>					
	Palm Oil	30.40	133.3117	14.8719	0.45	0.46
	Niger Seed Oil	48.00	74.7849	8.3428	0.40	0.40
	Butter	113.00	3.2126	0.4225	0.05	0.05
	<b>Sum</b>		<b>1544.905</b>	<b>968.6661</b>	<b>12.33*</b>	<b>12.16</b>

Source: Computed from Field Survey Data, 2014

Rounding error makes the data above the actual cost 12.16 Ethiopian Birr.

## Appendix B

### Conversion factor used to estimate Tropical livestock Unit (TLU)

Serial Number	Animal	TLU
1	Cattle (cow and Ox)	1
2	Heifer	0.5
3	Sheep/Goat	0.15
4	Donkey	0.65
5	Poultry	0.05

Source: Ramakrishna and Assefa Demeke, 2002.

## Appendix C

1. Table Maximum and Minimum values to Standardize values of each indicator for the computation of Livelihood Security Index

Dimension	Indicator	Minimum	Maximum	Difference
<b>Economic</b>	Per person monthly income of the household in Birr	22.22	10000	9977.78
	Per person value of durable assets of the household in Birr	0	14028	14028
	Per person current savings of the household in Birr	0	20000	20000
	Per cent of independent household members	0	100	100
	Number of household livelihood activities	1	5	4
<b>Food</b>	Dietary diversity (number of food groups consumed per day)	1	7	6
	Food frequency (number of meals and snacks per day)	1	6	5
	Per day per adult equivalent calorie intake	578.33	9877.86	9299.53
	Number of food convenient months of a household in the year	0	12	12
<b>Health</b>	Level of sickness of the ill*	1	6	5
	Number of days unable to work and attend schooling due to sickness *	0.01	1	0.99
	Expenditure for treatment *	0.0001	1	0.9999
	Quality of health services as rated by the household head	1	5	4
<b>Education</b>	Literacy rate of the household	0	100	100
	Per cent of household members who completed grade 6 and above	0	100	100
	Access to education services as rated by the household head	1	5	4
	Educational status of the household head	1	6	5
<b>Water</b>	Source of drinking water for the household	1	3	2
	Walking distance from house to water source in minutes*	0.03	1	0.97
	Per person monthly cost of water*	0.01	5	4.99
	Frequency of per week water interruptions*	0.01	1	0.99
<b>Housing</b>	Housing tenure assigned by values of each type of tenure	1	5	4
	Number of persons of a household per room or crowdedness*	0.01	7	6.99
	Number of housing utilities	1	7	6
	Quality of housing assigned by values of the materials	6	11	5

Source: Computed from field survey data, 2014

## 2. Weight of Each Indicator Extracted by PCA for the Computation of Livelihood Security Index

Dimension	Indicator	Weight	Variance loaded
<b>Economic</b>	Per person monthly income of the household in Birr	0.8	22.66
	Per person value of durable assets of the household in Birr	0.7	
	Per person current savings of the household in Birr	0.5	
	Per cent of independent household members	0.5	
	Number of current livelihood activities of the household	0.3	
	<b>Sum</b>	<b>2.8</b>	
<b>Food</b>	Dietary diversity (number of food groups consumed per day)	0.8	41.8
	Food frequency (number of meals and snacks per day)	0.8	
	Per day per adult equivalent calorie intake	0.4	
	Number of food convenient months of a household in the year	0.6	
	<b>Sum</b>	<b>2.2</b>	
<b>Health</b>	Level of sickness of the ill*	0.9	61.3
	Number of days unable to work and attend schooling due to sickness *	0.8	
	Expenditure for treatment *	0.9	
	Quality of health services as rated by the household head	0.2	
	<b>Sum</b>	<b>2.8</b>	
<b>Education</b>	Literacy rate of the household	0.9	54.1
	Per cent of household members who completed grade 6 and above	0.8	
	Access to education services as rated by the household head	0.2	
	Educational status of the household head	0.9	
	<b>Sum</b>	<b>2.8</b>	
<b>Water</b>	Source of drinking water for the household	0.5	35.8
	Walking distance from house to water source in minutes*	0.5	
	Per person monthly cost of water*	0.6	
	Frequency of per week water interruptions*	0.7	
	<b>Sum</b>	<b>2.3</b>	
<b>Housing</b>	Housing tenure assigned by values of each type of tenure	0.6	41.5
	Number of persons of a household per room or crowdedness*	0.1	
	Number of housing utilities	0.8	
	Quality of housing assigned by values of the materials	0.8	
	<b>Sum</b>	<b>2.3</b>	

Source: Computed from field Survey data, 2014

## Appendix D

### 1. Pearson Chi-Square Values of the Association between Poverty and

Variable Name	Value	df	Asymp. Sig. (2-sided)	Number of cases
Population Size	.587 <sup>a</sup>	2	.746	323
Household size	20.137 <sup>a</sup>	8	.010	323
Sex of Head	.584 <sup>a</sup>	1	.445	323
Age of Head	65.046 <sup>a</sup>	52	.106	321
Migration Status of head	1.501 <sup>a</sup>	1	.221	323
Marital Status of Head	3.646 <sup>a</sup>	3	.302	323
Level of Education of Head	16.937 <sup>a</sup>	5	.005	323
Illness	.229 <sup>a</sup>	1	.633	323
No days absent due illness	15.089 <sup>a</sup>	19	.717	320
Expenditure on health	39.304 <sup>a</sup>	40	.501	319
Housing tenure	1.070 <sup>a</sup>	1	.301	322
Number of rooms	2.771 <sup>a</sup>	5	.735	321
Persons per room	44.189 <sup>a</sup>	21	.002	321
Utilities	19.014 <sup>a</sup>	7	.008	322
Radio/Television	35.026 <sup>a</sup>	1	.000	323
Number of activities	9.379 <sup>a</sup>	4	.052	323
Landholding size in Hectare	8.407 <sup>a</sup>	15	.906	323
Association	6.781 <sup>a</sup>	1	.009	322
Shock	.156 <sup>a</sup>	1	.693	322
Credit in birr	25.933 <sup>a</sup>	17	.076	322
Saving in Birr	43.259 <sup>a</sup>	43	.460	322
Road Quality	.001 <sup>a</sup>	1	.982	323
Municipality	.001 <sup>a</sup>	1	.982	323
Monthly Income in Birr	271.423 <sup>a</sup>	227	.023	323
Livestock in TLU	33.794 <sup>a</sup>	44	.867	323

Source: Computed from field survey data, 2014

## 2. Correlation Coefficients of the explanatory variables to check multicollinearity

		Population size	household size	Age of household head	Education	expenditure on health	Persons per room	Number of utilities	Radio/television ownership	Credit in birr	Saving in Birr	sub-municipality	monthly income	Livestock in TLU	N of livelihood activities
Population size	Pearson Correlation	1	.133 <sup>*</sup>	-.130 <sup>*</sup>	-.093	-.049	-.019	-.067	-.141 <sup>*</sup>	.068	-.077	.567 <sup>**</sup>	-.058	.031	.020
	Sig. (2-tailed)		.016	.019	.093	.384	.727	.227	.011	.219	.168	.000	.301	.789	.720
	N		327	325	327	323	325	326	327	326	326	327	324	79	327
Household size	Pearson Correlation		1	.160 <sup>**</sup>	.102	.011	-.607 <sup>**</sup>	.022	.236 <sup>**</sup>	.360 <sup>**</sup>	.065	.100	.148 <sup>**</sup>	.105	.215 <sup>**</sup>
	Sig. (2-tailed)			.004	.065	.843	.000	.690	.000	.000	.243	.072	.008	.357	.000
	N			325	327	323	325	326	327	326	326	327	324	79	327
Age of household head	Pearson Correlation			1	-.318 <sup>**</sup>	-.034	.001	-.016	-.225 <sup>**</sup>	-.003	.063	-.055	-.088	-.092	.024
	Sig. (2-tailed)				.000	.548	.984	.778	.000	.958	.257	.322	.117	.420	.663
	N				325	321	323	324	325	324	324	325	322	79	325
education	Pearson Correlation				1	.043	-.038	-.068	.396 <sup>**</sup>	.225 <sup>**</sup>	.124 <sup>*</sup>	.025	.166 <sup>**</sup>	.036	.127 <sup>*</sup>
	Sig. (2-tailed)					.438	.495	.224	.000	.000	.025	.654	.003	.750	.022
	N					323	325	326	327	326	326	327	324	79	327
expenditure on health	Pearson Correlation					1	-.007	-.021	.073	.103	.098	-.147 <sup>**</sup>	.071	.317 <sup>**</sup>	.019
	Sig. (2-tailed)						.899	.713	.188	.064	.080	.008	.208	.005	.740
	N						321	322	323	322	322	323	320	77	323
Person Per room	Pearson Correlation						1	-.007	-.110 <sup>*</sup>	-.166 <sup>**</sup>	.001	-.005	-.042	-.123	-.073
	Sig. (2-tailed)							.906	.048	.003	.980	.934	.448	.279	.190
	N							325	325	324	324	325	322	79	325
Number Housing utilities	Pearson Correlation							1	.069	.038	.272 <sup>**</sup>	.051	-.001	.028	-.029
	Sig. (2-tailed)								.216	.499	.000	.356	.982	.803	.603
	N								326	325	325	326	323	79	326
Radio or television ownership	Pearson Correlation								1	.176 <sup>**</sup>	.179 <sup>**</sup>	-.036	.147 <sup>**</sup>	.158	.134 <sup>*</sup>
	Sig. (2-tailed)									.001	.001	.520	.008	.163	.015
	N									326	326	327	324	79	327
credit in birr	Pearson Correlation									1	.135 <sup>*</sup>	.136 <sup>*</sup>	.073	.180	.124 <sup>*</sup>
	Sig. (2-tailed)										.015	.014	.188	.113	.026
	N										326	326	323	79	326
total amount of birr saved	Pearson Correlation										1	.042	.108	.051	.063
	Sig. (2-tailed)											.452	.053	.655	.254
	N											326	323	79	326
sub-municipality	Pearson Correlation											1	-.018	-.069	.167 <sup>**</sup>
	Sig. (2-tailed)												.751	.546	.002
	N												324	79	327
monthly income	Pearson Correlation												1	.352 <sup>**</sup>	.218 <sup>**</sup>
	Sig. (2-tailed)													.002	.000
	N													77	324
Livestock in TLU	Pearson Correlation													1	.218
	Sig. (2-tailed)														.054
	N														79

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### 3. Contingency Table for Hosmer and Lemeshow Test

		poverty status of households = Non-poor		poverty status of households = Poor		Total
		Observed	Expected	Observed	Expected	
Step 9	1	31	31.000	0	.000	31
	2	31	30.986	0	.014	31
	3	30	30.774	1	.226	31
	4	31	30.003	0	.997	31
	5	25	27.124	6	3.876	31
	6	19	19.386	12	11.614	31
	7	18	14.308	14	17.692	32
	8	8	8.791	23	22.209	31
	9	2	3.085	29	27.915	31
	10	1	.544	33	33.456	34

### 4. Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
9	7.696	8	.464

### 5. Classification Table

Step	Observed	Predicted			
		poverty status of households		Percentage Correct	
		Non-poor	Poor		
Step 9	poverty status of households	Non-poor	171	25	87.2
		Poor	21	97	82.2
	Overall Percentage				85.4
a. The cut value is .500					

### 6. Casewise List of the Influential Cases

Case	Selected Status <sup>a</sup>	Observed	Predicted	Predicted Group	Temporary Variable	
		poverty status of households			Resid	ZResid
13	S	P**	.093	N	.907	3.121
226	S	P**	.006	N	.994	12.828
242	S	N**	.966	P	-.966	-5.350
a. S = Selected, U = Unselected cases, and ** = Misclassified cases.						
b. Cases with studentized residuals greater than 2.000 are listed.						



## **Appendix E Questionnaire**

Questionnaire Number \_\_\_\_\_  
Household name and ID (to be filled by enumerator) \_\_\_\_\_  
Date of Interview \_\_\_\_\_  
Enumerator's Name \_\_\_\_\_  
Supervisor's Name \_\_\_\_\_

Date \_\_\_\_\_

### **Introduction**

Hello. My name is \_\_\_\_\_. Your household has been randomly selected to participate in the Poverty and Livelihood Survey which has been commissioned by Addis Ababa University. The aim of this survey is to collect information on food consumption, livelihood and demography. The interview will take not less than an hour. Your response will assist the student to achieve his research objectives.

I assure you that your answers will be completely confidential. Only summary information will be used for analysis, and no individual questionnaire will be made available to any authority. If there is any particular question that you don't like to answer, that will of course be accepted.

I greatly appreciate your assistance and I thank you for your cooperation in advance.





### Section 3: Housing

1.	2.	4.	5.	6.	7.	8.	9.	10.
How long has this household been living in this dwelling?	On what basis does the household occupy the dwelling? Privately owned (I constructed it.1 Bought .....2 Inherited.....3 Free of rent ....4 Rented from private.....5 Rented from kebele .....6 Other(Specify).7	How many rooms (excluding kitchen, toilet & bath room) does the household occupy?  Number	The walls of the main dwelling are predom. made of what material? Wood and mud .....1 Wood and thatch .....2 Wood only .....3 Stone only .....4 Stone and mud .....5 Blocks ,plastered with cement ...7 Blocks, unplastered.....8 Bricks .....9 Mud bricks(traditional) .....10 Steel(" Iamera") .....11 Cargo container.....12 Parquet or polished wood .....13 Chip wood .....14 Corrugated iron sheet.....15 Asbestos .....16 Reed/bamboo .....17 Other, specify .....18	The roof of the main dwelling is predominantly made of what material?  Corrugated iron sheet .1 Concrete/Cement .....2 Thatch .....3 Wood and mud .....4 Bamboo/reed .....5 Plastic canvas .....6 Asbestos .....7 Bricks .....8 Others .....9	The floor of the main dwelling is predominantly made of what material? Mud/dung .....1 Bamboo /reed .....2 Wood planks .....3 Parquet or polished wood .....4 Cement screed .....5 Plastic tiles .....6 Cement tiles .....7 Brick tiles .....8 Ceramic/marble tiles.....9 Others (specify) .....10	The ceiling of your housing unit is?  No ceiling....1 Madaberia...2 Abujede .....3 Chip wood...4 other (specify)5	What type of kitchen does the household use? No kitchen .....1 A room used for traditional kitchen inside the housing unit .....2 A room used for traditional kitchen outside the housing unit...3 A room used for modern kitchen inside the housing unit .....4 A room used for modern kitchen outside the housing unit .....5 other (specify) .....6	What is the primary type of oven (Mitad) used for baking injera/bread? Traditional mitad (Oven) removable. 1 Traditional mitad (not removable) ....2 Improved energy saving mitad (rural technology product).3 Electric mitad .....4 None .....5
Years	Months							

11.	12.	13.	14.	15.	18.	19.	20.	21.
What type of toilet facilities does the household use?  Flush toilet –private .1 Flush toilet –shared .2 Pit latrine private-ventilated .....3 Pit latrine shared-ventilated .....4 Pit latrine private-not ventilated .....5 Pit latrine shared- not ventilated .....6 Bucket .....7 Field /forest .....8 Others .....9 How many households shared the toilet?	What type of bathing facilities does the household have?  Bathtub private ...1 Bathtub shared ...2 Shower private...3 Shower shared .....4 A room reserved for bathing(private).5 A room reserved for bathing (shared).6 No fixed place for bathing.....7	What type of solid waste disposal facilities does the household use?  Waste disposable Vehicle .....1 Waste disposal Container.....2 Dug-Out .....3 Throw away .....4 Use as fertilizer .....5 Burning the waste .6 Collected by municipality(public dump).....7 Other (specify) ....8	What is the main source of drinking water in the rainy season?  Tap inside the house .....1 Private tap in the Compound2 Shared tap in compound...3 Communal tap outside compound .....4 Water from kiosks/retailer...5 Protected well / spring (private).....6 Protected well / spring (shared) .....7 Unprotected well or spring .8 River /lake/ pound .....9 Rain water .....10 Other (specify) .....11	What is the main source of drinking water in the dry season? Tap inside the house ....1 Private tap in the compound .....2 Shared tap in compound.3 Communal tap outside compound .....4 Water from kiosks/retailer .....5 Protected well / spring (private) .....6 Protected well / spring (shared) .....7 Unprotected well or spring .....8 River /lake/ pound .....9 Other (specify) .....10	Distance from house to water source (in minutes)? (single trip)  Minute	What is the habit of a household to purify water before drinking?  No habit .1 Boiling ....2 Chemicals.3 Other (specify)...4	Does any member of the household (including the household head) own another dwelling or house? Excluding Maid/guards  Yes..1 No..2	What is the main source of light for the Household? Electricity Meter- Private1 Electricity Meter- Shared 2 Electricity From Generator.....3 Solar Energy .....4 Bio –Gas .....5 Electrical Battery .....6 Lantern .....7 Light From Dry Cell With Switch.....8 Kerosene Light Lamp (Imported).....9 Local Kerosene Lamp (Kuraz) .....10 Candle/Wax .....11 Fire Wood .....12 Other (Specify) .....13
Type	No of S HH							

#### Section 4: Durable Domestic Assets

No	Item Name	1. How many of this [ITEM] does your household own? IF NONE RECORD 0  Number of items	2. When did you buy the asset? Year	3. How much did you buy the asset? Birr	No	Item name	1. How many of this does your household own? Number of items	2. When did you buy the asset? Year	3. How much did you buy the asset? Birr
1	Kerosene stove				19	Weaving equipment			
2	Butane Gas stove				20	Mitad-Electric			
3	Electric stove				21	Energy saving stove (lakech, mirt etc)			
4	Blanket/Gabi				22	Refrigerator			
5	Mattress and/or Bed				23	Private car			
6	Wrist watch/clock				24	Jewels (Gold and silver)			
7	Fixed line telephone				25	Wardrobe			
8	Mobile Telephone				26	Shelf for storing goods			
9	Radio/ tape recorder				27	Biogas stove (pit)			
10	Television				28	Water storage pit			
11 11	CD/VCD/DVD/Video Deck				29	Mofer and Kember			
12	Satellite Dish				30	Sickle (Machid)			
13	Sofa set				31	Axe (Gejera)			
14 14	Bicycle				32	Pick Axe (Geso)			
15	Motor cycle				33	Plough (Traditional)			
16 16	Cart (Hand pushed)				34	Plough (Modern)			
17	Cart (animal drawn)- for transporting people & goods				35	Water Pump			
18	Sewing machine				36	Cupboard			

### Section 5: Food for the last seven days

No	1. Over the past one week (7 days), did you or others in your household consume any [ITEM]? Include food both eaten Communally in the household and that eaten separately by individual household members. Yes...1 No... 2	2. If your answer is yes in what form did you consume? Enjera wat Bread	3. How much in total did your household consume in the past week?		4. How much came from purchases? IF NONE RECORD 0.		5. How much did you spend ?	6. How much came from own production? IF NONE RECORD 0.		78.. How much came from gifts and other sources? IF NONE RECORD 0.		9. did any people that you did not list as household members eat any meals in your household? Yes ... 1 no. ... 2	10. What was the total number of days in which any meal was shared with people
			quantity	unit	quantity	unit	birr	quantity	unit	quantity	unit		
	<b>CEREALS</b>											0-5	
1	Teff											6-15	
2	Wheat											16-65	
3	Barley											>65	
4	Maize												
5	Sorghum												
6	Millet												
	<b>PULSES</b>												
7	Horse beans												
8	Chick pea												
9	Field pea												
10	Lentils												
11	Haricot beans												
	<b>OIL SEEDS</b>												
12	Niger seed												
13	Linseed												
	<b>VEGETABLES AND</b>												
14	Onion												
15	Banana												
	<b>TUBERS &amp; STEMS</b>												
16	Potato												
17	Kocho/ Bula												
	<b>OTHERS</b>												
18	Meat												
19	Milk												
20	Cheese												
21	Eggs												
22	Sugar												
23	Salt												
	<b>STIMULANTS</b>												
24	Coffee												
25	Chat/Kat												

**CODES FOR UNIT:**

Gram .....1	Cm ...2	Meter..5	Tuba .....14	Cup .....31
Cubic Centimeter...3	Number.4	Pair.....6	Araba .....16	Liter .....32
Box .....7	Roll....11	Pack....12	Kg .....20	Meter Square .....33

**Section 6: Non-food expenditure**

**Section 7: Food Security**

no	1.		2.		1.		2.		3.		4.		5.			
	Over the past one month, did your household purchase or pay for any [ITEM]?		How much did your household pay in total?  Birr		Over the past 12 months, did your household purchase or pay for any item?		How much did your household pay in total?  Birr		How many meals, including breakfast are taken on average per day in your household?		In the last 12 months, have you been faced with a situation when you did not have enough food to feed the household?		In which months of the last 12 months did you experience this incident?		What is the number of children who sent to relatives due to shortage of food?	
	Yes...1 No....2				no	Yes..1 No ..2			Adults (5 yrs and above)  Number	Children (6-59 months)LEAVE BLANK IF NO CHILDREN  Number	Number	Yes...1 No....2				
1	Matches				1	Clothes/shoes/fabric for MEN										
2	Batteries				2	Clothes/shoes/fabric for WOMEN										
3	Candles (tua'af), incense				3	Clothes/shoes/fabric for boys										
4	Laundry soap/OMO/endod/besan				4	Clothes/shoes/fabric for girls										
5	Hand soap				5	Kitchen equipment (cooking pots, etc.)							<b>Monthly Expenditure to services</b>			
6	Other personal care goods (incl. sendel,				6	Linens (sheets, towels, blankets)							Service	Own meter	Rented	
7	Charcoal				7	Furniture							Water			
8	Firewood				8	Lamp/torch							Electricity			
9	Kerosene				9	Ceremonial expenses							Estimated rent of own house			
10	Cigarettes, tobacco, suret, gaya				10	Contributions to IDDIR							Rented house			
11	Transport				11	Donations to the church							Fixed phone			
					12	Taxes and levies							Mobile phone			

### Section 8: Livelihood Activities and Income

No	1.	2.		3.		4.	5.		6.	7.			8.		9.	10.
	What are/is the livelihood activity/ies of the household in the last 12 months? List the code from below	Identify the primary and secondary activities of the household ?		Who owns/owned this activity in the household?  Who helped what to get this job?  Information.....1 Money.....2 Labour.....3		Where does this activity operate primarily? Home, inside residence.....1 Home, outside residence.....2 Traditional market.3 Shop in commercial area.....4 Roadside.....5 Mobile.....6 Construction sites..7 Rural area .....8 Other urban area...9 Other (specify).....10	What were the two main sources of start-up capital for the enterprise/business? Agricultural income.....1 Self-employment income...2 Wage or salary income.....3 Remittances.....4 Sale of assets.....5 Bank or cooperative loan...6 Family or friends.....7 Private money lenders.....8 Micro credit & savings institution.....9 Other (specify).....10		Which market is connected by road to this town?  List	During the last 12 months, in which months was the enterprise activity highest? Rank them Sep.1    Feb.6 Oct .2    Mar.7 Nov.3    Apr .8 Dec.4    May.9 Jul.11    Jun.10 Aug.12 Pag.13			How many hired workers did this enterprise employ in the months in which the enterprise was operating?  Number		Which household members worked in this enterprise in the last 12 months?  Record roster id	During the months the enterprise was operating in the last 12 months, what were average monthly sales? birr
		Primary	Secondary	1 <sup>st</sup> owner	2 <sup>nd</sup> owner		Source	Place		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	urban	rural		
1																
2																
3																
4																
5																

#### Code for Q 1

Metal work ...1	Male beauty salon.....9	Construction timber ...16	Collie .....23	Driver .....30	Processing & selling areki ....37
Wood work....2	Female beauty salon...10	Traditional medicine ..17	Domestic work ..24	Grass selling.....31	Processing & selling enjera...38
Mechanic .....3	Market business .....11	Cane furniture .....18	Transportation ...25	Poultry .....32	Processing & selling bread ...39
Carpentry .....4	Firewood/dung sale ..12	Weave baskets .....19	Pottery.....26	Animal fattening ....33	Selling dairy products .....40
Tailoring .....5	Charcoal retailing ....13	Bar or restaurant .....20	Shop .....27	Dairy farming .....34	Processing & selling tella .....41
Berenda .....6	Government employee.14	Daily labourer .....21	Pensioner .....28	Crop farming .....35	Transport .....42
Mills.....7	Private employee .....15	Quarrying .....22	Grain collector ...29	Grain distributor....36	Other (specify) .....43
Broker.....8					









