



COLLEGE OF SOCIAL SCIENCES, ARTS, AND HUMANITIES

**DETERMINANTS OF LIVELIHOOD DIVERSIFICATION STRATEGIES AMONG
PRODUCTIVE SAFETY NET PROGRAM BENEFICIARIES: IN ADAMI TULLU
JIDO KOMBOLCHA WOREDA, EAST SHEWA ZONE, ETHIOPIA**

**MA THESIS RESEARCH PAPER SUBMITTED TO THE CENTRE FOR RURAL,
LOCAL, AND REGIONAL DEVELOPMENT STUDIES, COLLEGE OF SOCIAL
SCIENCES, ARTS, AND HUMANITIES. ADDIS ABABA UNIVERSITY IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF
ARTS IN DEVELOPMENT STUDIES (RURAL LIVELIHOOD AND DEVELOPEMNT)**

BY

GETU TEMESGEN OBSA

ADDIS ABABA, ETHIOPIA
MAY 2025

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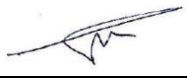
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STATEMENT

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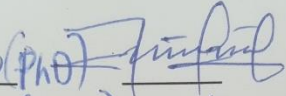
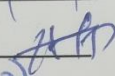
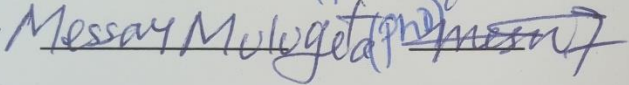
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As members of the examining board of this thesis open defense, we certify that we have read and evaluated the thesis prepared by Getu Temesgen Obsa entitled “Determinants of Livelihood Diversification Strategies among Productive Safety Net Program Beneficiaries: In Adami Tullu Jido Kombolcha Woreda, Oromia national regional state, Ethiopia” and recommend that it is acceptable as a thesis required for the degree of Master of Art in Development Studies (Rural Livelihoods and Development). Final approval and acceptance of this thesis is contingent upon the candidates’ delivering of the finalized thesis, which incorporates all the comments and feedback by the examining board, to the council of graduate studies through the academic committee of the center.

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DEDICATION

This thesis is dedicated to my grandmother Kushe Ayano for her underserved support, encouragement, and provision since my childhood.

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List of Acronyms and Abbreviations

ATJK	Adami Tullu Jido Kombolcha
BoLSA	Bureau of Labor and Social Affairs
DFID	Department for International Development
EMA	Ethiopian Meteorological Agency
FGD	Focus Group Discussion (FGD)
GDP	Growth domestic product
HABP	Household Asset Building Program
HHS	Household
IDP	Internally Displaced Persons
IPCC	Intergovernmental Panel on Climate Change
KII	Key Informant Interview
MFI	Microfinance Institution
MLR	Multinomial logistic regression
MoA	Ministry of Agriculture
NGO	Non-Governmental Organization
ONRS	Oromia National Regional State
PIM	Project implementation manual
PSNP	Productive safety net program
RuSACCO	Rural Savings and Credit Cooperative
SLF	Sustainable livelihood framework
SNNPR	Southern Nations Nationalities peoples Region
SPSS	Statistical Package for Social Science
TLU	Tropical Livestock Unit

Table of Contents	Page
List of Tables.....	vi
List of Figure.....	vii
CHAPTER ONE: INTRODUCTION	1
1.1. Background of the study	1
1.2. Statement of the problem	3
1.3. Objective of the study	5
1.3.1. General objective	5
1.3.2. Specific objective	5
1.4. Research question.....	5
1.5. The scope and limitations of the study.....	5
CHAPTER TWO: REVIEW OF RELATED LITERATURE	7
2.1. Theoretical foundation	7
2.1.1. Livelihood	7
2.1.2. Livelihood diversification	8
2.1.3. Livelihood strategies/activities.....	10
2.1.4. Overview of household economic model and sustainable livelihood framework	11
2.2. Empirical review on determinants of livelihood diversification.	13
2.2.1 Livelihood diversification strategies in Ethiopia	15
2.2.2 PSNP and its impact on livelihood diversification in Ethiopia.....	16
2.3 Conceptual framework of the study	18
CHAPTER THREE: RESEARCH METHODOLOGY	20
3. Introduction	20
3.1. Description of the study areas	20
3.2. Research design.....	22
3.3. Sampling procedure and sample size determination,	22
3.3.1. Sampling procedure	22
3.4. Data collection techniques	24
3.5. Model specification, data analysis techniques, and definitions of variables.....	25
3.5.1. Model specification	25
3.5.2. Data analysis techniques.....	27
3.5.3. Definition of variables	27

3.5.3.1. Dependent variables	27
3.5.3.2 Explanatory variables.	27
3.6. Ethical considerations	32
CHAPTER 4: RESULTS AND DISCUSSIONS.....	33
4.1. Results	33
4.1.1. Descriptive outcomes	33
4.1.2, Perception of productive safety net program beneficiaries towards the availability and accessibility of livelihood options in the study area.	38
4.1.3 Barriers affecting PSNP beneficiaries from participating in livelihood activities.	42
4.1.4 Econometric result.....	44
4.2 Result interpretation and discussion.....	48
4.2.1 Determinants of livelihood diversification strategies.....	48
4.2.2 Perceptions of PSNP beneficiaries on availability and accessibility of livelihood strategies.	54
4.2.3 Barriers and constraints hindering PSNP beneficiaries in participation of livelihood activities.	56
Chapter 5: CONCLUSION and RECOMMENDATION	58
5.1 Conclusion.....	58
5.2 Recommendation.....	59
Reference.....	61
Annex: Questionnaire.....	71

List of Tables

Table Description	Page
Table 1: Distribution of population per sample kebeles	23
Table 2: Description of dependent and explanatory variables and the result expected	31
Table 3: Categorical variables.....	34
Table 4: Continuous variables	36
Table 5: Livelihood strategies adopted by PSNP households.....	36
Table 6: Livelihood diversification across study kebeles	37
Table 7: Available livelihood types in the study area (N=194, multiple response)	39
Table 8: Do you think PSNP improved the availability and accessibility of livelihood strategies?	41
Table 9: Improvements option for livelihood strategy (multiple response are possible).....	42
Table 10: Model fitting information for multinomial logistic regression	44
<i>Table 11: R-Square</i>	45
Table 12: Likelihood ratio test multinomial logistic regression model	45
Table 13: MLR model for three livelihood strategies.....	47

List of Figure

Figure description	Page
Figure 1: Sustainable Livelihood Framework (Source: DFID 1999)	12
Figure 2: Conceptual Framework of the Study: Adopted from DFID.....	19
Figure 3: Location map of the study area.	21
Figure 4: Accessibility of livelihood activities for PSNP beneficiaries in the study area.	39
Figure 5: Available Support (Training, Credit, market linkage for PSNP beneficiaries).....	41

ABSTRACT

The study area was targeted by the Productive Safety Net Program (PSNP) since 2005, and one of the project objectives was to enhance the livelihood diversification of the program's target. Regardless of the persistent implementation and effort of the program, the majority of program beneficiaries still experience limited income diversification and food security in the study area. Examining determinants of livelihood diversification strategies among PSNP beneficiaries was the core objective of the study. Mixed methods research that involved quantitative and qualitative research methods was used to conduct the study. Quantitative data were collected from 194 randomly selected PSNP households, and qualitative data were collected from key informants and focus group discussions. To analyze the quantitative data, multinomial logistic regression (MNL) and descriptive statistics were employed. It is observed that 35% of the sample households were unable to diversify their livelihoods and were involved only in on-farm activities. Contrastingly, only 26% of the households participated in on-farm, off-farm, and non-farm livelihood strategies. The results of MNL indicated that participation in livelihood training, access to credit, and livestock ownership have positive correlations; however, remittance, age of the households, and cooperative membership showed negative correlations. From qualitative data analysis, it is observed that ineffective PSNP program implementations, small farmland, drought, and shortage of water were among the key barriers that limited the participation of PSNP beneficiaries in diversified livelihood opportunities. Based on these findings, it is recommended that special attention should be given to improve PSNP implementations, strengthen primary cooperatives, and enhance access to credit for PSNP beneficiaries.

Keywords: *Livelihood diversification, PSPN, Multinomial logistic regression, Access to credit, on-farm, non-farm, and off-farm.*

CHAPTER ONE: INTRODUCTION

1.1. Background of the study

Ethiopia is a country that relies heavily on agriculture for its economy and population. About 113 million people live in Ethiopia, and most of them depend on farming for their income and food security. The sector contributes 32% to the GDP, employs 70% of the workforce, and earns 70% of foreign exchange (AFDB, 2022).

However, the agricultural sector is facing many challenges that are affecting its productivity and sustainability. Some of these challenges include the outdated farming system, climate change impact, pests and diseases, and erratic rainfall patterns (Abebe, 2014; Change, 2007). In response to this situation, the Ethiopian government has implemented policies in recent years to improve the livelihood of rural populations by increasing agricultural productivity in rural areas.

Ethiopia has developed and implemented diverse poverty reduction policies and programs over the past two decades. Among these noteworthy initiatives is the Productive Safety Nets Program (PSNP), which has received support from the Federal Government, as well as various developmental agencies, to combat poverty and aid food-insecure communities. The national social protection policy encompasses several crucial domains, including safety nets, tailored livelihood support, social security, and increased access to basic services for those who are vulnerable to abuse and violence. In order to boost the income of PSNP beneficiaries, the program has implemented livelihood enhancement schemes, and it recognizes livelihood diversification as the most effective strategy (MoARD, 2016).

Livelihood diversification, which is often characterized as the process of expanding the range of activities pursued by rural households to enhance their survival and well-being, is a crucial strategy for improving standards of living. This process involves maintaining and shifting between various occupations and activities (Ellis 2000). Diversifying sources of income is a vital livelihood strategy for low-income households and is particularly important for rural smallholder households in the developing world.

Livelihood diversification encompasses both on- and off-farm activities that generate income, in addition to those from the primary household agricultural activities. Engaging in non-farm

livelihood strategies instead of relying solely on subsistence farming allows families to improve their financial situation and increase production. Increasing the diversification of households in the rural non-farm economy is crucial for increasing income, reducing poverty, and building resilience to economic shocks (Barrett et al. 2001; Ellis 1998).

To enable households to increase and expand their incomes and build their assets, the PSNP program provides technical assistance and training in livelihood activities, such as livestock, off-farm, and employment, to program beneficiaries (MoARD, 2016). In emerging nations such as Ethiopia, where climate-dependent businesses, mainly crop and livestock, are highly exposed to weather shocks, livelihood divergence becomes very important for trouble-free income and consumption.

To reduce poverty, the PSNP program implements a livelihood diversification strategy and approach by providing different capacity-building and livelihood grants and facilitating access to finance for the selected program beneficiaries. This study focuses on a tailored livelihood support component designed to engage PSNP beneficiaries with diverse livelihood options. This component comprises technical support to on- and off-farm livelihoods, employment services, and standards and financial services for program beneficiaries, which is to enhance the human and financial capital assets of the beneficiaries.

The approach was not successful as anticipated due to various challenges and factors. In Ethiopia, the proportion of rural households engaged in off-farm activities increased from 55% in 2004 to 75% in 2008 (Woinishet, 2010). However, the proportion of income generated from non-farming activities in total income has been relatively low, standing at 17% from 2012 to 2019 (Abate et al., 2022). This is considerably lower than the share of non-farm income in rural areas of America (47%), Asia (51%), and Africa (34%) (Haggblade et al., 2010). The objective of this study is to identify the factors that determine the participation of PSNP beneficiaries in diverse livelihood activities. It is crucial to have a systematic understanding of the determinants of livelihood strategies, perception of PSNP beneficiaries and key barrier that limit the participation of PSNP beneficiaries into diversified livelihood option.

1.2. Statement of the problem

Ethiopia has a vision of becoming a middle-income country by 2025, with a focus on increasing domestic savings, strengthening private sector growth, enhancing trade and logistics, as per the World Bank (World Bank, 2013). Majority of Ethiopia economy is based on rain-fed agriculture that is vulnerable to erratic rainfall, vulnerable to climate variability, and recurrent droughts which is the cause of frequent food shortage and severe hunger (Birara et al., 2015).

Some of the main factors that contribute the food insecurity was, unstable agricultural production, limited non-farm opportunities, low-income levels, severe environmental degradation, outdated farming methods, high illiteracy rates, rapid population growth, weak governance, inadequate access to credit, small land sizes, lack of livelihood diversification, and climate change impacts (Tezera, 2010; Birara et al., 2015).

As a result of recent global shocks such as covid-19 pandemics and conflict between Russia and Ukraine, the price of agricultural inputs mainly fertilizer price increase at 150% in Ethiopia which is unaffordable by majority of smallholder farmers (Getahun & Mahlet, 2022). And this has direct negative impact on agricultural product and productivity of the country.

PSNP is an initiative of Ethiopia government that seeks to improve the food insecurity and well-being of vulnerable households. The program, which began in 2005, has evolved through several phases of enhancement and is now in its fifth phase. PSNP-IV integrates livelihood components to help PSNP beneficiaries to get participated in three livelihood pathways such as, crop and livestock, off-farm income generation, and employment (MoARD, 2021).

Adami Tullu Jido Kombolcha woreda (ATJK), found in East Shewa zone and Oromia National Regional State(ONRS), situated in the central Great Rift Valley of Ethiopia stands out as one of the most severely affected areas in the country, grappling with a complex array of challenges, including drought, resource degradation, and diminished agricultural output (Mintewabet al. 2010).

Furthermore, recent reports highlight that irregular rainfall patterns in ATJK pose a significant threat to food security, exacerbating existing environmental constraints such as soil degradation,

pest infestations, and plant diseases, thereby leading to a decline in crop yield within the woreda (WAO, 2021).

The majority of kebeles within the study woreda, comprising 26 out of 47, suffer from crop failures, leading to widespread food shortages among households and failure to ensure food security. Consequently, these kebeles have been targeted by PSNP to access different aid since 2005, including the livelihood enhancement component of the program. Despite the program's implementation over the years, the situation has continued to deteriorate, with no tangible improvement in the livelihood of PSNP beneficiaries. In this situation, depending only on farming activity will not get PSNP beneficiaries out of the food insecurity situations and looking for alternative livelihood is important (WAO, 2021).

According to Ellis and Allison, 2004, livelihood diversification is crucial for coping food insecurity in various contexts and it is influenced by several factors that determine the economic options and opportunities of rural households (Swift and Hamilton, 2001, as cited in Tezera, 2010). To this end, conducting study on determinants of livelihood diversification that focused on PSNP beneficiaries is ideal to know the root cause and put a solution. A lot of study is conducted on relating to PSNP and most of the studies focus only on the impact of the PSNP, and contribution of livelihood diversification on household food security (Aleka, 2011 and Sosen, 2022).

As of my knowledge, there is limited study on the determinants of livelihood diversification that focus on PSNP beneficiaries in the study area. Therefore, it is crucial to conduct a comprehensive study on the determinant factors and barriers that influence PSNP beneficiaries' ability to diversify their livelihood strategies and perception of PSNP beneficiaries on the availability and accessibility of livelihood strategies particularly for the study woreda.

Understanding the determinants of livelihood diversification of the PSNP beneficiaries within the specific context of the study woreda will require a comprehensive analysis of various forms of capital, including financial, natural, human, social, and physical capital, as they directly impact the livelihood of program participants. By addressing these key aspects, the study will play a pivotal role in informing targeted policy intervention and PSNP program enhancements to effectively support vulnerable households in the study area.

1.3. Objective of the study

1.3.1. General objective

The main objective of this study is to examine the determinants of livelihood diversification strategies among PSNP beneficiaries in ATJK Woreda.

1.3.2. Specific objective

The specific objective of the research project is as follows,

- 1) Examine determinants of livelihood diversification strategies adopted by beneficiaries of the PSNP in study woreda.
- 2) Explore the perception of PSNP beneficiaries on the availability of different livelihood strategies.
- 3) Investigate barriers that limit the participation of PSNP beneficiaries in different livelihood activities.

1.4. Research question

The intention of this research is to address the following research questions.

- 1) What are the main determinants that affect the participation of PSNP beneficiaries in livelihood diversification strategies in study woreda?
- 2) How do PSNP beneficiaries perceive the availability and accessibility of different livelihood strategies in their area?
- 3) What are the key barriers and constraints that hinder the participation of PSNP beneficiaries in different livelihood activities?

1.5. The scope and limitations of the study

It is obvious that every research inherent limitation that should be acknowledged. This study conducted based on cross sectional data, a data that collected at a single point of time. Even though it was appropriate to observe and explore determinants, barriers, perception that particularly related to PSNP beneficiaries livelihood diversifications, it have drawback to

establish cause and effect connection amongst variables. Despite the cross sectional data, limitations, the identified associations specify correlations. Using longitudinal experiment was beyond the resource and time allocated for this thesis work. Therefore, future research should use longitudinal or experimental designs, employ more objective measures of livelihood diversification, and consider more PSNP households to validate and extend the results of this study.

1.6. Significances of the study

The study on the determinants of livelihood diversification strategies among PSNP beneficiaries in the study Woreda will have several significant implications. Firstly, understanding the determinants of livelihood diversification strategies is crucial for policymakers and PSNP program implementers in designing effective interventions and support systems. Through this study, policymakers and program implementers will gain insights into the specific determinants that influence beneficiaries' decisions to diversify their livelihoods. Secondly, the findings of this study contribute to the existing body of knowledge on livelihood diversification strategies specific to PSNP beneficiaries. Livelihood diversification is a widely studied phenomenon, and this research will add to the literature by investigating determinants of livelihood diversification specifically for PSNP beneficiaries in the study Woreda. Previous studies have mostly focused on livelihood diversification in general or in specific regions, and there is limited research on the determinants of livelihood diversification strategies within the specific context of the PSNP beneficiaries in particularly the study Woreda.

In addition, the findings of this study will inform future research on this topic, both in the study Woreda and beyond. To conclude, this study will contribute to the existing literature on determinants of livelihood diversification particular to the context of PSNP beneficiaries.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1. Theoretical foundation

2.1.1. Livelihood

Various scholars have defined and elaborated on the concept and definition of livelihood. One of the most influential and widely cited definitions of livelihood in the literature comes from Chambers and Conway (1992), who state that:

Livelihood comprises the capability, assets (store, recourse, claim 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 opportunities for the next generation and which can contribute net benefits to other livelihoods at the local and global level and in the short run and long run (Chambers and Conway, 1992:6).

Livelihood encompasses the combination of abilities, resources (both material and social), and activities that enable individuals to secure a living. It extends beyond mere survival, aiming to improve well-being and quality of life (Scoones, 1998). Livelihood is defined as “the combination of assets (such as natural, human, financial, physical and social capital activities, and access to these recourses (mediated by institutions and social relations) that collectively shape the well-being of an individual or household” (Ellis, 2000: 289-302).

The concept of livelihood refers to the means by which individuals and households sustain their lives. This includes the resources, capabilities, and activities that people engage in to meet their basic needs, improve their well-being, and pursue their livelihood goals (Ellis & Freeman, 2004). A livelihood is more than just a way of making a living. It also involves the abilities, material and social resources and activities that people need to survive and thrive. However, the livelihood choices of the rural poor are not only determined by their own preferences and capacities, but also by the structure, policies and process that shapes their opportunities and constraints. Therefore, a comprehensive understating of livelihood requires an analysis of how these external factors affect the livelihood outcome and well-being of the rural poor.

Livelihood is a concept that captures how individuals, households or communities pursue and achieve their diverse needs and goals, such as consumption and economic security, while managing risks and seizing new opportunities (de Haan and Zoomers, 2005).

Livelihood is a broad concept that encompasses various aspects of economic production, employment, and household income. It is often used synonymously with economic strengthening, but it also includes the capabilities and assets (both material and social) that people need to sustain their living conditions.

The term livelihood is not easy to define specifically, as different disciplines and context may have different interpretations of what it means. Therefore, there is no single, universal accepted definition of livelihood that can capture its complexity and diversity (Scoones, 2013).

2.1.2. Livelihood diversification

Livelihood diversification refers to the various strategies that households employ to create a diverse set of activities and social support networks aimed at ensuring their survival and improving their quality-of-life (Chambers, 1987). It involves the deliberate choice to engage in a variety of activities and social support networks, thus securing survival and enhancing quality of life. This strategy goes beyond income variation and includes the social behavior of rural households involved in diversification (Ellis, 1998). The complexity of livelihoods diversification encompasses income sources, employment, and activities designed to reduce vulnerability and enhance resilience (Ellis, 2000).

Rural households often diversify their livelihood strategies by engaging in both agricultural and non-agricultural activities to achieve sustainable livelihoods (Scoones, 1998). This diversification process helps them cope with different kinds of shocks or stress through effective coping mechanisms. As part of rural transformation, households may transition from farming to non-farming activities, increasing relying on income sources outside the agricultural sector (De Haan, 1999). Market opportunities and access significantly influence livelihood diversification, as households pursue higher returns and lower risks across different economic activities (Barrett & Reardon, 2000).

Livelihood diversification is not limited to rural areas; it also extends to urban settings, where non-farm income sources play a significant role (Lanjouw & Shariff, 2004). The adaptive nature of urban livelihood tactics demonstrates the flexibility adaptation to shifting situations and prospects (Ellis, 2003). Diversification is a strategic approach adopted to increase sources and reduce exposure to environmental risks. By exploring new opportunities and activities, individual and households enhance their resilience and well-being in the face of uncertainty and change (Haggblade et al., 2007).

The political and institutional context is crucial for understanding how people diversify their livelihoods in response to globalization and economic shifts (Scoones et al., 2009). Diverse and dynamic livelihood strategies emerge in different settings and situations, influenced by factors such as market opportunities, rural transformation, and the broader political and institutional context. Livelihood diversification is essential for enhancing household specialization and risk management capabilities. Households engaged in multiple income-generating activities tend to be more flexible and resilient than those dependent solely on farming and agriculture. These benefits are particularly evident in the face of recurrent economic, environmental, and political shocks affecting rural areas in developing countries (Start, 2001).

Livelihood diversification is a dynamic process that adapts to changing situations and opportunities. It is influenced by various factors, such as market opportunities, access, rural transformation, and political and institutional context that affect the diversification strategies of both rural and urban populations (De Haan, 1999; Barrett & Reardon, 2000; Lanjouw & Sharif, 2004; Scoones et al. 2009).

There is evidence suggesting that the PSNP program in Ethiopia has had positive impact on livelihood diversification, however the result is not uniform across all woreda and beneficiaries. Therefore, it is essential to study factors affecting the participation of PSNP beneficiaries into diversified livelihood strategies.

2.1.3. Livelihood strategies/activities

Livelihood strategies are the actions and decisions made by individuals or households to ensure their survival and improve their well-being (Ellis, 1998). People pursue their life goals through several livelihood strategies, which involve different activities and choices. These cover their work, investment, reproduction, and more. Ellis, (1998) also distinguishes three main types of livelihood activities: off-farm, non-farm, and on-farm.

Off-farm activities are agricultural activities that occur outside of one's own farm, such as being an agricultural laborer, swapping labor, or extracting natural resources like charcoal. Additionally, it includes remunerated labor performed on other farms, as well as compensation received in the form of goods, such as shared harvests, and other forms of non-wage labor contracts (Ellis, 1998; Barrett et al., 2001).

Non-farm activities are those that exclude agriculture, such as getting wages or salaries, operating a business, mining, manufacturing, construction, commerce, transport, obtaining rent transfers, or remittances (Ellis, 1998; Barrett et al., 2001).

On-farm activities are those that deal with agriculture, such as cultivating crops, keeping animals, engaging in hunting, and fishing activities, gathering resources from the natural environment (Ellis, 1998; Barrett et al., 2001). Many rural households rely on off-farm and non-farm income in addition to on-farm to enhance their revenue streams and mitigate the risks of depending solely on agricultural activities (Ellis, 1998).

Livelihood strategies can vary based on the specific circumstances and resources available to each household (Niehof, 2004). Some factors that influence the choice of livelihood strategies include geographic location, access to resources and markets, skills and education, social networks, and economic conditions. In developing countries, where economic opportunities may be limited, livelihood diversification is often seen as an important strategy to enhance household income and reduces vulnerability (Ellis, 1999). By diversifying their income sources, households are able to mitigate the risks associated with relying on a single source of income (Yu et al., 2022). By engaging in livelihood diversification, rural households in developing countries can reduce their vulnerability to economic shocks and uncertainty (Ellis, 1999).

2.1.4. Overview of household economic model and sustainable livelihood framework

A number of theories have been developed to define the concept of livelihood, livelihood diversification, and analyze the factors that determine the participation of households to different livelihood strategies.

The household economic model (1970s-1980s) was developed with the goal of addressing rural poverty, famine, and food insecurity in developing nations (Ellis, 1993). Criticism has been directed towards this model due to its failure to account for the survival of strategies adopted by livelihoods facing challenges (Ellis, 2000).

In addition, it overlooks the social dynamics among households' members (Ellis, 1998). Moreover, households often encounter incomplete or imperfect markets that restrict their option (Ellis, 1993). Consequently, the model is criticized for assuming perfect market functionality.

The Sustainable Livelihood Framework (SLF) is a holistic model that helps us comprehend how people diversify their livelihoods. SLF emphasize the complexity of livelihoods, acknowledging that people's well-being depends on different types of resources and skills that they use (DFID, 1999). This is how SLF connects to livelihood and livelihood diversification:

Livelihood asset: SLF recognizes that people's livelihoods depend on five types of assets: natural, physical, human, financial, and social resources (DFID, 1999). To diversify their livelihoods, people often use and expand these assets to earn income and satisfy their basic needs. For instance, a household might diversify their income streams by buying farmland (physical resource), learning new skills through education and training (human resource), learning new skills through education and training (human resource), or getting loans and savings (financial resources) to launch a small enterprise (Reardon et al. 2001).

Vulnerability context: The SLF recognizes that people's livelihoods are shaped by a variety of external influences, including social, economic, political, and environmental factors. The term vulnerability context is used to describe these external elements that determine the opportunities and limitations of people's livelihoods. In response to shifts in these external conditions, such as economic recessions, environmental harm, or political unrest, livelihood diversification can serve

as a resilience strategy. For example, to reduce the risks linked to crop failures, market price changes, or unemployment households might opt to diversify their income streams (FAO, 2018).

Livelihood strategies: SLF acknowledges that people use different ways of making a living to achieve their objective and desires. These ways can involve a mix of actions such as agriculture, non-agricultural work, entrepreneurship, migration, and money transfers. Livelihood diversification is a crucial way of making a living that the SLF highlights, as it enables households to reduce risk, seize opportunities, and adjust to changing situations. By expanding their livelihood action, households can improve their ability to cope with shocks and pressures while increasing their overall well-being (Manlosa et al., 2019, Ellis 2020).

In summary, SLF is a theoretical model that connects resources, external factors, ways of making a living, and livelihood diversification. By analyzing how people use and manage different resources according to their situation, policymakers and practitioners can plan actions that support sustainable livelihoods and increase livelihoods for people in need.

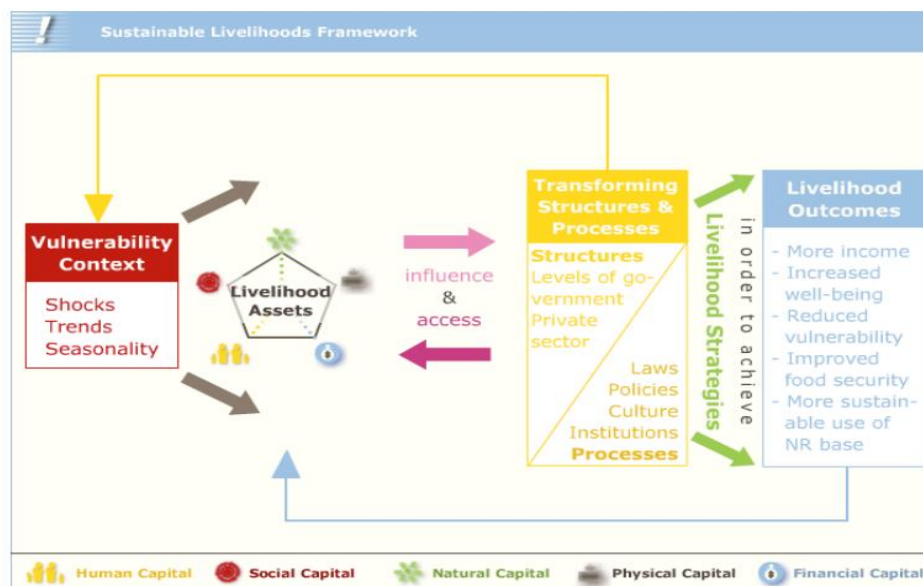


Figure 1: Sustainable Livelihood Framework (Source: DFID 1999)

2.2. Empirical review on determinants of livelihood diversification.

Education consistently emerges as a significant determinant of livelihood diversification across various studies. In South Africa, Mudzielwana et al. (2022) found that agricultural training significantly influences the choice of diversification strategies. Similarly, Gebrehiwot et al. (2018) and Demie & Zeray (2015) in Ethiopia highlighted that higher education levels positively impact the decision to engage in non-farm activities. Ahmed et al. (2018) in Bangladesh and Eneyew (2012) in southern Ethiopia also confirmed that education levels significantly affect livelihood diversification decisions.

Household Characteristics such as age, gender, marital status, and family size play crucial roles in diversification decisions. Mudzielwana et al. (2022) identified age and marital status as significant factors in Southern Africa. Ahmed et al. (2018) noted that the gender of the household's head and household size positively influence diversification in Bangladesh. In Ethiopia, Melaku (2016) found that the sex of the household head and marital status are significant, while Tefera et al. (2004) noted that households with many adult males have a higher probability of participation in non-farm activities.

Land holding is a critical factor affecting non-farm diversification. Larger land size is generally associated with lower participation in non-farm activities. For instance, Tafesse et al. (2015) found that smaller land holdings are more likely to involve in non-farm activities in Ethiopia. Conversely, Demie & Zeray (2015) found that better land size positively affects income from non-farm activities, highlighting a complex relationship. Agricultural experience also plays a role, as noted by Iqbal et al. (2021) in Pakistan, where farming experience negatively affected the probability of participation in self-employment activities.

Access to credit significantly influences the capacity of livelihood diversification. In Ethiopia, Gebrehiwot et al. (2018) and Kassie et al. (2017) underscored importance of credit in enabling households to diversify their income sources. Similarly, Ebaidall (2020) in Sudan and Mentamo & Geda (2016) in Ethiopia found that access to credit is crucial for smallholder farmers' diversification efforts. Insufficient initial investment and inadequate or limited access to credit facilities have been recognized as the primary obstacle to expand livelihood diversification beyond agriculture pursuits (Robaa & Tolosa, 2016).

Livestock ownership is a unique determinant of diversification identified primarily in Ethiopia. Eneyew (2012), Tefera et al. (2004), and Demie & Zeray (2015) highlighted that livestock ownership significantly influences diversification strategies in Ethiopia pastoral areas.

Institutional factors such as membership in cooperatives and perception of land ownership security significantly influence diversification. Kassie et al. (2017) in Ethiopia found that these institutional factors have a substantial impact on agricultural activities. Community characteristics like access to infrastructure and market are also critical. Demie & Zeray (2015) and Eneyew (2012) indicated that proximity to market and roads facilitates better access to non-farm employment opportunities.

The dependency ratio and household income are also significant determinants. Iqbal et al. (2021) in Pakistan found that the dependency ratio positively affects the probability of participation in self-employment activities. Similarly, Gebrehiwot et al. (2018) noted that income levels positively influence diversification strategies in Ethiopia.

In summary, the empirical studies reviewed have identified several factors that determine participation in diversified livelihood activities. These factors can be categorized into individual and household characteristics such as age, education, gender, household size, dependency ratio, land holding, assets, and income; and community characteristics such as distance to market, proximity to towns, and access to physical infrastructure such as roads. However, there is no agreement in the direction and magnitude these determinants affect the participation in diversified livelihood strategies, due to mixed results in the empirical literature (Abdurezak et al., 2020; Sanusi et al., 2016; Neglo et al., 2021).

Studies conducted in different countries including Ethiopia, Nigeria, South Africa, Pakistan, and Bangladesh consistently highlight the importance of education, land size, access to credit, and household size as significant determinants of diversification. However, there is variation in the influence of these factors across different contexts. For instance, while access to credit is crucial in Ethiopia and Sudan, it is less emphasized in other regions. Similarly, factors such as age dependency ratio and livestock ownership show varying impact depending on the local context.

Overall, the literature underscores the complexity and context-specific nature of livelihood diversification. Generally, it is observed that there are limited studies on determinants of

livelihood diversification strategies specific to households supported by PSNP program especially in the study woreda. Thus, this study is expected to contribute to the existing knowledge by incorporating the above-mentioned gaps.

2.2.1 Livelihood diversification strategies in Ethiopia

In Ethiopia, livelihood diversification strategies are a critical means for rural households to improve their income and resilience. Many studies have shown that rural households in Ethiopia rely on a combination of non-farm, on-farm, and off-farm activities to diversify their livelihoods (Alemu, 2023; Kassegn & Abdinasir, 2023; Kassie et al., 2015).

Several studies in Ethiopia have revealed the different ways that rural households can enhance their income and resilience by engaging in various livelihood activities. These livelihood strategies or activities can be classified into broad categories: nonfarm, on-farm and off-farm (Addisu, 2017; Debela & Desta, 2016; Mengistie & Kidane, 2016). According to the previous studies, the main source of income for rural households in Ethiopia is agricultural activities, mainly cultivating crops and raising livestock. The study conducted in Western Ethiopia, Lare Woreda, Addisu (2017), identified six types of livelihood strategies: farming, breeding, fishery, employment, craftsman work, and trading. Studies by Tenaw (2016) around Meiso woreda and Mengiste & Kidane (2016) around Gubalafto woreda, explore that, crop and livestock production, petty trading, and remittance were the main livelihood activities people were involved.

Non-farm and off-farm livelihood strategies are common among agro-pastoralists, and include activities such as livestock trade, casual labor, and remittance (Tilahun et al., 2017). Rural communities also engage in various off-farm activities, such as local trading, handcrafts, wood and wood products sales, local drinks production (Tela, Areke), transportation services, temporary or permanent employment, oxen renting, and milling income (Mengistie and Kidane, 2016).

Non-farm activities are diverse and include various forms of trade and handcrafts. For example, some people engage in weaving, spinning, carpentry, house mudding, and pot making (Dadi, 2016; Gecho, 2017). Other non-farm livelihood activities are daily labor, local brewery, formal and informal employment, firewood and charcoal sales, food preparation and sales, carpentry, transportation of produce, sand extraction and sale (Yishak et al., 2016). However, defining, and

distinguishing non-farm and off-farm activities are still a major challenge in the literature on livelihood strategies and diversification. The diversification of livelihood strategies in Ethiopia is not only a means for rural households to improve their income and resilience, but it also represents a critical pathway toward poverty alleviation and food security.

In conclusion, livelihood diversification strategies such as engaging in non-farm, on-farm, and off-farm activities, diversifying income sources, and encouraging productive asset holding are key strategies for rural households in Ethiopia to improve their overall well-being and resilience.

2.2.2 PSNP and its impact on livelihood diversification in Ethiopia

This program, known as the PSNP, was designed to enhance local livelihoods, and included various complementary initiatives (MoARD, 2016). The PSNP is one of the largest social protection schemes in Ethiopia, designed to address food insecurity and poverty among rural households. Since its inception in 2005, PSNP has aimed to provide predictable and reliable transfer to the food-insecure community in exchange for participation in public works or through direct support for the most vulnerable groups.

The primary objective of PSNP is to reduce household vulnerability to shocks, enhance food security, and community assets through public works. By stabilizing household income and consumption, PSNP allows beneficiaries to engage in various income-generating activities beyond agriculture. This support system is crucial in a country where agriculture productivity is often challenged by recurrent droughts, land degradation, and limited access to modern farming technologies (Berhane et al. 2014; Hoddinott et al., 2012). PSNP influences livelihood diversification of the beneficiaries in several ways and briefly presented as follows.

PSNP transfer provides a steady source of income, enabling households to invest in non-farm activities. Studies have shown that beneficiaries of PSNP are more likely to engage in petty trading, small-scale enterprises, and other off-farm employment opportunities (Berhane et al., 2014). However, other research, including (Weldegebriel and Prowse (2013); Devereux et al., (2006) indicated that the PSNP is not effectively encouraging investment in agriculture and had minimal impact on on-farm investments. In addition, other research indicates that the transfer amounts are often insufficient to significantly impact household income levels, thus limiting their potential for livelihood diversification (Asfaw et al., 2012).

The program's public works component has led to the development of community assets such as roads, irrigation systems, and soil and water conservation structures. These assets facilitate access to markets and enhance agricultural productivity, thus encouraging diversification (Hoddinott et al., 2012). Contrarily, some studies argue that the quality and sustainability of these assets are often poor, limiting their long-term benefits and effectiveness in supporting diversification (Girma & Gardebroek, 2015).

By providing a safety net during periods of food shortage, PSNP reduces the need for households to resort to negative coping strategies, such as selling productive assets or withdrawing children from school. This risk mitigation allows households to pursue more diverse and sustainable livelihood strategies (Andersson et al., 2011). Conversely, evidence suggests that the program's coverage and timing of support are sometimes inconsistent, leading to continued vulnerability and limited risk mitigation for many households (Sabates-Wheeler & Devereux, 2010).

Some studies suggest that PSNP participation can improve access to credit by enhancing households' creditworthiness. With better access to financial services, households can invest in diversified livelihood activities (Gilligan et al., 2009). However, other research highlights that PSNP does not significantly alter households' credit access, as financial institutions may still view beneficiaries as high-risk borrowers due to their reliance on social protection (Berhanu Lakew & Azadi, 2020).

Despite its successes, PSNP faces several challenges that can limit its impact on livelihood diversification. Inadequate funding and resources allocation can affect the timely delivery of PSNP benefits, reducing its effectiveness in supporting diversification efforts (Berhane et al., 2014). The impact of PSNP can vary significantly across regions due to differences in implementation capacity, local governance, and community participation (Hoddinott et al., 2012). Additionally, there is ongoing debate about the sustainability of PSNP benefits. While short-term improvement in income and food security is evident, the long-term impact on livelihood diversification requires continuous monitoring and support (Gilligan et al., 2009).

PSNP has played a significant role in enhancing livelihood diversification in Ethiopia by providing income stability, creating community assets, mitigating risks, and improving access to

credit. However, challenges such as resource constraints and implementation variability need to be addressed to maximize its impact.

Additionally, there is a gap in the literature regarding determinants factors that affect the participations of PSNP beneficiaries in on-farm, off-farm and non-farm livelihood strategies. Further research is necessary to explore these aspects of ensuring that PSNP not only alleviates short-term food insecurity but also contributes to sustainable development and poverty reduction.

2.3 Conceptual framework of the study

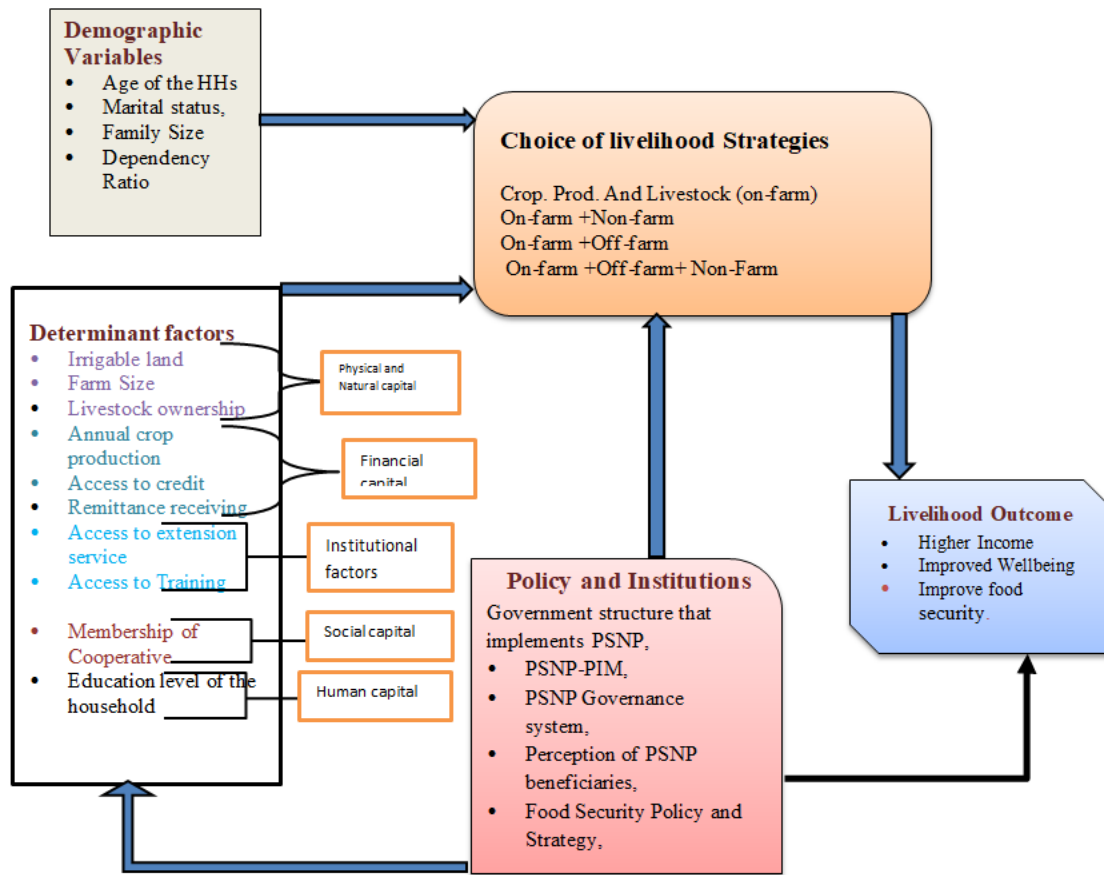
As a result of empirical and theoretical assumptions, the researcher has developed the following conceptual frameworks. Livelihood diversification among PSNP beneficiaries in study woreda is influenced by a complex interplay of input factors.

To conduct this study the researcher developed and used a conceptual framework to analyze the relationship between different factors and the choice of livelihood strategies. In this study, PSNP is expected to support the beneficiaries to engage in different livelihood strategies like On-farm (Crop and Livestock), off-farm, and non-farm (wage and self-employment) at a time in two or more than livelihood strategies depending on heterogeneity in their livelihood asset to enhance their livelihood and graduate or exit from the program aid.

Therefore, understanding the determinants factors and barriers that limit the participation of the PSNP beneficiaries in two and above livelihood strategies mentioned above and will help in designing tailored livelihood strategies by the PSNP to increase the number of beneficiaries that graduate from the program aid by improving food security. Based on theoretical assumptions, the researcher used sustainable rural livelihood framework (Scoones, 1998) as a foundation to examine and understand the determinant that affect the participation of PSNP beneficiary's across different livelihood diversification strategies.

The conceptual framework included has five components: demographic variables, determinants factors (Physical capital, financial capital, Institutional capital, social capital, and human capital), policy and institutions, choice of livelihood strategies, livelihood outcome. The conceptual framework shows that demographic factors, determinant factors, policy and institutional factors that have direct and indirect impact on the choice of PSNP beneficiaries diversified livelihood strategies.

Figure 2: Conceptual Framework of the Study: Adopted from DFID



Source: Adopted from DFID 1991

CHAPTER THREE: RESEARCH METHODOLOGY

3. Introduction

In this section, the following topic covered: the study area, research design, research methodologies, data collection method, and econometric model and variables types.

3.1. Description of the study areas

The study area, ATJK, is a district in the ONRS of Ethiopia, located in the Great Rift Valley. Geographically the woreda is located between $70^{\circ}04'N$ to $70^{\circ}37'N$ North latitude and $380^{\circ}32'E$ to $390^{\circ}04'E$ longitude and lies in the central rift valley and the total area of the Woreda is 1491.66Km². It is bordered to the north by Dugda Bora Woreda, in the west by central Ethiopia regional state, Arsi Negele woreda to the south and Arsi Zone to the East (Sosena, 2022).

The woreda has 47 rural kebeles administration and four urban kebeles. Out of 47 kebeles, about 26 kebeles are included by the PSNP5 program. The total projected population of study woreda is 221,904 according to the 2024 projected data (Ethiopia Statics Service, 2024) and out of this, 23,759 are targeted by the PSNP program (WAO, 2024)

The population density of the woreda 1 person per km² and the average population growth rate is 2.9%. The settlement pattern is totally permanent type, supporting their livelihood from the traditional agriculture production and rearing of cattle (Sosena, 2022)). Batu (Ziway) the main capital of the woreda, is located 160 KM to the Southeast of Addis Ababa on the main highway asphalt road to Shashemene. The woreda has a diverse economy, with agriculture, industry and trade as the main source of income. The woreda is known for its production of soda ash and caustic soda from Lake Abijatta, as well as fruits and vegetables from irrigated farms.

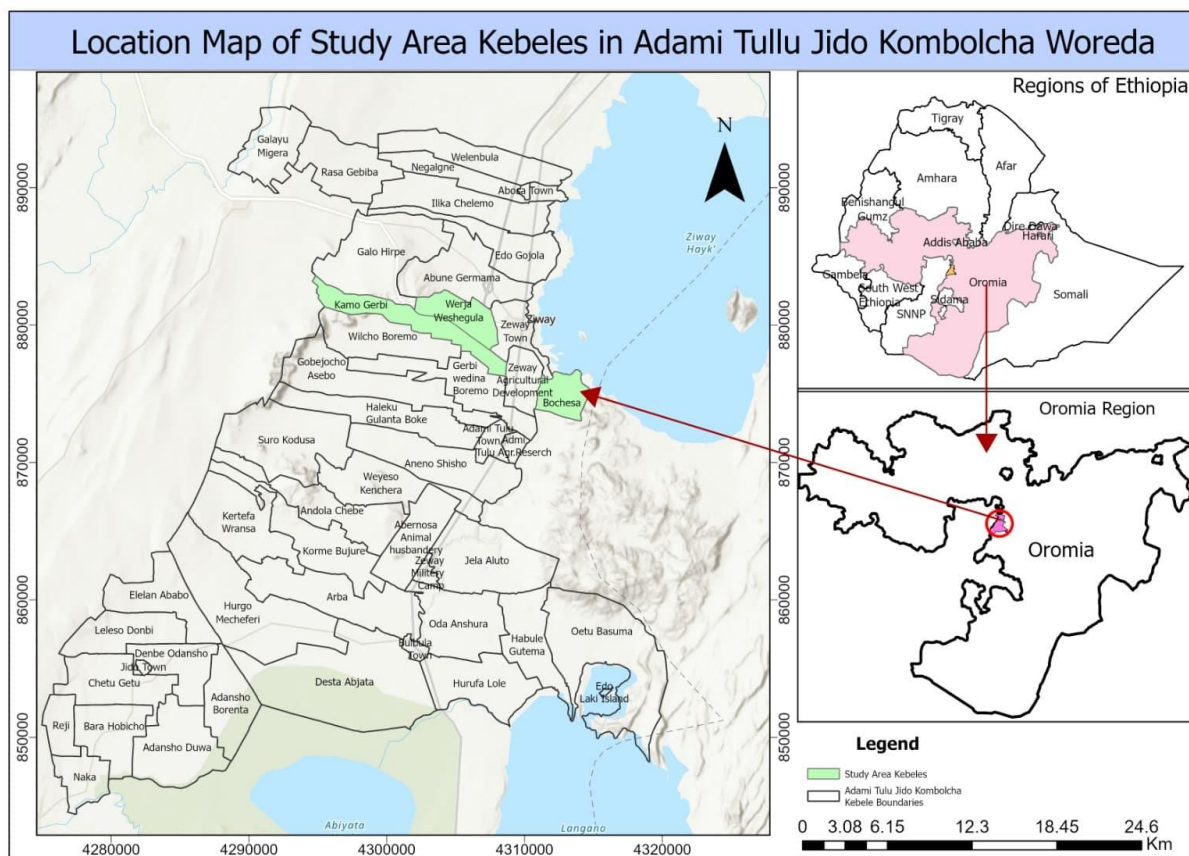
The woreda encounters different ecological and environmental challenges, such as water scarcity, soil erosion, land degradation, and deforestation (Gemechu, 2015). The average maximum temperature over the last 10 years (2012-2022) was approximately 28.2 degree Celsius as per the data from Ethiopian metrology agency (EMA), (2025).

The altitude of the woreda varies from 1500 meters to 2328 meters above sea level. The physical feature of the woreda is 95% flat land while the remaining 5% is mountainous and hilly. The agro-ecology of the woreda is 90% kolla and 10% wyena dega. The two major types of soil in

the woreda are clay soil and sandy loam. In addition to small seasonal rivers, Lake Ziway, Langano and Abijata are available source of water for the local communities.

In the study woreda, agricultural production is mainly based on rain-fed, and the main crops grown are maize, haricot beans, and teff. Also a crop-production is major agriculture activity, livestock served as important source of livelihood. The major rainy months in the study area are June to September (Kiremnt session). However, irregularities in rainfall are common. The data collected from the EMA shows that the average annual rainfall in the study area was approximately 691.5 mm in the past ten years (2012-2022). The average monthly rainfall in the study woreda was 38.69 in 2020, 28.94 mm in 2021, and 27.71mm in 2022(EMA:2025). The average monthly rainfall data indicates that there is clear decreasing trend and as a result crop production was law.

Figure 3: Location map of the study area.



Source: Authors construct (2025)

3.2. Research design.

In this research study, a descriptive research design employed using mixed method approach by combining quantitative and qualitative methods. A descriptive research design was preferred to systematically and effectively examine factors that determine the participation of PSNP beneficiaries in combined livelihood strategies. In this study mixed-method approach both qualitative and quantitative used. For qualitative data collection methods, focus groups discussions (FGD), and key informant interviews (KIIs) used and whereas for quantitative data collection, structured survey questionnaire managed. This approach allowed the researcher to get full insights from few respondents while also catching broader information from the entire sample in the study area. In this study cross-sectional data used, which enabled the researcher to examine a single period assessment of the study population at a specific point of time.

3.3. Sampling procedure and sample size determination,

3.3.1. Sampling procedure

For this particular study a combination of purposive and simple random sampling methods used. The sampling process involved multiple stages. In the first stage, one woreda (ATJK) was selected purposively from the three PSNP woredas in East Shewa Zone. In East Shewa Zone, there are three woredas (ATJK, Fentale, and Boset) which are targeted by PSNP program.

Out of three woredas, ATJK is purposively selected because of high prevalence of food insecurity and large number of PSNP program participants in the study woreda. In the second stage, three representative' sample kebeles were selected purposively from a total of 26 kebeles targeted by PSNP program in the study woreda. The study woreda consists of 47 kebeles, and out of this, 26 kebeles are under PSNP assistance since 2005(WAO, 2021).

In consultation with PSNP expert from woreda Agriculture office, the researcher applied a purposive sampling method to select three representative sample kebeles, (Bocceessa, Worjaa Woshgullaa, and Qamoo Garbii) considering the high number of PSNP beneficiaries and security situations. Finally, sample households were selected using simple random sampling techniques and proportional population size was used to distribute the sample across three kebeles.

3.3.2. Sample size determination,

PSNP program have two types of beneficiaries which is public work participants which is eligible to involve in livelihood components, and permanent direct support which is not eligible to participate in livelihood component support (MoARD, 2016). Since the PSNP program planned and supported only public work participants to engage them in different livelihood strategy, the sample frame for this research included only public work participants. The sample size for households' survey was determined based on the desired level of precision, using the simplified formula provided by Yamane (1967).

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

Where n=sample size

N=population size

e=level of precision (which is set here at 6%)

The total current PSNP beneficiary households in 3 kebeles were 818(417M: 401F), out of this 171(43M: 128F) are permanent direct support and 647(374M: 273F) are public work participants. For this research purpose, 647(374M: 273F) public work participants considered.

Sample household size for the study was:

Sample household size=647/ (1+ (647*0.06*0.06)) =194 households.

The following table presents the population and sample size for each kebele.

Table 1: Distribution of population per sample kebeles

List of kebeles	Total households *			Sample households **			Percentage
	Male	Female	Total	Male	Female	Total	
Bocceessa	141	49	190	42	15	57	29.4
Worjaa							
Woshgulla	121	149	270	36	45	81	41.7
Qamoo Garbii	112	75	187	34	23	56	28.9
Total	374	273	647	112	82	194	100

Source: Authors' compilation based on Woreda Agriculture office PSNP data.

Note: * This data are collected from woreda agriculture office

** Data generated by Yamane sample size calculation

The required number of sample households was proportionally allocated to each sample kebele based on the population size of public work participants. Then systematic random sampling techniques were used to select sample households from each sample kebeles based on the proportion of their size.

3.4. Data collection techniques

To achieve the study objective, both quantitative and qualitative data were collected from primary and secondary sources. This approach allowed the researcher to get full insights from few respondents while also catching broader information from the entire sample in the study area. Quantitative data were collected from PSNP targeted kebeles using a structured questionnaire. Data were collected on various demographic, sociocultural, socioeconomic, institutional, physical, and financial characteristics that affect participation in diversified livelihood strategies.

Key informants, Focus group participants, and sample households were used as main source of primary data. Focus group discussions and key informant interviews were conducted in the sampled kebeles using a predefined checklist questions. Bocceessa and Worjaa Woshgullaa were selected to conduct focus group discussions. A total of 20 participants (10 from each kebele) were selected from two kebeles to participate in the focus group discussions. The discussion focused on socio-cultural, socio-economic, institutional, physical, and financial factors influencing livelihood diversification.

In addition, KIIs were conducted at woreda level by involving five individuals who possessed relevant knowledge and practical experience on PSNP program implementation and beneficiary behavior. The participant of KIIs selected from the following sector office: Woreda Cooperative Office, Woreda Office of Agricultural, Woreda Food Security Desk, woreda bureau of labor and social affairs (BOLSA), Micro finance institution (MFI), and Woreda Livestock desk. The researcher assigned three data collectors by considering their exposure with research kebeles, knowledge, skill and capacity. The researcher provided training for data collectors for one day on understanding questionnaire, and how to properly feed the responses into kobo toolbox system (an online data collection tool).

A pretest is conducted by researcher with sample data collection at komo Gerbi kebele before wider data collection started. Based on the pretest feedback and input, some questionnaires improved for better result. To avoid the data gap and supplement primary data, additional secondary data from published and unpublished materials crosschecked. Some of secondary data were, periodical report produced by ATJK woreda Agriculture and natural resource bureau were used to enhance the information collected through primary data collection tools.

3.5. Model specification, data analysis techniques, and definitions of variables

Econometric model and descriptive statistics were used to examine the data. Specifically, the Multinomial Logistic Regression (MLR) model was employed to inspect the determinants of livelihood diversification. For data processing and analysis, Statistical Package for Social Science (SPSS) version 25 statistical software package was used for quantitative data, while a thematic and narrative approach was applied to analyze the qualitative data.

3.5.1. Model specification

MLR model was employed to analyze the determinants of livelihood diversification strategies among PSNP beneficiaries. In this model, the dependent variable was the type of livelihood diversification strategy adopted by the beneficiaries. The categories included: on-farm activities alone (crop and livestock), on-farm plus non-farm, on-farm plus off-farm, and a combination of on-farm, off-farm, and non-farm strategies.

The independent variables included in this study were, cooperative membership, livestock ownership, education level of the household, size of households targeted by PSNP, income from remittance, income from crop production, access to credit, access to livelihood training, age of the household, farm size, dependency ratio, sex of the household, and ownership of irrigation land. This model allowed for the valuation of the likelihood of each category of the livelihood diversification strategy, relative to a reference category, based on the values of the independent variables.

MLR analysis result provided insights into the factors influenced the participations of PSNP households in diverse livelihood diversification strategies. The econometric model applied in this study was based on the theoretical framework outlined by Green(2003), as cited in Yizengaw et

al. (2015), which modeled the households' decision making process as the maximization of expected utility by selecting from set of discrete livelihood strategies.

The statistical model was specified as follows a: y_{ijk}

$$U_{ij} = Z_{ij} \beta + \epsilon_{ij} \quad (1)$$

If the respondent selected choice j , then U_{ij} was the maximum among all possible utilities. Thus, the probability that choice j was made was defined by:

$$P(U_{ij} > U_{ik}) \text{ for all other } k \neq j \quad (2)$$

Accordingly, a household's decision was modeled as maximizing the expected utility by choosing the j^{th} livelihood strategy from among J discrete alternatives:

$$\text{Max}_j = E(U_{ij}) = f_j(x_i) + \epsilon_{ij}, j=0, \dots, J \quad (3)$$

In general, for a categorical outcome variable with J options, the probability that a household with characteristics X chose livelihood strategy j , P_{ij} , was modeled as:

$$P_{ij} = \frac{\exp(x' \beta_j)}{\sum_{j=0}^J \exp(x' \beta_j)}, \quad (4)$$

With the constraint that $\sum_{j=0}^J P_{ij} = 1$ for all i

In this equation, P_{ij} represents the probability of the i^{th} respondent choosing the j^{th} category, X_i represents the predictors, and β_j indicates the coefficients associated with each response category. Normalization was introduced by assuming $\beta_1=0$ (Green, 2003), which simplified the model as follows:

$$\Pr(y_i=j/x_i) = \frac{\exp(x' \beta_j)}{1 + \sum_{j=1}^J \exp(x' \beta_j)}, \text{ for } j=0, 1, \dots, J \text{ and}$$

For the baseline category (reference group):

$$\Pr(y_i=1/x_i) = P_{i1} = \frac{1}{1 + \sum_{j=1}^J \exp(x' \beta_j)}, \quad (5)$$

This formulation ensured that the sum of probabilities across categories equaled one. Consequently, the log-odds ratio for category J relative to the baseline was expressed as:

$$\text{Log} \left(\frac{P_{ij}}{P_{i1}} \right) = x' \beta_j \quad (6)$$

The model estimated the parameters β using maximum likelihood estimation through multinomial logistic regression and provided insights into the factors that influenced PSNP beneficiaries' participation of livelihood diversification strategies in the study area.

3.5.2. Data analysis techniques.

The researcher utilized econometric models and descriptive statistics to examine household data. Initially, qualitative or categorical data were analyzed using percentages, chi-square tests, and frequencies. On the other hand, quantitative continuous data were assessed using one-way ANOVA, minimum values, mean, and standard deviation. The data interpretation and tabularization were carried out in alignment with the research question. Following the descriptive statistical analysis, multinomial logistic regression model was utilized to identify the determinants of livelihood diversification strategies among PSNP beneficiaries. This model enabled the examination of the relationship between a categorical dependent variable (comprising three livelihood diversification strategies) and multiple independent variables.

The researcher used SPSS version 25 for data analysis.

3.5.3. Definition of variables

3.5.3.1. Dependent variables

The dependent variable used in the multinomial logistic regression analysis had a dichotomous nature, representing whether the household participated in crop and livestock production(on-farm), non-farm, and off-farm(employment) activities or not. The variable was coded as 1 if the household participated in any combination of on-farm, non-farm, or off-farm livelihood activities, and 0 otherwise. The outcome categories were defined as follows:

Y=1 if PSNP households engaged in Crop and Livestock (on-farm) only

Y=2, if PSNP households engaged in on-farm + non-farm activities

Y=3, if PSNP households engaged in on-farm + off-farm activities

Y=4, if PSNP households engaged on-farm + non-farm, + off-farm activities

3.5.3.2 Explanatory variables.

The following 13 independent variables were hypothesized to determine the participation of PSNP beneficiaries in various livelihood diversification strategies.

Sex of the household (Sex): This was a dummy variable coded as (1=Male, 0=female). Men and women often have different levels of access to resource and opportunities, which can influence their participation in livelihood strategies (Gebremedhin et al.2018; Quisumbing et al. 2014).

Age of the household (AGE): Age was treated as continuous explanatory variable. Age has been identified as significant factors that influence household's decision to diversify their livelihoods in previous studies. .

Education level of the household head (literacy): This was a categorical variable measured by respondents' level of formal education (no formal education, primary education, secondary education, vocational, or master's level). Research by Gebru et al. (2018) and Demie& Zeray (2015) highlighted that higher education levels positively affect the decision to engage in non-farm livelihood strategies. Therefore, the education levels of the household head and other household members were expected to influence the involvement in diverse livelihood activities.

Dependency ratio (dependency ratio): This was a continuous variable defined as the ratio of dependents to the independent or active labor force. It was calculated by dividing the sum of young (under 14 years), elderly (above 64 years), and person with disabilities by the economically active population (ages 14-64). The dependency ratio was considered to significantly influence household livelihood diversification, as it affects labor availability, financial capacity, and risk-taking behavior. Households with a high dependency ratio often face financial strain, limiting their ability to engage in diverse income generating activities beyond agricultural. In contrast, households with a low dependency ratio have more working age members, enabling greater participation in off-farm and non-farm livelihood options. Bezu and Holden (2014) found that households with fewer dependents were likely to diversify into non-farm income source. Similarly, Ellis (2000) highlighted that high dependency burdens reduce household resilience and limit diversification into more lucrative livelihood strategies. Therefore, it was expected that households with a dependency ratio would be less likely to participate in diversified livelihood options.

Family size of the household targeted by PSNP (FAMILY SIZE): This variables measured the total number of family members in the household and whether all members in the household and whether all members were targeted by PSNP. It was a dummy variable (1= for full family targeting, 0= otherwise). PSNP is a social protection project that supported by government and non- profit organization. Due to different factor maybe resources constraints, the program does not always target all household members. For instance, in a household of seven members, the

project was considering only five members for food or cash transfer. It is believed that households with partial family targeting have low access to resource from the project and as result have low chance to involve in divers livelihood option.

Irrigable land (IRRILAND): This was a dummy variable (1= households with access to irrigable land and 0= otherwise). It was measured based on whether the household had access to irrigation facilities. Households with access to irrigation land were able to cultivate throughout the year, reducing dependence on rain fed agriculture and increasing the potential to engage in other livelihood option such as non-farm activities. Conversely, households lacking irrigable land were often constrained to subsistence farming, which limited their ability to diversify into more profitable livelihood strategies. Bacha et al. (2011) found that access to irrigation in Ethiopia significantly improved households' income and promoted participation in off-farm employment. Therefore, it was expected that households with access to irrigable land would be more likely to engage in alternative livelihood strategies than those without such access.

Farm size (FARMSIZE): This was a continuous variable measured in hectares. It refers to the size of cultivated land by households. Households with larger farmland were assumed to have more resources to support diversified livelihood strategies. With greater land availability, farmers had the opportunity to diversify agricultural production by cultivating multiple crops, raising different types of livestock, and accessing credit by using land as collateral (Haggblade et al., 2010). Therefore, it was expected that households with larger farm sizes would have greater opportunities to involve in diversified livelihood activities.

Livestock ownership (TLU): This was a continuous variable measured in Tropical Livestock Unit (TLU). Empirical studies have consistently shown that households with higher levels of livestock ownership tend to engage more extensively in diversified livelihood activities compared to those with limited livestock assets. For instance, a study by Davies and Hatfield (2020) found that households with larger livestock holdings in rural Ethiopia were more likely to participate in diverse range of income generating activities, including agriculture, non-farm enterprises, and wage labor. Therefore, it was hypothesized that households with better livestock ownership would have better opportunities to involve in non-farm and off-farm livelihood activities.

Annual crop production (ACROPRO): This was continuous variables and measured the total amount of production in quintals on an annual basis. Annual crop production significantly influenced household livelihood diversification as it determined food security, income stability and investment capacity. Household with higher annual crop yields were more likely to engage in non-farm activities by reinvesting profits into businesses, and livestock fattening. Empirical studies done by Asfaw et al. (2017) found that higher agricultural productivity enabled rural farmers to participate in market-oriented, non-agricultural businesses. Therefore, it was hypothesized that households with higher production would have a greater likelihood of participating in diverse livelihood opportunities.

Training on livelihood strategy/access to HABP): Access to training or support through the household asset building program(HABP) was treated as dummy variable including extension service and all other components of program package, and coded 1=if household had access to any HABP component, 0= otherwise. HABP is a food security program component that includes credits/loans, saving and skill training service provided in collaboration with microfinance institutions sponsored by government (Chala, 2019). It was expected that PSNP households with access to such training would be more likely to involve in on-farm and off-farm livelihood activities.

Access to credit (CREDIT): This was a dummy variable indicating whether the household had access to credit services (1=household with access to credit, 0=otherwise). Research by Lemma et al. (2021) emphasized the crucial role of that access to credit plays in promoting livelihood diversification in rural Ethiopia. Their study found that access to microcredit services, facilitated by government-led initiatives such as the PSNP, empowered households to engage in alternative income-generating activities beyond traditional farming. Therefore, it was expected that PSNP households that access credit will have better access and finance to involve in non-farm activities and enhance the income from on-farm activities by involving in animal fattening.

Cooperative membership (both RuSACCO and multipurpose cooperative): Membership of cooperative was a dummy variable (1= for household member of RuSACCO as well as multipurpose cooperative and, 0= otherwise). Being a member of cooperative has positive effect on livelihood diversifications. Households that are members of cooperatives can obtain credit and saving service, bulk purchasing opportunities, access to input like fertilizer through the

cooperative as a member. In contrast, non-members often face financial constraints that limit their ability to diversify beyond subsistence farming. Empirical evidence by Abebaw and Haile (2013) highlighted that smallholder farmers who are members of cooperative have better access to credit and agricultural inputs, leading to improved productivity and diversified livelihood strategies. Therefore, it was expected that households that are members of cooperative will have more chance to involve in on-farm and non-farm activities.

Remittance receiving (REMIT): This was a dummy variable (1= if households received remittance, 0=otherwise). Studies have shown that remittance alleviate financial constraints and enables households to invest in education, agriculture, small business, and other income-generating activities (Adams and Page, 2005). Therefore, it was hypothesized that households, with better access to remittance will have better opportunities to involve in non-farm and off-farm activities.

Table 2: Description of dependent and explanatory variables and the result expected

Choices(Y)	Livelihood diversification strategies	
Y=1 On-farm Y=2, On-farm + non-farm Y=3, On-farm +off-farm Y=4. On-farm + non-farm, + off-farm.	➤ Crop and livestock(on-farm) only ➤ Crop and livestock(on-farm) + non-farm ➤ Crop and livestock(on-farm) + off-farm ➤ Crop and livestock (on-farm) + non-farm, + off-farm.	
Variables	Description and unit of measurement	Expected sign
Sex	Binary (Categorical)	+/-
Age	Categorical	+
Literacy	Categorical, education level of HH	+
Dependency ratio	Continuous, dependency ratio	-
Family size targeted by PSNP (FAMILY SIZE):	Continuous, number of family size targeted(1= if full family targeted, 0= otherwise)	+
Irrigable land (IRRILAND):	Binary,(categorical) 1 if HH access own irrigation land and 0 otherwise	+

Farm size (FARMSIZE):	Continuous, land size holding in hectares.	+
Livestock ownership (TLU):	Continuous, total livestock ownership in (TLU)	+
Annual crop production (ACROPRO):	Continuous, total production in KG	+
Training on livelihood Strategy/Access to HABP):	Binary, 1 if HH access training on livelihood strategy and) otherwise	+
Access to credit (CREDIT)	Binary, 1 if the head access to credit and o otherwise	+
Cooperative membership	Binary, 1 if HH member of cooperative, and 0 otherwise	+
Remittance receiving (REMIT):	Binary, 1 if head has access to support economical and 0 if not	+

3.6. Ethical considerations

The researcher followed the standards of research ethics by informing the research objective before starting the interview, keeping the privacy of the interviewee after the interview was completed, not exposing personal information to the third party, and selecting a safe place for individual safety and security. Confidentiality measures were strictly adhered to, with participant information stored securely and anonymised to protect their identities. Moreover, special care was taken to minimize any potential harm or discomfort that participants might experience because of their involvement in the study.

In addition to ensuring ethical treatment of human subjects, research ethics also encompassed the recognition of data generated by others and the proper citations of scholarly research output, including articles, books, websites, and other relevant documents. This practice is essential to uphold the intellectual and scientific integrity of the research, demonstrating respect for the contributions of others and facilitating transparency in the dissemination of knowledge.

CHAPTER 4: RESULTS AND DISCUSSIONS

4.1. Results

This chapter presents the findings and analysis of the research. The initial section outlines the research result using both descriptive and econometric models. Descriptive statistics including percentages, frequencies, and medians were employed to characterize the demographic and socio-economic attributes of the sample households, as well as their perception regarding the availability and accessibility of livelihood alternatives. The econometric analysis utilizes multinomial logistic regression to identify the determinants of livelihood diversification. The interpretation of result will focus on three main research questions: The determinants of livelihood diversification strategies, the perception of PSNP beneficiaries on the availability and accessibility of livelihood strategies, and the barriers and constraints that hinder PSNP beneficiaries from participating in livelihood activities.

4.1.1. Descriptive outcomes

4. 1.1.1 Human Capital (demographic characteristics of households)

As per the findings presented in Table 3, majority of households (64.4%) were male headed households, while 35.6% were female-headed. The age of household heads ranged between 25 and 65 years, with a mean age of 38.59 years and this shows majority of them are in active working age (Table 3). Regarding education levels, 58.2% of household heads had completed primary education, 26.8% had no formal education, 12.4% had attained secondary education, 2.1% had vocational training, and only 0.5% had master's degrees, as shown in Table 3.

Regarding the family dependency ratio (Table: 4), the study result indicated that the mean 117.34 and 1.17 dependency ratio observed. This indicates that there is high dependency ratio in the study area particularly for PSNP beneficiaries. Furthermore it is observed that out of the total sample households, only 36.6% (Table: 4) involved and access livelihood training packages provide by PSNP program.

Table 3: Categorical variables

Variables	Category	Frequency	Percent
Sex of household head	Female	69	35.6
	Male	125	64.4
Household head education level	No formal education	52	26.8
	Primary education(Grade 1-8)	113	58.2
	Secondary education(Grade 9-12)	24	12.4
	Vocational(10/12+)	4	2.1
	Masters	1	0.5
Access to fertilizer	No Access	78	40.2
	Access	116	59.8
Ownership of irrigation land	No access to irrigation	132	68
	Access to irrigation	62	32
Cooperative membership	No	91	46.9
	Yes	103	53.1
Access to credit	No access	143	73.7
	Access	51	26.3
Received any remittance	No	104	53.6
	Yes	90	46.4
Attended livelihood training	No	123	63.4
	Yes	71	36.6

Source: own survey result (2025)

4.1.1.2. Physical capital

Livestock ownership, measured in tropical livestock units (TLU), ranged from 0.00 to 6.05, with an average of 1.78(SD=1.76) (Table 4). Finally, as shown in Table 3, 59.8% of households had access to fertilizer, while the remaining 40.2% have no access to fertilizer. This indicates that, due to recent fertilizer price, most of PSNP households cannot afford to own basic farm input. This has direct impact on product and production of crop farming.

4.1.1.3. Financial capital

Access to credit service was even more limited, with only 26.3% (Table: 3) of households reporting access to credit, leaving 73.7% without access to credit. In terms of remittance income, 46.4% of households reported that they received remittances, while 53.6% did not received any remittances during the specified period. Furthermore, it is observed that the annual crop production of the sample households result shows the minimum registered production was, 0.00 quintals, the maximum was 75 quintals and the average was 14.39 quintals(SD=9.8)(Table 4). This indicates that there was low production due to different climatic factors.

4.1.1.4. Social capital

The data in Table 3 illustrates that 53.1% of households were members of cooperative, whereas 45.9% were not. On the other hand, on average about 3.5 household members (SD=0.92) were targeted by PSNP with number of targeted members ranging from 2 to 5 per households (Table: 4).

4.1.1.5. Natural capital

According to Table 4, the average landholding size among surveyed households was 2.66 hectares, with a minimum of 0.00 hectares and a maximum of 3.5 hectares, reflecting significant variation in land ownership. Additionally, 32% (Table; 3) of the households had access to irrigable land, while 68% reported no access to irrigation. This implies that there is limited access to irrigation facilities and farm land shortage in the study area which is limiting their production capacity.

Table 4: Continuous variables

Descriptive statistics					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
Age of the HH	194	25	65	38.59	7.306
Total livestock unit(TLU)	194	0.00	6.05	1.77639	1.756361
Land holding size	194	0.00	3.5	2.6637	14.02055
Annual crop production	194	0.00	75.00	14.3939	9.80090
Dependency ratio	194	0.00	500.00	117.34045	88.175378
Number of family targeted by PSNP	194	2.0	5.0	3.510	.9232
Valid N (list wise)	194				

Source: own survey result (2025)

4.1.1.6. Livelihood strategies adopted by PSNP households.

Table 5 presents the distribution of livelihood strategies among the surveyed households in the study area. The findings indicated that 35.6% of households rely solely on on-farm activities, with no diversification. In contrast, 23.7% of households engaged in both on-farm and off-farm activities, 13.9% of households involved in on-farm and non-farm activities, and 26.8% of households adopt a diversification strategy incorporating on-farm, off-farm and non-farm activities. Diversification of livelihood strategies is crucial for enhancing household resilience and reducing vulnerability to agricultural risks. The primary livelihood diversification strategies employed by PSNP beneficiaries in the study area include a combination of agricultural with off-farm activities, agricultural with non-farm activities, and a mix of agricultural, off-farm, and non-farm activities.

Table 5: Livelihood strategies adopted by PSNP households.

Livelihood strategies	Frequency	Percent
No diversification (on-farm only)	69	35.6
On-farm +off-farm	46	23.7
On-farm +non-farm	27	13.9
On-farm +off-farm +non-farm	52	26.8
Total	194	100.0

Source: own survey result (2025)

As shown in Table 6, the distribution of livelihood strategies varied significantly across kebeles. In Bocceessa kebele, 35 households (18%) engaged in all livelihood strategies, while none reported a lack of diversification. On the other hand, in Worja Woshgullaa kebele, 35 households (18%) did not diversify their livelihoods, whereas only 13 households (6.7%) adopted all three strategies. Similarly, in Qamoo Garbii kebele, 34 households (17.5%) reported no diversification while only 4 households (2.1%) engaged in all three livelihood strategies. These variations highlight the uneven adoption of diversification strategies across different kebeles, reflecting potential differences in access to resources, and economic opportunities.

Table 6: Livelihood diversification across study kebeles

Kebeles	Livelihood strategies			
	No diversification (only on-farm)	On-farm +off-farm	On- farm +non-farm	On-farm + off-farm +non-farm
Bocceessa	0	20	2	35
Warja Woshgulla	35	11	22	13
Qamoo Garbii	34	15	3	4
Total	69	46	27	52

Source: own survey result (2025)

Key informants provided valuable insights into the types and perception of livelihood strategies adopted by PSNP beneficiaries in the study area. A woreda level expert noted that a variety of income –generating activities are available, such as poultry production, operating small shops, engaging in sand and stone extraction, and agricultural production. However, he emphasized that these opportunities are often underutilized due to what he described as a poor attitude for some income generating activities. According to this informant, the issues are not just availability but willingness to engage.

A key informant from financial institutions added that despite climate related risks, some PSNP beneficiaries have managed to engage in livelihood activities particularly shoat fattening, petty trading, and small scale crop production. Another key informant from woreda food security office elaborated on a wide range of potential livelihood strategies, though many remain underutilized. He highlighted that vermicomposting preparation, poultry farming, shoeshine services, animal fattening, straw selling, and renting oxen are some of the available livelihood

strategies in the study woreda. He also mentioned irrigation farming as a viable income source, although many beneficiaries choose to rent out their land rather than cultivating it themselves.

Informant from woreda cooperative office also reflected the diversity of options tailored to different livelihood types. He mentioned, ox and goat fattening, irrigation farming particularly in Bocceesa kebele, petty trading, and cart transporting service are among the potential livelihood activities in the study areas. Similarly, participants from FGD held at Warja Woshgulla kebele identified practical livelihood strategies in which they actively engaged. This includes coffee grain trading, poultry production, ox-fattening, and running small shops.

4.1.2, Perception of productive safety net program beneficiaries towards the availability and accessibility of livelihood options in the study area.

The following subsection covers the results of qualitative and quantitative findings to explore PSNP beneficiaries' perceptions regarding the availability and accessibility of potential livelihood strategies. Table 7 presents respondents' perceptions of the availability of livelihood activities in the study area. Among the various options, agriculture, primarily crop farming, was the most frequently reported by 190 respondents, representing 25.9% of total responses and 97.9% of households involved in the survey. This was closely followed by livestock, related activities such as rearing, fattening, and trading, which were mentioned by 188 respondents (25.6%) of the total response, or 96.9% of the sample households.

Non-farm activities were also perceived as an available livelihood option, which was mentioned by 147 respondents (20% of the total response). Daily wage labor (off-farm) in farm-related activities was reported by 102 respondents (13.9%). Services-based livelihoods(non-farm), including small restaurants, tea and coffee shops, and local alcohol brewing, were identified by 95 respondents (12.9%), and about 13 respondents (1.8%) indicated that other livelihood activities are available in the study area.

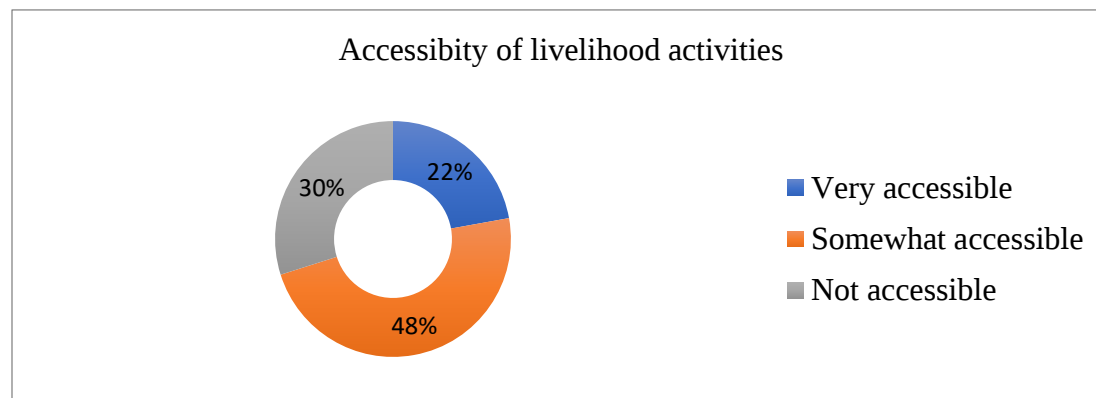
Table 7: Available livelihood types in the study area (N=194, multiple response)

Availability of livelihood activities	Responses	
	N	Percent
Agriculture (crop farming)	190	25.9%
Livestock (rearing, fattening, trade)	188	25.6%
Trade (non-farm)	147	20.0%
Employment (daily labor in farm)	102	13.9%
Service (small restaurant, tea and coffee, local alcohol drink...)	95	12.9%
Other	13	1.8%
Total	735	100.0%

Source: own survey result (2025)

As illustrated in Figure 4, the accessibility of livelihood activities (listed on Table 7) varied among respondents. A total of 43 respondents (22.2%) reported that these activities were highly accessible, while the majority, 93 respondents (47.9%), considered them somewhat accessible. In contrast, 58 respondents (29.9%) indicated that these activities were not accessible at all.

Figure 4: Accessibility of livelihood activities for PSNP beneficiaries in the study area.



Source: own survey (2025)

Although the data show a relatively high level of awareness regarding the availability of various livelihood opportunities, qualitative findings reveal contrasting attitudes and behavioral challenges among the PSNP beneficiaries. One of the key informants said that “there is a real gap from the PSNP beneficiary’s side to participate in productive livelihood opportunities. Most

of them are not interested in labor-intensive work and tend to depend on the aid rather than taking initiatives to improve their source of livelihood”.

Still other informants pointed to cultural perceptions and knowledge gaps as key barriers to the uptake of few or unfamiliar livelihood opportunities. He said that most of the PSNP beneficiaries are not interested in being involved in business such as verm-compost, plant weeding, shoeshine, collecting kobota (dry animal manure common fuel source) due to negative perception or fear of judgment. Meanwhile, even though extension workers continue to inform PSNP beneficiaries about potential income generating activities, yet there is low demand from the beneficiary side due to dependency on the aid of PSNP program.

Meanwhile, extension workers continue to inform PSNP beneficiaries about potential income-generating activities, yet face challenges due to what they describe as a dependency mindset. One of key informants said that “the awareness exists. However, the community has developed a dependency syndrome and many are not motivated or ready to graduate from the program”.

4, 1, 2.1. Available support service for PSNP beneficiaries.

To facilitate PSNP beneficiaries’ engagement in diversified livelihood opportunities, various support services are expected from PSNP to be provided. These include training, access to credit, marketing linkages, and relevant information. As it can be observed from the figure 5, most of the respondents (41.7%) rated the availability of technical support and different related assistance from the program (PSNP) as poor. This was followed by 57 respondents (29.4%) rating the support and service as fair, and 34 respondents (17.5%) rated as good or better. A smaller portion (15 respondents) rated the service as excellent, while 7 respondents considered as very poor. Furthermore, the researcher asked questions to check if the PSNP program has impact on creating accessibility, of livelihood options for PSNP clients in study kebeles.

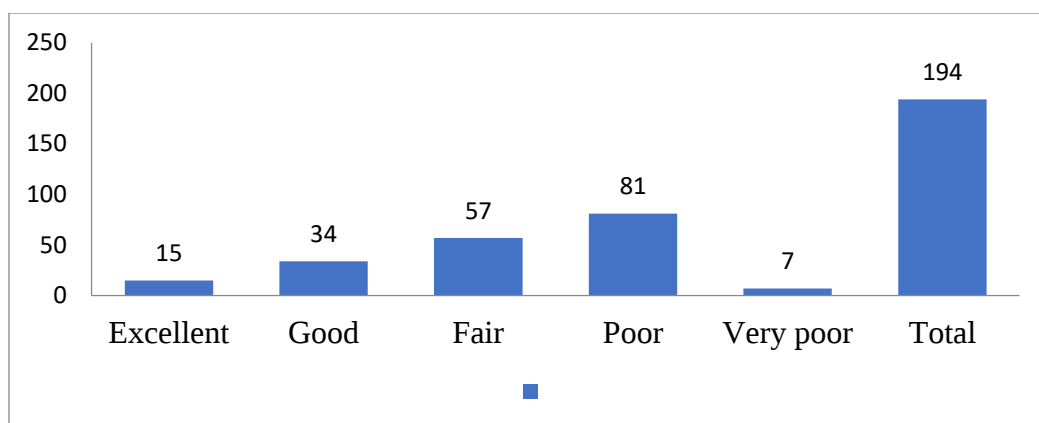


Figure 5: Available Support (Training, Credit, market linkage for PSNP beneficiaries)

Source: own survey result (2025)

In addition, respondents were asked whether they believe the PSNP program has had positive impact on improving the availability and accessibility of livelihood options. Out of the 194 sample households, about 84(43.3%) perceive that PSNP program had positive impact; contrastingly 110(43.3%) respondents perceive the revers.

These findings suggest that most respondents perceive PSNP program as ineffective in enhancing access to and availability of alternative livelihood opportunities for PSNP beneficiaries.

Table 8: Do you think PSNP improved the availability and accessibility of livelihood strategies?

Answer	Frequency	Percent
Yes	84	43.3
No	110	56.7
Total	194	100.0

Source: own survey result (2025)

Table 9 below summarizes respondents' priorities for improving livelihood strategies. The most frequently cited improvement, mention by 27.2% of respondents, and was better access to credit and financial services, underscoring the critical role of financial inclusion in livelihood diversification. This was followed by the need for more training and skill development programs (19.2%), highlighting the importance of capacity building initiatives. Additionally, 16.8% of

respondents identified improved infrastructure, such as road and market facilities, as a key priority, while 16.2% emphasized the need for greater access to information and resources, both of which are essential for enhancing economic resilience. Institutional support from local government or non-profit organization was prioritized by 15.4% of respondents, reflecting the significance of external assistances in strengthening livelihood opportunities.

Overall, this finding emphasized the multidimensional needs for access to credit, training on skill developments, importance of infrastructure, and institutional improvements to support the livelihoods of PSNP beneficiaries.

Table 9: Improvements option for livelihood strategy (multiple response are possible)

Improvement options for livelihood strategy	Responses	
	N	Percent
Better access to credit and financial services	180	27.2%
More training and skill development programs	127	19.2%
Improved infrastructure (e.g., roads, market facilities)	111	16.8%
Greater access to information and resources	107	16.2%
Support from local government or NGOs	102	15.4%
Other	35	5.3%
Total	662	100.0%

Source: own survey result (2025)

4.1.3 Barriers affecting PSNP beneficiaries from participating in livelihood activities.

Under this subtitle, the results of qualitative findings on barriers affecting PSNP beneficiaries' participation in livelihood activities are presented. From the FGD held at Worja Woshgullaa and Qamoo Garbii kebeles, securing loans from financial institutions is very challenging. FGD group from Worja Woshgullaa revealed that, due to institutional bureaucracy and stringent collateral requirements, it is very challenging for PSNP beneficiaries to access loans. The group participants from Warja Woshgullaa shared their experiences as follows. "We tried to approach one of MFI to request a loan and they forced us to form a group of 20 people and contribute 10%

of savings as the first step. Even though we formed a group and contributed savings, we weren't able to get a loan and finally failed to access it".

Similarly, the FGD conducted at Qamoo Garbii conducted confirmed related challenges. Some of the PSNP households said that they requested a loan from the MFI, but they failed because of unable to bring the requested livestock animal as collateral which is very difficult for vulnerable PSNP households. It is very clear how financial institution bureaucracy and loan requirements create practical barriers that exclude vulnerable PSNP households from credit services. A key informant from the MFI branch office proved the above idea but in a different way. He said the branch is challenged to provide rural loans because of the recent security situation. He added that as a result of poor security conditions, it is difficult for MFI staff to go to remote rural kebeles. He added that recently their target is only urban areas to reduce risk.

One of the key informants from the Woreda Cooperative office strengthened the above idea. He mentioned that most of the primary RuSACCOs are unable to provide loans because of previous loan arrears and inability to collect on time. This will create a loan fund shortage for RuSACCOs and it is very challenging to re-provide again. This has happened because of poor follow-up on loan repayment as well as the poor financial literacy level of the community. This result is echoed in the quantitative finding that only 26.3% of sample households can access loans.

On the other hand, FGD from Worja Woshgullaa highlighted the challenge of accessing water during the season of Bega which is a dry season that covers October-June. They explained that due to water shortage, it is very challenging for the local communities to be involved in livestock fattening.

The FGD participants from Warja Woshgullaa stated that "access to water is one of our biggest challenges. Because of limited water, we are unable to engage in animal fattening". Similarly, FGD participants from both kebeles raised concerns related to periodical climate-related shocks in the study area. It is identified from the group discussion that climate-related shocks are a serious threat to crop production. This sentiment was highlighted during discussions at Qamoo Garbi "Last year, our crop failed because of the weather conditions". In addition, FGD participants shared that small farm land ownership and the cost of agriculture inputs mainly fertilizer highly challenged them to increase their farm income as well as product and

productivity. This result is echoed by qualitative findings that about 40.2% of the sample households are unable to access fertilizer due to high cost.

In summary, through the qualitative approach, it is observed that there are different barriers that are limiting PSNP households from participating in livelihood diversifications in the study area. Some of the key barriers were access to credit due to the bureaucratic system and strong loan requirements of MFI, poor RuSACCO service to follow-up loan arrears, limited access to water, small farmland, climatic shocks, and high cost of fertilizer.

4.1.4 Econometric result

4.1.4.1 Multinomial logistic regression results on the determinants of livelihood diversification strategies among PSNP beneficiaries.

Under this subsection, the result of multinomial logistic regression (MLR) to examine determinants of livelihood diversification strategies presented. Before directly presenting the result, it is observed that there is strong model fit of MLR which is demonstrated by probability ratio test $\chi^2=197.151$, $df=39$, $p<.0.001$ compared to the intercept only model. In addition, the values of Pseudo R-Square values showed that model clarifies a considerable amount of difference in the data, with Nagelkerke's R^2 at 0.685, representing a good fit for the predictors variables included.

Table 10: Model fitting information for multinomial logistic regression

Model fitting information				
Model	Model Fitting	Likelihood ratio tests		
	Criteria			
	-2 Log Likelihood	Chi-square	df	Sig.
Intercept only	518.48			
Final	321.33	197.15	39	0.000

Source: own survey result (2025)

Table 11: R-Square

Pseudo R-Square	
Cox and Snell	0.638
Nagelkerke	0.685
McFadden	0.380

Source: own survey result (2025)

It was observed that several factors significantly contributed to the model when examining the individual predictors. Under Table 12, it is observed that, participating in livelihood training, remittance, and access to credit, cooperative membership, and annual crop production, ownership of irrigation land, total livestock unit, and age of the household demonstrated statistically significant relationships with livelihood diversification strategies in the study area.

Conversely, number of family members targeted by PSNP, dependency ratio, land holding size, education level of household, and sex of the household did not show significant effects with p-values of (all>.05). The result of MLR, indicated that the importance of access to finance, livelihood training, cooperative membership, crop production, age and livestock ownership in shaping the participation of PSNP beneficiaries in livelihood strategies.

Table 12: Likelihood ratio test multinomial logistic regression model

Likelihood Ratio Tests				
Effect	Model fitting criteria	Likelihood ratio tests		
	-2 Log Likelihood of reduced model	Chi-square	df	Sig.
Intercept	326.723	5.391	3	.145
Sex	321.657	0.325	3	.955
Age of the HH	340.988	19.656	3	.001
Education of the HH	323.121	1.789	3	.617
Total livestock unit	330.669	9.337	3	.025
Land holding size	325.085	3.753	3	.289
Own irrigation land	336.141	14.809	3	.002

Annual crop production	337.074	15.742	3	.001
Dependency ratio	322.263	0.931	3	.818
Number of family targeted by PSNP	323.053	1.721	3	.632
Cooperative membership	339.654	18.322	3	.001
Access to credit	361.054	39.722	3	.001
Received any remittance	330.472	9.140	3	.027
Livelihood training	347.312	25.980	3	.001
The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.				

Source: Own survey result (2025)

The parameter estimates from the MLR analysis provide findings on the factors influencing various livelihood strategies among the participants.

On-farm+ off-farm: Under the on-farm –off-farm livelihood strategy (Table: 13) it was observed that, the age of the household head a negatively affecting ($\beta=-0.182$, $p<.001$). This implies that as the age of the household head increases the possibility of involving in on-farm + off-farm livelihood strategy decreases. Correspondingly, being a member of cooperative membership (both RuSACCOs and Multipurpose cooperatives) has a substantial impact on the participation of on-farm + off-farm livelihood strategies. Moreover, PSNP households involved in this survey and who received remittances less adopted the on-farm and non-farm livelihood strategy ($\beta=-1.969$, $p<.022$). On the other hand, it is evidenced that total livestock ownership improves the likelihood of involvement in on-farm and non-farm livelihood strategies. As per the MLR analysis result, access to credit is significant ($\beta=3.672$, $p<.001$), with an odds ratio of $\text{Exp}(\beta) = 39.331$. This implies that households with access to credit are significantly more likely to be involved on on-farm and non-farm livelihood strategies. Additionally, access to livelihood training had a positive significant effect ($\beta=2.343$, $p<.001$), with an odds ratio of 10.407. This implies those PSNP households involved in livelihood training provided by the program had a high chance of being involved in on-farm and non-farm livelihood strategies.

On-farm + non-farm: Under the on-farm + non-farm livelihood strategy (Table: 13), few variables appear as significant. Ownership of irrigation land is substantial ($\beta=1.418$, $p<.038$),

with odds ratio of 4.129, indicating that ownership of irrigation land improves the likelihood of involving in on-farm + non-farm livelihood strategies. It is evident that access to credit remains a key factor ($\beta=3.139$, $p<.001$) for the specific livelihood strategy with odds ratio of 23.092. Under the on-farm + non-farm livelihood strategy, cooperative membership negatively affects ($\beta=-2.559$, $p<.002$), indicating that members have a low chance to involved in this strategy.

On-farm + off-farm + non-farm: For this specific livelihood category, several factors are found to have as negative relationship. It is evident that the age of the household head appears a negative relationship ($\beta=-0.178$, $p<.009$) with odds ratio of 0.839. This implies as the age of the household increases, the probability of adopting On-farm + off-farm + non-farm will decrease. Similarly, cooperative membership ($\beta=-3.057$, $p<.001$) with odds ratio of 0.047, and TLU ($\beta=0.473$, $p<.005$) has a negative impact on adopting On-farm + off-farm + non-farm. Conversely, Ownership of irrigation land has a positive relationship ($\beta=2.504$, $p<.001$), with odds ratio of 12.227. It implies those who have access to irrigation have high chance to participate in combined livelihood strategies. Furthermore, Access to credit, ($\beta=5.223$, $p<.001$) with odds ratio of 185.473, found that statistically a significant determinant factor of combined livelihood strategy. The implication is households with access to credit have a high chance of being involved in on-farm, off-farm and non-farm. At the same time, crop production ($\beta=0.103$) was significant at a 5% level, positively influencing the likelihood of involvement in on-farm, off-farm, and non-farm livelihood categories.

Table 13: MLR model for three livelihood strategies

Variables	On-farm +off-farm			On-farm +non-farm			On-farm +off-farm +non-farm		
	B	Std. Error	Exp(B)	B	Std. Error	Exp(B)	B	Std. Error	Exp(B)
	5.182	2.336		1.258	2.546		1.891	3.088	
Sex	0.002	0.553	1.002	-0.259	0.613	0.772	-0.229	0.668	0.795
Age	-0.182**	0.049	0.833	-0.083	0.049	0.921	-0.176**	0.067	0.839
Education	0.458	0.433	1.581	0.566	0.522	1.762	0.61	0.525	1.841
Total livestock unit	0.451**	0.169	1.569	0.186	0.181	1.204	0.473*	0.191	1.606
Land holding size	0.012	0.015	1.012	-0.018	0.072	0.983	-1.593	1.004	0.203
Own irrigation land	1.138	0.726	3.121	1.418*	0.684	4.129	2.504**	0.759	12.227

Annual crop production	-0.019	0.036	0.981	0.043	0.03	1.044	0.103**	0.036	1.108
Dependency ratio	-0.003	0.003	0.997	-0.002	0.003	0.998	-0.002	0.004	0.998
Number of family targeted by PSNP	0.142	0.299	1.153	-0.059	0.334	0.942	0.385	0.362	1.469
Cooperative membership	-1.81**	0.657	0.164	-2.559**	0.838	0.077	-3.057**	0.953	0.047
Access to credit	3.672**	0.9	39.331	3.139**	0.818	23.092	5.223**	1.153	185.473
Received any remittance	-1.969*	0.859	0.14	-0.192	0.953	0.825	-2.495*	0.989	0.082
Attended livelihood training	2.343***	0.651	10.407	0.011	0.998	1.011	3.388**	0.874	29.594

***, **, * Significant at less than 1, 5, and 10% probability level, respectively

^a the reference category is: No diversification (on-farm only).

Source: Author survey result (2025).

4.2 Result interpretation and discussion

4.2.1 Determinants of livelihood diversification strategies.

Multinomial logistic regression model result indicated that, among thirteen hypothesized explanatory variables, eight variables were found to be a significant influence on livelihood diversification strategies of, on-farm + off-farm, on-farm + non-farm, on-farm+ off-farm + non-farm, respectively. These include age of the household, total livestock unit, ownership of irrigation land, annual crop production, cooperative membership, access to credit, and livelihood training. It has to be noted that the multinomial logistic regression estimate is reported only for the three livelihood options mentioned above. The reasonable implications and marginal effects of the significant independent variables on the livelihood strategies of PSNP households are analyzed and presented for all three categories: on-farm-off-farm, on-farm +non-farm, and on-farm +off-farm+ non-farm.

4.2.1.1 Determinant factors for on-farm + off-farm, on-farm +non-farm, and on-farm+ off-farm + non-farm livelihood strategy.

Out of thirteen hypothesized variables, eight were identified as having a statically significantly association for all three livelihood categories with on-farm +off-farm strategies, whereas the other five showed no significant correlation in the findings of this study. Of the eight significant variables, three, namely age of the household, cooperative membership, and remittance, showed a negative correlation, whereas total livestock unit, access to credit, and participation in

livelihood training indicated positive correlations. A more comprehensive analysis of these eight significant variables is discussed and elaborated in the subsequent section.

Age of the household: The age of the household head was found to have a significant negative effect on the adoption of diversified livelihood strategies. Specifically, age was significant at the 5% probability level in negatively influencing the likelihood of adopting both on-farm+ off-farm strategies ($\beta = -0.182$, $p < .001$, $OR=0.833$) and on-farm-off-farm-non-farm combination ($OR=0.839$). This implies that, holding other variables constant, an increase in the age of the household's head by one year reduces the probability of engaging in these diversified strategies by approximately 16.7% and 16.1% correspondingly. This may be because younger households have more physically capacity, openness to risk to involve in new business activities, and willing to engage in multiple types of livelihood activities. In the study area, most of the youth have the chance to be involved as daily labor activities particularly at privet irrigation farm and flower production companies like share Ethiopia. Since such types of job category demand physical strength it is more accessible for young PSNP households and very challenging for older households. This finding aligns with previous research in Ethiopia, which suggests that younger household heads have high chance to engage in off-farm employment. Previous empirical evidence in Ethiopia has shown that the age of the household head has a significant negative effect on the likelihood of adopting diversified livelihood strategies (Gebbru & Beyene, 2012; Tadele, 2016; Teshome, 2019; Alemu, 2019).

Total livestock unit (TLU): TLU showed mixed influence on the adoption of diversified livelihood strategies. TLU had a significant positive effect on the probability of involving in on-farm+ off-farm activities with an odds ratio of 1.569 and ($\beta=0.451$, $p+.008$). This implies that households with more livestock are 1.569 times more likely to diversify into on-farm + off-farm activities, as livestock can provide additional resources to support off-farm activities. Total livestock units positively influence the adoption of on-farm and off-farm livelihood strategies indicating that households with larger livestock holdings are more likely to engage in these integrated activities. Livestock is a valuable asset that can serve multiple purposes, including generating income, providing traction for farming, and acting as a financial buffer during periods of economic stress. Households with substantial livestock assets may have greater capacity to invest in on-farm activities while simultaneously pursuing off-farm opportunities. This finding

aligns with previous studies that stress livestock as a critical determinant of livelihood diversification.

Asmare, (2020), Teshome, (2010), and Teshome, (2020) reported that livestock holding significantly and positively influences rural households' likelihood to diversify into on-farm and off-farm livelihood strategies in Ethiopia, as larger livestock assets provide resources and opportunities that support engagement in multiple income-generating activities.

However, contrasting findings exist in some contexts. In kuarit district, West Gojjam Zone, livestock holding was found to have a negative effect on the choice of livelihood diversification strategies, suggesting that households with more livestock are less likely to diversify into off-farm and non-farm activities (Tizazu, Ayele, & Ogato, 2018). On the other side, TLU showed a significant negative effect on the adoption of the more extensively diversified on-farm + off-farm + non-farm strategy ($\beta = -0.473$, $p < .005$). Although households with livestock assets are better positioned to engage in moderate diversification, this finding suggests that they prefer to rely on farming and off-farm work activities, avoiding more complex non-farm engagements.

Cooperative membership: Cooperative membership was found to have a statistically significant negative effect on the adoption of all three diversified livelihood strategies, opposing initial expectations. Specifically, it had a significant negative impact on the likelihood of engaging in on-farm + off-farm activities ($\beta = -2.559$, $p < .005$), similarly for the on-farm + non-farm strategy, cooperative membership was also significant at the 5% level, with a much stronger negative association ($\beta = -2.559$, $p = .002$) and an odds ratio of 0.077. Furthermore, cooperative membership significantly reduced the likelihood of adopting the fully diversified on-farm + non-farm + off-farm strategy ($p < .05$), with an odds ratio of 0.045.

This may be because PSNP households are not actively participating in saving and credit cooperatives as well as multipurpose cooperatives, likely due to cooperative services being poor in providing inputs, market linkage, and access to credit for the members. As a result, they are predominantly engaging in off-farm activities such as daily labor on other farmer's farm. This typically involves temporary work on the farms of wealthier farmers or employment in company-operated farms such as flower farms, where the support of cooperative associations is not essential. Against to this finding, Mulugeta and Tadesse, (2021) reported that agricultural

cooperatives in eastern Ethiopia had a positive impact on supporting farmers in improving wellbeing and livelihood strategies.

Access to credit: Access to credit was found to be a statistically, significant determinant of livelihood diversification across all three strategies, positively influencing households' decisions to engage in multiple income-generating activities. Specifically, for the on-farm + off-farm + non-farm strategy, access to credit was significant at a 5% level, with a remarkably high odds ratio of 185.475, indicating that households with access to credit were over 185 times more likely to adopt this fully diversified strategy compared to those without credit access. In the same way, access to credit was meaningfully linked with involvement in on-farm+ non-farm and on-farm + off-farm strategies, with odds ratio of 23.092, and 39.331 respectively, statistically significant at 5% level.

This finding revealed the critical role credit plays in enabling PSNP households to engage in multiple and complementary livelihood activities. These findings are in line with the expectation that credit services not only intensify agricultural production but also to expand livelihood options beyond agriculture.

This finding aligns with Eneyew & Bekele (2012), Tegenge (2020) in Ethiopia found that access to credit enables smallholder farmers to invest in agricultural inputs, diversify income sources, and buffer against risks associated with reliance on a single livelihood strategy. The significant positive impact of credit access observed in this study underscores its role in reducing financial constraints and advancing diversification. Credit can provide PSNP households to own agricultural tools and inputs. By solving liquidity challenges, credit access empowers households to engage in diversified livelihood selections, thereby enhancing resilience and reducing exposure to shocks. It is observed that out of 194 individuals involved in this study, only 26.3% (Table: 3) of them able to access credit either from RuSACCOs or MFIs.

This idea also flagged during the FGD session that there are serious challenges and problems to access credit, even though Woreda PSNP program implementers like woreda food security office and woreda cooperative are working to address the gap. Key informants from the Cooperative office and MFI mention that due to recent security situations, they are unable to serve rural communities and they are more focused only on the town area for risk mitigation. Key

informants from the cooperative office mention that the loan repayment behavior of PSNP beneficiaries is very poor and there are many loans not repaid and unless RuSACCOs able to collect these arrears they can't provide additional loan funds. There is a similar finding by Chala (2019), that collecting the matured loans is very challenging for primary RuSACCOs and MFI called OCSSCO in Hararghe Chiro Wored and this is one of the key challenges to provide additional fresh loans for new applicants.

Participation of the households in livelihood training: Participation in livelihood training emerged as a highly significant factor influencing household engagement in diversified livelihood strategies. For the on-farm+ off-farm + non-farm livelihood strategy, livelihood training participation was strongly associated with an increased likelihood of adoption ($\beta= 3.388$, $p<.001$), with an odds ratio of 29.594. This implies that households that attended the training were nearly 30 times more likely to adopt a fully diversified set of livelihood strategies compared to those that did not access livelihood training. Similarly, for on-farm+ off-farm combination, livelihood training remained a significant predictor ($\beta=2.343$, $p<.001$), with an odds ratio of 10.407, indicating that trained households were over 10 times more likely to engage in on-farm+ off-farm.

Livelihood training plays a key role in enhancing the capacity of PSNP beneficiaries to diversify their income sources by improving their technical and entrepreneurial skills. One of the PSNP support services for the beneficiaries is providing skill training, financial literacy, and coaching for beneficiaries. This finding is in line with previous research which point out the critical contribution of training to livelihood diversification. Dereje et al. (2024) and Gajabo (2024) found that households receiving training are more inclined to engage in multiple income-generating activities and training enhances the ability of households to diversify their livelihood strategy.

Similarly, Worora (2019), identified training as one of the enabling factors for diversifying livelihood options, and Grime and Koreros (2023) emphasized that access to training is one of the enabling factors and enhances the practical skills of rural households, making them more capable of participating in diversified livelihood options. Even though livelihood training for PSNP beneficiaries is very important to get involved in diversified livelihood strategy, out of 194 respondents who participated in this study, only 71(36.6%) revealed (Table:3) they were able to

access the chance to get into livelihood training, whereas about 123(63.4%) households were unable to get the training by PSNP program. In addition, (Table: 8) out of the 194 individuals involved in this study about 56.7% don't believe that the PSNP program helped them for better accessibility and availability of livelihood options.

Received Remittance: Remittance was significant at a 10% level, negatively influencing the likelihood of adopting on-farm + off-farm livelihood strategies. The odds ratio of 0.14 shows that households receiving remittances had a nearly 86% low probability of being involved in these joint livelihood activities compared to those not getting remittances. This suggests that remittance income may reduce the need or incentive to pursue additional labor-intensive income sources.

This finding is consistent with observation by Mendola (2008). Who noted that in rural Bangladesh, remittance flows reduce households' risk exposure but also tend to discourage productive diversification. Similarly, de Haas (2007) reported that in Morocco, regular remittance inflows were associated with economic passivity in rural households, often leading to labor detachment from agricultural and other productive activities. These findings support the argument that remittance can act as a substitute for income diversification by easing financial constraints and reducing the necessity for households to engage in labor-demanding off-farm and non-farm livelihood options.

Conversely, other studies have highlighted the potential remittances to support diversification. Mohammed and Tolossa (2016) found that in Tehuledere Woreda, Ethiopia, remittance significantly contributed to livelihood improvements in rural households. At the same time, Tarfa (2023) demonstrated that remittance had a positive impact on the livelihood of farm households in Adamawa State, Nigeria, by supporting productive assets. These contrasting findings suggest that the role of remittance and purpose in livelihood strategies may depend on contextual factors such as size, consistency, household priority, and local economic condition.

Ownership of Irrigation Land: As expected, ownership of irrigation land was found to have a positive and statistically significant effect on the likelihood of household participation in diversified livelihood strategies. Specifically, access to irrigation land was significant at the 10% level for the adoption of on-farm+ non-farm activities, with an odds ratio of 4.129, suggesting that households with irrigated land were over four times more likely to diversify beyond

traditional farming. Similarly, irrigation ownership significantly influenced the adoption of on-farm + non-farm+ off-farm, strategies at the 5% level, with an odds ratio of 12.227.

This implies that households with access to irrigated plots were more than 12 times more likely to engage in all three livelihood domains. This suggests that access to irrigation enables households to generate more income from farming, allowing them to invest in non-farm businesses. Similarly, Tegenge. (2020) , Gebru et al. (2018), and Mekonnen and Tesfaye (2020) found that access to irrigable land positively influences livelihood diversification, enabling households to engage in various income generation activities beyond traditional farming by enabling year-round farming and supporting investments in education and entrepreneurial activities which further promote engagement in non-farm sectors. The observed strong correlation between irrigation and diversification livelihood in this study can also be attributed to the strategic importance of irrigation in improving food security and generating surplus income, which can then be channeled into non-farm ventures.

Annual crop production: Annual crop production was significant at a 5% level, positively influencing the likelihood of involvement in three livelihood strategies. The odds ratio of 1.108 indicates that higher crop production increases the likelihood of engaging in diversified strategies, as surplus production can support other activities. This suggests that holding other factors constant, households with higher crop yields are more likely to engage in multiple livelihood activities. Surplus income enables households to invest in off-farm and non-farm opportunities. Additionally, greater crop production enhances food security, reducing the need for immediate subsistence farming and allowing households to explore alternative income-generating activities. This finding aligns with Barrett et al. (2001), which showed that agricultural productivity positively influences the ability to engage in off-farm and non-farm activities.

4.2.2 Perceptions of PSNP beneficiaries on availability and accessibility of livelihood strategies.

The study discovered that PSNP beneficiaries recognize crop farming as the most predominant livelihood activity, reported by 97.9% of respondents. Livestock related business activities such as fattening, rearing, and trading were cited by 96.9% of participants. These results align with studies by Tegenge (2020) who found that smallholder farmers in Ethiopia primarily rely on

farming and livestock as dominant livelihood sources. Employment through daily labor activities 13.9%, and service-based activities was 12.9%. This indicates that there are limited opportunities for diversification in the study area. In terms of accessibility, only 22.2% of respondents describe livelihood activities as very accessible, while 47.9% believe that somewhat accessible. A significant proportion (29.9%) reported that those livelihood activities were not accessible at all. This limited accessibility reflects findings by Hoddinott et al. (2012), who identified poor infrastructure and limited market access as key barriers to livelihood diversification in rural settings. Support services for PSNP beneficiaries were generally rated poorly.

The survey finding explore that about 41.7% of the respondents perceived the support from PSNP program are insufficient and 17.5% of respondents are satisfied with the technical support provided from Woreda PSNP program.

These results are consistent with Habib et al., (2023), who highlighted that insufficient training and limited access to financial services significantly affect participation in diversified livelihood activities. Regarding the PSNP role in improving access to the above mention livelihood category, 43.3% responded positive impact. However, 56.7% of the majority disagreed.

This finding was consistent with Bezu and Holden (2014), which showed that PSNP interventions often lack sufficient emphasis on creating sustainable livelihood opportunities. Respondents were asked to suggest improvements area by PSNP, and 27.2% identified improvement of access to credit as the critical need, followed by training and skill development suggested by 19.2% of the survey participants. These results align with the findings of Dercon et al. (2009), who underscored the importance of financial access and capacity building for improving rural livelihoods. Additional priorities included improved infrastructure (16.8%) and enhanced access to information (16.2%), which were also significant, highlighting the need for better connectivity and resource dissemination, as also noted by Gebru et al. (2018).

4.2.3 Barriers and constraints hindering PSNP beneficiaries in participation of livelihood activities.

The result of this study points out that environmental, limited resource, institutional, and structural barriers' are substantially limiting PSNP beneficiary's engagement in diverse livelihood activities.

The empirical data indicated that about 73.7% (see Table: 3) of respondents were unable to access credit, which clearly evidenced that there limitation to access credit for PSNP beneficiaries in the study area. It is observed that there are barriers both from the demand and supply sides. One of the FGD participants said that the MFI's long process and collateral requirements are one of the key barriers to accessing a loan. She said that even though they asked one of the MFIs, they pushed them to form a group of 20 people and first start saving. Though they able to form the group and start saving, they can't access the credit. Other participants from the FGD mentioned that, she try to access loan from MFI called Metemamen, but failed due to the request of livestock animal as collateral for the loan. However, the key respondents from MFI mentioned that due to recent security, and some kebeles are very far even beyond 30km, they are very challenged to serve the rural communities.

This finding is consistent with prior studies underline limited access to rural credit due to collateral requirements, stringent group formation rules, and institutional inefficiencies, which are limiting rural communities from accessing financial service (Zewde, 2023; Gebeyehu et al., 2019; Waje 2020). Financial exclusion is especially pronounced for poor and marginalized households in PSNP target areas, where informal financial system dominate, and formal financial institutional are often absent or unresponsive (Yezengaw et al., 2020). One of key informant from financial institution said that providing financial service in remote kebeles is very challenging due to recent security concern.

Another key informant from woreda cooperative office strengthen the above idea and he mentioned that, absence of credit from RuSACCOs is very challenging for PSNP clients, He added that, livestock disease is also one of the barriers that rural communities challenged.

It is identified that natural and physical resources also emerge as a major barrier. As per the finding from the research (Table 4) even though average landholding is 2.66 hectares, many PSNP household reported that they have no farm land. In addition, only 32% of the households

reported that the ownership of irrigable land at Bocceesa kebele. One of the FGD participants from Warja Woshgulla kebele mentioned that water is very challenging in there kebeles which limiting them to participate in animal fattening and other business.

Access to fertilizer and drought appear as one of barrier to involve in on-farm activities. In the study area, high price of fertilizer discourage PSNP beneficiaries to access fertilizer. Quantitative data showed that only 59.8% PSNP households own fertilizer. In addition limited rainfall and seasonal drought appear as one major barrier as per the information from FGD group. From quantitative data, about 38.2 cited drought and weather related shocks as major livelihood constraints and one of FGD member said that their crop is field as result of bad weather condition.

These barriers are further mirrored in recent studies stressing that unreliable rainfall pattern and climatic shocks gradually affecting income from diversification, agricultural productivity and food security in PSNP woredas (Hirvonen et al., 2020; Berhanu & Pouton, 2014).

The last barrier that identified within this study is poor institutional performance. Cooperatives, both saving and multipurpose, are one of the rural-based institutions that serve rural household in serving financial services and agricultural inputs. It is found that only 53.1% of the households are reported as members of cooperatives and their engagement in diverse livelihood activities are poor due to poor service delivery, weak institutional leadership. In addition, about 63.4% of PSNP reported they have no exposure of livelihood training probably because of poor performance government institutions implementing PSNP program. This finding is similar to Bezu and Holden (2014), who underlined that access to technical training and further follow-up for rural youth and women remain inadequate particularly in food insecure areas.

Chapter 5: CONCLUSION and RECOMMENDATION

5.1 Conclusion

The specific objective of this study was to undertake the determinants of livelihood diversification strategies among PSNP beneficiaries, analyze the perception of PSNP beneficiaries about the accessibility and availability of livelihood options, and identify key barriers hindering their involvement in diversified livelihood activities in ATJK Woreda. Results from MLR analysis confirmed that access to credit, total livestock unit, ownership of irrigation land, and participation in livelihood training were positively associated with a higher likelihood of adopting diversified strategies that combine, on-farm, on-farm and non-farm activities. This finding implies that young PSNP households with ownership of irrigation land, better livestock assets, access to credit, and livelihood training were among those that are more likely to adopt a combination of on-farm, non-farm, and off-farm activities.

Conversely, factors like cooperative membership, and remittance receipts have a negative association with participation in on-farm and off-farm livelihood activities. This implies that being a member of cooperatives has no contribution for PSNP beneficiaries to be involved in on-farm and non-farm probably because of poor cooperative service or low individual participation. In addition, those who have access to remittance either from family members or from the program failed to be involved in on-farm and non-farm activities may be due to a small amount of money, frequency, or no motive to participate in different income-bearing activities by assuming remittance as fixed income.

The study also explores the perception of PSNP beneficiaries toward the availability and accessibility of livelihood options. The majority of respondents (97.9%) perceive that on-farm (crop and livestock) remain the most available livelihood type, however significant number of the respondents (29.9%) perceived that non-farm livelihood category are not accessible or challenging for PSNP beneficiaries. This implies that PSNP program support is inadequate for PSNP beneficiaries in terms of awareness creation, access to credit, and business skill development. However, qualitative result from key informants shows that most PSNP beneficiaries are not willing to be involved in some selected business activities because of negative perceptions or fear of judgment, and a dependency mindset.

Furthermore, the study identified key barriers that constrain the participation of PSNP beneficiaries in diversified livelihoods. Some of the findings were long drought, absence of water in some kebeles, small farmland holding, and ineffective PSNP program implementation, high cost of fertilizer, and poor security situations which is limiting MFI to work across remote rural kebeles. In addition, poor loan repayment, low demand to involve in potential income-bearing activities, and developing dependency syndrome of PSNP beneficiaries on the support of the program appeared as possible barriers to involve in diversified livelihood activities in the study area.

5.2 Recommendation

Based on major findings the following recommendations are forwarded.

- It is evident that access to credit as critical barrier across all three surveyed kebeles. Both quantitative and qualitative data revealed that credit constraints remain a major impediment to livelihood diversification. Several challenges were identified and a few of them are: most of the RuSACCOs are unable to recover matured loans, strong collateral requirements by MFI, MFIs are unable to serve rural communities due to insecurity and inaccessible roads, and low financial literacy levels among many PSNP beneficiaries. To address these obstacles, the woreda cooperative office should work closely with local community leaders and RuSACCO leadership based at kebele level, woreda administration should work toward improving local security so that MFIs will operate effectively across remote kebeles, and MFI should revise their loan products and implement less stringent collateral requirements, making credit more accessible to PSNP clients.
- Livelihood training is a vital enabler for PSNP beneficiaries equipping them with business skill development, and financial literacy. However, this study found that only a limited number of beneficiaries had access to this training. The researcher highly recommends Woreda Agriculture and Natural Resources and other sector offices should allocate appropriate budget, skilled manpower and logistics to expand livelihood training.

By doing this, Woreda Agriculture and Natural Resources and the Woreda food security task force can ensure the participation of PSNP beneficiaries across diversified livelihood strategies.

- Woreda Food Security Task Force should give due attention to proper implementation of the program especially on livelihood training, access to finance and other enabling environment.
- It is found that the contribution of cooperatives for PSNP beneficiaries providing services that can support in diverse livelihood options is low. It is recommended that Woreda Cooperative Agency and Cooperative union should provide technical assistance and guidance for primary RuSACCOs and multipurpose cooperatives so that they can serve PSNP beneficiaries in better way.
- It is evident that long droughts, and uneven rainy seasons are one of the key barriers that affect crop production in the study area. Woreda Agriculture office should avail climate resilient seed, whereas Woreda small and micro enterprises should give high attention and technical support to PSNP beneficiaries so that they can be involved in non-farm business activities.

Reference

- AfDB (2022), African Development Report 2022: Accelerating Growth in Ethiopia: Key Structural Challenges to Address-A Policy Note.
<https://www.afdb.org/en/documents/ethiopia-accelerating-growth-ethiopia-policy-note>
- Abdurezak, F., Zemedu, L., & Belay, D. (2020). Determinant of Rural Household Participation In Non-Farm and Level of Generated Household Income from the Activities: The Case of Haramaya Woreda, East Hararghe Zone, Ethiopia.
Journal of Economics and Sustainable Development. <https://doi.org/10.7176/jesd/11-19-02>
- Abebaw, D., & Haile, M.G. (2013). The impact of cooperatives on agricultural technology Adoption: Empirical evidence from Ethiopia. *Food Policy*, 38, 82-891.
- Abebe, G.G. (2014). Off-Farm Income and Technical Efficiency of Smallholder Farmers in Ethiopia
Year of publication: 2014 No: 862 ISSN 1401-4084
- Abebe, M.A(2021). The role of cooperative in enhancing livelihood diversification among rural Households in Ethiopia. *Journal of Rural Studies*, 81 25-35
- Abate, Gashaw Tadesse; Bachewe, Fantu Nisrane; Regassa, Mekdim; and Minot, Nicholas. 2022. Rural income diversification in Ethiopia: Patterns, trends, and welfare impacts. IFPRI ProjectNote October 2022. Washington, DC: International Food Policy Research Institute (IFPRI). <https://doi.org/10.2499/p15738coll2.136460>
- Addisu Y (2017). Livelihood strategies and diversification in western tip pastoral areas Of Ethiopia. *Pastoralism: Research Policy and Practice* 7:9 DOI 10.1186/s13570-017-083-3
- Ahmed, M. T., Bhandari, H., Gordoncillo, P. U., Quicoy, C. B., & Carnaje, G. P. (2018). Factors affecting extent of rural livelihood diversification in Selected areas of Bangladesh. *SAARC Journal of Agriculture*, 16(1), 7-21.
- Adams, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in Developing countries? *World Development*, 33(10), 1645-1669.
- Alemu F. M. (2023). Measuring the intensity of rural livelihood diversification strategies, and Its impacts on rural households' welfare: Evidence from South Gondar zone, Amhara Regional State, Ethiopia. *MethodsX*, 10, 102191.
<https://doi.org/10.1016/j.mex.2023.102191>
- Aleka Aregachew Robeta (2011). Impact of Productive Safety Net Program On household Food Security: Case of Adami Tullu Jido Kombolcha Woreda of Oromia regional National State.
- Amare, D., & Belaineh, L.,(2013). Determinants of income diversification among rural households: The case of smallholder farmers in Fedis district, Eastern Hararghe zone, Ethiopia.
Journal of Development and Agricultural Economics, 5(3), 120-128.
- Amaka, E. O., & Muhammad, A. (2022). Livelihood diversification strategies in developing. Countries: A review. *Journal of Development Studies*, 58(1), 123-139.

- Ambaye, T. K., Tsehay, A. S., & Hailu, A. G. (2021). Analysis of the status and determinants of Rural households' access to agricultural extension services: The case of Jimma Geneti Woreda, Oromia Regional State, Ethiopia. *International Journal of Agricultural Extension and Rural Development Studies*, 8(1), 52-99.
- Anshiso, D., & Shiferaw, M. (2016). Determinants of rural livelihood diversification: The case Of rural households in Lemmo district, Hadiyya Zone of Southern Ethiopia. *Journal of Economics and Sustainable Development*, 7(5), 32-39.
- Asfaw, S., Shiferaw, B., Simtowe, F., & Lipper, L. (2012). "Impact of modern agriculture Technologies on smallholder welfare: Evidence from Tanzania and Ethiopia". *Food policy* 37, no.3 (2012): 283-295
- Asfaw, S., Carraro, A., Davis, B., Handa, S., & Seidenfeld, D. (2012). The impact of the Kenya CT-OVC program on productive activities and labor allocation. *Journal of Development Effectiveness*, 4(1), 9-37. <https://doi.org/10.1080/19439342.2012.663472>
- Asfir, S. (2016). Determinants of Rural Households Livelihood Strategies: Evidence from Western Ethiopia. *Journal of Economics and Sustainable Development*, 7, 103-109.
- Amare, M.T. (2020). Determinants of Rural Household's Livelihood Strategies in Machakel Woreda, East Gojjam Zone, Amhar National Regional State, Ethiopia
- Bacha, D., Namara, R., Bogale, A., & Tesfaye, A. (2011). Impact of small-scale irrigation On household poverty: Empirical evidence from Ambo district in Ethiopia. *Irrigation And Drainage*, 60(1), 1-10.
- Barrett, C.B., & Reardon, T. (2000). Asset, Activity, and Income Diversification among Africa Agriculturalists: Some Practical Issues. *Food Policy*, 25(4), 388-402.
- Barrett, C. B., Reardon, T., & Webb, P. (2001). Nonfarm income diversification and household livelihood strategies in rural Africa: concepts, dynamics, and policy implications. *policy*, 26(4), 315-331
- Barrett, C.B., M. Bezunh and A. Aboud. (2001). Income Diversification, poverty Traps and Policy Shocks in Cote D'Ivoire and Kenya. *Food Policy* 26(4):367-3
- Bekele, S. (2017). Rural Household Livelihood Strategies Choices: The case of Humbo Woreda, Wolaita Zone, Southern Nation Nationalities and Peoples State, Ethiopia. *Journal of economics and sustainable development*, 8 69-85.
- Berhane, G., Hoddinott, J., Kumar, N., & Taffesse, A. S. (2011). The impact of Ethiopia's productive safety nets and household asset building programme: 2006–2010. *Washington, DC: International Food Policy Research Institute*
- Benrnanrd, T., Taffesse, A. S., & Gabre-Medhin, E. (2010). Impact of cooperative on smallholders commercialization behavior: Evidence from Ethiopia. *Agriculture Economics*, 41(3-4), 317-328.
- Berhane, G., Hoddinott, J., Kumar, N., & Taffesse, A. S. (2014). The impact of Ethiopia's Productive Safety Nets and household assets building program: 2006–2010. *Journal of Development Studies*, 50(10), 1559-1582. <https://doi.org/10.1080/00220388.2014.937828>

- Berhanu Lakew, T., & Azadi, H. (2020). Financial inclusion in Ethiopia: Is it on the right track? *International Journal of Financial Studies*, 8(2) 28.
<https://doi.org/10.3390/ijfs8020028>(<https://doi.org/10.3390/ijfs8020028>).
- Berhanu,K., & Poulton, C.(2014). The political economy of agricultural extension policy in Ethiopia: Economic growth and political control. *Development policy Review*, 32(s2), 197-213
- Bezu, S. & Holden, S. (2014). Are rural youth in Ethiopia abandoned agriculture? *World Development*, 64, 259-272. <https://doi.org/10.1016/j.worlddev.2014.06.013>
- Birara, Endalew, Mequanent, Muche, & Samuel Tadesse, (2015). Assessment of food security situation in Ethiopia: a review. *Asian Journal of Agricultural Research*, 9(2), 55-68
- Chambers, R. (1987). *Sustainable Livelihoods: A Case Study of the Changes in Households in Response to Agricultural Modernization*. IDS Discussion Paper 240. Institute of Development Studies.
- Chambers, R., & Conway, G. (1991). *Sustainable rural livelihoods: practical concepts for the 21st century*. Institute of Development Studies (UK).
- Chambers, R., & Conway, R. (1992). Sustainable rural livelihoods: Practical Concept for the 21st century IDS Discussion Paper, 296, 127-130.
<https://www.ids.ac.uk/publications/sustainable-rural-livelihoods-practical-concepts-for-the-21st-century>.
- Change, O. C. (2007). Intergovernmental panel on climate change. *World Meteorological Organization*, 52(1-43), 1.
- Dadi W (2016). *Livelihood Diversification As Household Strategies. A Case Study of Rural Kebeles Around Gelan Town, Oromia, Ethiopia*. Thesis MA in Geography and Environmental Studies Addis Ababa University, Addis Ababa, Ethiopia.
- Debele B, Desta G (2016). Livelihood diversification: strategies, Determinants and Challenges for Pastoral and Agro-Pastoral Communities of Bale Zone, Ethiopia. *International Review of Social Sciences and Humanities* 11(2):37-51.
- Davies, J. & Hatfield, G. (2020). Livestock ownership and diversified livelihoods in rural Ethiopia: A study of household income-generating activities. *Journal of Rural Economics*, 15(2), 45-62
- Dercon, S., Gilligan, D. O., Hoddinott, J., Woldehanna. T.(2009) The impact of agriculture Extension and roads on poverty and consumption growth in fifteen Ethiopian villages. *American Journal of Agricultural Economics*, 91(4), 1007-1021.
<https://doi.org/10.1111/j.1467-8276.2009.01313.x>
- Dereje, D., Tilahun, T., & Yirgu, T. (2024, February 21). *Livelihood diversification strategies and food security in the weaving-based livelihood system of Gamo Zone, Southern Ethiopia* (Version 1) [Preprint]. Research Square.
<https://doi.org/10.21203/rs.3.rs-3937867/v1>

- De Haas, H. (2007). *Remittances, migration and social development: A conceptual review of the literature* (Vol. 34). Geneva: United Nations Research Institute for Social Development.
- De Haan, L. (1999). Livelihood and Poverty: The Role of Migration -A Critical Review of the Migration Literature. *Journal of Development Studies*, 36(2), 1-47.
- Demie, A., & Zeray, N. (2015). Determinants of participation in the rural nonfarm economy in Eastern Ethiopia. *Journal of Economics and Sustainable Development*, 6(23), 9-20.
- Devereux, S.; Sabates-Wheeler, R.; Tefera, M. and Taye, H. (2006) Ethiopia's Productive Safety Net Program: Trends in PSNP transfers within targeted households. Brighton: Institute of Development Studies; Addis Ababa: Indak International Pvt. L. C.
<http://www.ids.ac.uk/files/PSNPEthiopia.pdf>
- Devereux, S., & Guenther, B. (2009). Agriculture and Social Protection in Ethiopia. Retrieved from www.future-agricultures.org
- DFID, U. k. (1999). Sustainable Rural Livelihoods Guidance Sheet, London: DFID, 445,710
- Doss, C., et al, (2018). The role of livestock ownership in household livelihood diversification: Evidence from sub-Saharan Africa. *Agricultural Economics Review*, 21(3) 301-315
- Dick, R. (2014). Gender, Livelihood Diversification, and Sustainable Agriculture: A Review of Evidence from Sub-Saharan Africa. IFPRI Discussion Paper, (01394).
- Ebaidalla, E. M. (2020). *Participants in Non-Farm Activities in Rural Sudan: Patterns and Determinants* (Doctoral dissertation, AERC).
- Ellis, F. (1998). Household strategies and rural livelihood diversification. *The journal of development studies*, 35(1), 1-38
- Ellis.F. (1991). Livelihood diversification strategies in developing countries: Evidence and Policy Implication
- Ellis, F., & Freeman, H. A. (2004). *Rural livelihoods and poverty reduction policies*. Routledge.
- Ellis, F. (2000). The determinants of rural livelihood diversification in developing countries. *Journal of Agric Econ*.51(2):289–302
- Ellis, F. (2000). *Rural livelihood and diversity in developing countries*. Oxford University Press.
- Ellis, F. (2003). A livelihoods approach to migration and poverty reduction.
- Eneyew, A., & Bekele, W. (2012). Determinants of Livelihood Strategies in Wolaita, Southern Ethiopia. *Agricultural Research and Reviews*, 1(5) 153-161.
- Ethiopian Statistics Service.(2024). Projected population of Ethiopia by region and sex.
https://ess.gov.et/download/projected_population-2024/

- Ethiopian Metrology Institute, (2025). Monthly average rainfall and temperature data of Adami Tullu Jido Kombolcha
- Fabusoro, E., Omotayo, A. M., Apantaku, S. O., & Okuneye, P. A. (2010). Forms and Determinants of rural livelihoods diversification in Ogun State, Nigeria. *Journal of Sustainable Agriculture*, 34(4), 417-438.
- FAO. (2019). Digital technologies in agricultural and rural areas, Briefing paper. Food and Agriculture Organization of the United Nation. <https://www.fao.org>
- Food and Agriculture Organization of the United Nations. (2018). The state of food security and Nutrition in the world 2018: Building climate resilience for food security and nutrition.
- Gajabo, T. Y. (2024). *Impact of Livelihood Diversification on Food Security of Rural Households in Boloso Sore District of Wolaita Zone, South Ethiopia*. 1(2), 13–22. <https://doi.org/10.69739/jebc.v1i2.143>
- Gebremedhin, T., Berhanu, A., & Tefesse, A. (2018). Gender Differences in Livelihood Strategies: A Case Study in Rural Ethiopia. *Gender, Place & Culture*, 25(2), 267-283
- Gebrehiwot Weldegebrial Gebru., Ichoku, H. E., & Phil-Eze, P. O. (2018). Determinants of livelihood Diversification strategies in Eastern Tigray Region of Ethiopia. *Agriculture & Food Security*, 7(1), 1-9. <https://doi.org/10.1186/s40066-018-0214-0>
- Gebeyehu, L., Emanu, B., Mitiku, F., & Ejeta, T. T. (2019). Determinants of Access to Agricultural Credit among Small holder Maize Farmers: The Case of Hababo Guduru District, Horro Guduru Wollega Zone, Ethiopia. *International Journal of Horticulture*, 3(3), 112–118. <https://doi.org/10.22161/IJHAF.3.3.1>
- Gecho Y (2017). Rural Farm Households’ Income Diversification: The Case of Wolaita Zone, Southern Ethiopia. *Social Sciences* 6(2):45- 56. doi: 10.11648/j.ss.20170602.12
- Gemechu, T. (2015). The Current and Future Trend of Rainfall and Its Variability in Adami-Tulu Jido-Kombolcha Woreda, Central Rift Valley of Ethiopia. *Journal of Environment and Earth Science*, 5(22), 40–49. <https://iiste.org/Journals/index.php/JEES/article/download/27591/28313>
- Getahun Tsegaye and Mahlet Fasil (May 4 2022) Analysis: Farmers brace worse as fertilizer Prices rise, and planting season approaches. Addis Standard) <https://addisstandard.com/analysis-farmers-brace-for-the-worst-as-fertilizer-prices-rise/>
- Gilligan, D. O., Hoddinott, J., & Taffesse, A. S. (2009). The impact of Ethiopia’s Productive Safety Net Programme and its linkages. *The Journal of Development Studies*, 45(10), 1684-1706. [Link to the study](#)
- Girma, J., & Gardebroek, C. (2015). The impact of Ethiopia’s productive safety net programme on household food security and asset formation: Panel data evidence. *Agricultural Economics*, 46(6), 706-720. <https://doi.org/10.1111/agec.12180>
- Girma, B., & Kerorsa, G. (2023). *The Practice of Livelihood Diversification in Rural Bale Zone: The Case of Sinana District, Oromia, Ethiopia*. <https://doi.org/10.21203/rs.3.rs-3255639/v2>
- Haan de L, Zoomers A (2005). Exploring the frontier of livelihoods research. *Development and change*. 36, 1:27-47
- Haggblade, S., Hazell, P. B., & Reardon, T. (Eds.). (2007). *Transforming the rural nonfarm economy: Opportunities and threats in the developing world*. Intl Food Policy Res Inst.

- Habib, N., Ariyawardana, A., & Aziz, A. A. (2023). The influence and impact of livelihood capitals on livelihood diversification strategies in developing countries: a systematic literature review. *Environmental Science and Pollution Research*, 30(27),
- Haggblade, S., Hazell, P., & Reardon, T. (Eds.). (2010). Transforming the rural nonfarm Economy: Opportunities and threats in the developing world. World Bank Publications.
- Haggblade, S., Hazell, P. and Reardon, T., 2010. The rural non-farm economy: Prospects for growth and poverty reduction. *World development*, 38(10), pp.1429-1441
- Hirvonen, K., Taffesse, A. S., & Hassen, I. W. (2016). Seasonality and household diets in Ethiopia. *Public health nutrition*, 19(10), 1723-1730.
- Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression*. (Vol. 398). John Wiley & Sons.
- Hoddinott, J., Berhane, G., Gilligan, D. O., Kumar, N., & Taffesse, A. S. (2012). The impact of Ethiopia's productive safety net programme and related transfers on agricultural productivity. *Journal of African Economies*, 21(5), 761-786.
<https://doi.org/10.1093/jae/ejs023>
- Iqbal, M. A., Rizwan, M., Abbas, A., Makhdom, M. S. A., Kousar, R., Nazam, M., ... & Nadeem, N. (2021). A Quest for Livelihood Sustainability? Patterns, Motives and Determinants of Non-Farm Income Diversification among Agricultural Households in Punjab, Pakistan. *Sustainability*, 13(16), 9084.
- Kassie, G. W., Kim, S., & Fellizar Jr, F. P. (2017). Determinant factors of livelihood Diversification: Evidence from Ethiopia. *Cogent Social Sciences*, 3(1), 1369490
- Kassegn, A., & Abdinasir, U. (2023). Determinants of rural households' livelihood Diversification strategies: In the case of north Wollo zone, Amhara National Regional State, Ethiopia. *Cogent Economics & Finance*, 11(1).
<https://doi.org/10.1080/23322039.2023.2185347>
- Koumou, G.B. (2020). Diversification and portfolio theory: A review. *Financial Markets and Portfolio Management*, 34, 267–312¹²
- Lanjouw, P., & Shariff, A. (2004). Rural non-farm employment in India: Access, incomes and Poverty impact. *Economic and Political Weekly*, 4429-4446.
- Lemi, A. (2006). The dynamics of income diversification in Ethiopia: Evidence from panel data.
- Lemma, A., Tadesse, B., & Abate, C. (2021). Access to microcredit and livelihood diversification among rural households in Ethiopia: The role of the Productive Safety Net Program. *Journal of Development Economics* 35(4), 567-583.
- Mahama, T. A. K., & Maharjan, K. L. (2017). Determinants of livelihood diversification in Ghana from the national livelihood strategies and spatial perspective. *Journal of International Development and Cooperation*, 23(1), 75-90.
- Manlosa, A. O., Hanspach, J., Schultner, J., et al. (2019). Livelihood strategies, capital assets, and food security in rural Southwest Ethiopia. *Food Security*, 11, 167–181. <https://doi.org/10.1007/s12571-018-00883-x>

- Markowitz, H. (1952). "Portfolio Selection." *The Journal of Finance*, 7(1), 77-91.
- Mengistie D, Kidane D (2016). Assessment of the Impact of Small-Scale Irrigation on Household Livelihood Improvement at Gubalafto District, North Wollo, Ethiopia. *Agriculture* 6:27. doi:10.3390/agriculture 6030027
- Mentamo, M., & Geda, N. R. (2016). Livelihood diversification under severe food Insecurity scenario among smallholder farmers in Kadida Gamela District, Southern Ethiopia. *Kontakt*, 18(4), e258-e264.
- Mendola, M. (2008). Migration and technological change in rural households: Complements or substitutes?. *Journal of Development Economics*, 85(1-2), 150-175.
- Mekonnen, M., & Tesfaye, A. (2020). The role of small-scale irrigation in promoting rural livelihood diversification: Evidence from Ethiopia. *African Journal of Agriculture Economics*, 18(1), 89-105
- Melaku Debela, (2016). Factors affecting livelihood diversification and implications on household food Security in borana zone: the case of yabello and dugda dawa woredas (Doctoral dissertation, st. mary's university).
- Mintewab Bezabih, Zenebe Gebreegzaabher, Liyousew GrebreMedhin, & Kohlin, G. (2010). Participation in off-farm employment, rainfall patterns, and rate of time preferences: The case of Ethiopia (Environment for Development Discussion Paper Series No. Efdp DP 1—21.
- Mudzielwana, R.V.A.; Mafongoya, P.; Mudhara, M. An Analysis of Livelihood-Diversification Strategies among Farmworker Households: A Case Study of the Tshiombo Irrigation Scheme, Vhembe District, South Africa. *Agriculture* 2022, 12, 1866. <https://doi.org/10.3390/agriculture12111866>
- Mulugeta, Y., & Tadesse, D. (2021). The impact of agricultural cooperatives membership on the wellbeing of smallholder farmers: empirical evidence from eastern Ethiopia. *Agriculture & Food Security*, 10(1), 1-12.
- MoARD (Ministry of Agriculture and Rural Development), (2016). Food security program 2021- 2025: Productive safety net. Addis Ababa, Ethiopia
- MoARD (Ministry of Agriculture and Rural Development), (2021). Food security program 2021- 2025: Productive safety net. Addis Ababa, Ethiopia
- Mohammed, A.A (2017). Impact of Ethiopia's productive safety net program (PSNP) on the household livelihood: The case of Bible District in Somali Regional state, Ethiopia. *International Journal of Economy, Energy and Environment*, 2(2), 25.
- Mohammed, K., & Tolossa, D. (2016). Contribution of remittance to the improvement of rural households livelihoods: the case of Tehuledere Woreda, Northeastern Ethiopia. *Journal of Development and Agricultural Economics*, 8(10), 228-240.
- Niehof, A. (2004). The significance of diversification for rural livelihood systems. *Food Policy*, 29(4), 321-338.
- Neglo, K. A. W., Gebrekidan, T., & Lyu, K. (2021). Determinants of participation in non-farm Activities and its effect on household income: An empirical study in Ethiopia. *Journal of Development and Agricultural Economics*, 13(1), 72–92. <https://doi.org/10.5897/JDAE2020.1231>
- Pankhurst, A. (2017). Resettlement and mobility in Ethiopia: Paradigms, policies, and politics. *Migration and Development* (pp.173-195). Springer.
- Putnam, R. D. (2000). *Bowling Alone: The Collapse and Revival of American Community*.

- Simon & Schuster.
- Quisumbing, A. R., Rubin, D., Manfre, C., Waithanji, E., van den Bold, M., Olney, D., ... & Meinzen-
- Roba, B., & Tolossa, D. (2016). Rural livelihood diversification and its effects on household Food security: A case study at Damota Gale Woreda, Wolayta, Southern Ethiopia. *Eastern Africa Social Science Research Review*, 32(1), 93-118.
<https://doi.org/10.1353/eas.2016.0001>
- Sabates-Wheeler, R., & Devereux, S. (2010). Cash transfers and high food prices: Explaining outcomes on Ethiopia's productive safety net programme. *Food Policy*, 35(4), 274-285.
<https://doi.org/10.1016/j.foodpol.2010.01.001>
- Reardon, T., Webb, P., & Barrett, C. (2001). Nonfarm Income Diversification and Household Livelihood Strategies in Rural Africa: Concepts, Dynamics and Policy Implications. *Food Policy* 26, 315-331. [https://doi.org/10.1016/S0306-9192\(01\)00014-8](https://doi.org/10.1016/S0306-9192(01)00014-8).
- Sanusi, W. A., Dipeolu, A. O., & Momoh, S. (2016). Determinants of Participation in Non-Farm Activities among Rural Households in Osun State- An Application of Multinomial Logit (Mnl) Model. *International Journal of African and Asian Studies*, 25, 66–72.
<https://iiste.org/Journals/index.php/JAAS/article/download/32992/33888>
- Shafe, M. (2019). Livelihood Strategies of Landless Rural households and determinants of Choice of Strategies: The Case of Wolmera Woreda of Oromia Regional of Ethiopia
- Scoones, I. (2013). Livelihoods perspectives and rural development. In *Critical perspectives in rural development studies* (pp. 159-184). Routledge.
- Scoones, I. (1998). Sustainable rural livelihoods: a framework for analysis.
- Sosena Mellese,(2022). Contribution of Livelihood diversification on rural household food security. Addis Ababa University, Master Thesis
- Start, D. (2001). The rise and fall of the rural non-farm Economy: Poverty Impacts and Policy options. *Development policy review*, 19(4), 491-505.
- Kassie, G. W., Kim, S., & Fellizar, F.P. (2015). Determinant factor of livelihood diversification: Evidence from Ethiopia. *Cogent Social Science*, 1(1), 1043650.
<https://doi.org/10.1080/23311886.2015.1043650>
- Tafesse, A., Balta, A. and Weldeyohannes, D. (2015). Small Holder Farmers' Participation in Non-FarmActivities: Evidence from Humbo District, Southern Ethiopia. *Journal of Poverty, Investment and Development*, ISSN 2422-846X An International Peer-reviewed Journal, Vol.7
- Tarfa, J. Z. Effect of Remittances on the Livelihood of Farm Households in Adamawa State. Nigeria. <https://doi.org/10.37745/ijaerds.15/vol10n1115>.

- Tefera, T. L., Perret, S., & Kirsten, J. F. (2004). Diversity in livelihoods and farmers' Strategies in the Hararghe Highlands, eastern Ethiopia. *International Journal of Agricultural Sustainability*, 2(2), 133-146.
- Tegenge Derbe. (2020). Determinants of smallholder farmers' livelihood strategies in Wogera district of Ethiopia. *Ethiopian Renaissance Journal of Social Sciences and the Humanities*, 7(1), 106-116.
- Tezera Mulugeta(2010). Determinants of rural household livelihood diversification: the case of libo kemkem woreda, Amhara region. Addis Ababa: AAU
- Tenaw Z (2016). Constraints of Pastoral and Agro-pastoral Livelihood Diversification in Eastern Ethiopia: The Case of Mieso District, Oromia Regional State. *International Journal of Sciences Basic and Applied Research (IJSBAR)* 26(3): 267-274
- Teshome, B., & Edriss, A. K. (2013). *Determinants and patterns of income diversification among smallholder farmers in Akaki district, Ethiopia* (No. 634-2016-41518).
- Teshome, B. (2010). Determinants of Rural Livelihood Strategies: The case of Rural kebeles of Dire Dawa Administration.
- Teshome, A.(2020). Determinants of rural households' livelihood diversification strategies: In the case of north wollo zone. Amhara National Region State, Ethiopi.
- Tilahun A, Teklu B, Hoag D (2017). Challenges and contributions of crop production in agro pastoral systems of Borana Plateau, Ethiopia. *Pastoralism: Research Policy and Practice* 7(2):2-8. DOI 10.1186/s13570-016-0074-9
- Tizazu, M., Ayele, G., & Ogato, G.(2018) Determinants of Rural Households livelihood diversification Strategies in kuarit District, West Gojjam Zone of, Amhara Region Ethiopia., 6, 61. <https://doi.org/10.11648/J.JEBO.20180603.11>.
- WAO (2021). Woreda Agriculture Office 2021. Adami Tullu Jido Kombolcha Woreda
- Waje, S. S. (2020). *Determinants of Access to Formal Credit in Rural Areas of Ethiopia: Case Study of Smallholder Households in Boloso Bombbe District, Wolaita Zone, Ethiopia*. 9(2), 40. <https://doi.org/10.11648/J.ECO.20200902.13>
- Weldegebriel, Z., & Prowse, M. P. (2013). Climate change adaptation in Ethiopia: to what extent does social protection influence livelihood diversification? *Development Policy Review*, 31(Suppl. s2), o35-o56. 10.1111/dpr.12038
- Wordofa, C. B. (August 2019). Determinants of graduation from Productive Safety Net Program: A CASE study in Chiro District, Oromia National Regional State, Ethiopia. <https://etd.aau.edu.et/items/c3ec6751-d2f1-4dd5-a3b0-9402da2c9da3>
- World Bank.(2013). Ethiopia economic update: Laying the foundation for achieving middle Income status. Retrieved from: <https://www.worldbank.org/en/country/ethiopia/publication/ethiopia-economic-update-laying-the-foundation-for-achieving-middle-income-status.print>
- Woinishet Asnake . (2010). Participation into Off-farm Activities in Rural Ethiopia: who earns more? MA Thesis, Erasmus University, Hague, Netherlands
- Yishak G, Gezahegn A, Tesfaye L, Dawit A (2014). Rural household livelihood strategies: Options and determinants in the case of Wolaita Zone, Southern Ethiopia. *Journal of Social Sciences* 3(3):92-104.

- Yan, J., Wu, Y., Zhang, Y., & Zhou, S. (2010, August 3). Livelihood diversification of farmers and nomads of eastern transect in Tibetan Plateau.
<https://scite.ai/reports/10.1007/s11442-010-0809-2>
- Yamane, T. (1967). *Statistics: An Introductory Analysis* (2nd ed.). New York: Harper and Row.
- Yu, C., Gao, J., Han, Y., Wang, Y., & Sun, J. (2022). Eliminating deprivation and breaking Through dependence: a mechanism to help poor households achieve Sustainable livelihoods by targeted poverty alleviation strategy. *Growth and Change*, 53(3), 1436-1456. <https://doi.org/10.1111/grow.12634>
- Yizengaw, Y. S., Okoyo, E. N., & Beyene, F. (2015). Determinants of livelihood diversification strategies: The case of smallholder rural farm households in Debre Elias Woreda, East Gojjam Zone, Ethiopia. *African journal of agricultural research*, 10(19), 1998-2013.
- Yizengaw, Y., Woldehanna, T., & Kassie, M. (2020). Rural financial inclusion and agricultural Productivity in Ethiopia: Exploring mechanisms and impacts. *African Journal of Agricultural and Resource Economics*, 15(2), 131-145.
- Zewde, M. (2023). *Determinants of Firms' Access to Formal Credit and Intensity of Loan in Ethiopia*. <https://doi.org/10.56302/jads.v9i2.8345>

Annex: Questionnaire



Addis Ababa University Collage of Developmental Studies Center for Rural Development

Survey Questionnaire

Questionnaire on Determinants of Livelihood Diversification Strategies among Productive Safety Net Program Beneficiaries: The Case of Adami Tulu Jido Kombolcha Woreda.

Interviewer Name _____ Signature _____ date _____
Name of Kebele _____
Questionnaire ID number _____

Section 1, General information about respondent / Demographic information

Introduction

My name is _____ and I am assigned to collect data for academic research purpose. This thesis is done by Getu Temesgen as partial fulfillment for his Master of Arts in Development Studies (Rural Livelihoods and Development) at Addis Ababa University. We ensure that the information you give will only be used for academic purposes and remain confidential. Hence, your kind and precise response is very helpful to achieve the objective of this study.

Are you willing to go to this interview? Yes/No

1. Name of the household head _____ Age _____
2. Sex of the household head (Male=1, Female=2) _____
3. Household heads education level attained (1, Illiterate 2. Read and write/literacy program 3. Primary level 1-4 grade 4. Lower secondary level 5-8 grade 5. Secondary levels (9-10) 6. Higher level or preparatory (11-12) 7. 10+3 complete 8. bachelor's degree or higher level
4. Spouse's education level attained (1, Illiterate 2. Read and write/literacy program 3. Primary level 1-4 grade 4. Lower secondary level 5-8 grade 5. Secondary levels (9-10) 6. Higher level or preparatory (11-12) 7. 10+3 complete 8. bachelor's degree or higher level.
5. Education status of other household members,
Male members= (1, Illiterate 2. Read and write/literacy program 3. Primary level 1-4 grade 4. Lower secondary level 5-8 grade 5. Secondary levels (9-10) 6. Higher level or preparatory (11-12) 7. 10+3 complete, 8. bachelor's degree or higher level.
Female members= (1, Illiterate 2. Read and write/literacy program 3. Primary level 1-4 grade 4. Lower secondary level 5-8 grade 5. Secondary levels (9-10) 6. Higher level or preparatory (11-12) 7. 10+3 complete, 8. bachelor's degree or higher level.

6. Marital status of respondents (A/single=1, B/Married=2, C/Divorced=3, D/Widowed =4)
7. Are you polygamy? Yes=1, No=0
8. Number of family members (*includes households head*) A. Male _____ B. Female _____
9. Number of children (*under the age of 15*) (A. Boys _____ B. Girls _____)
10. Number of dependent households' member (< 15, > 64 age and *petaints*),
A/< 15____, B/> 64 age and *petaints*____,
11. Is the head of the household capable of working? Yes=1, No=2
12. If the answer of Q#11 is No, or (not capable), why? Sick=1, person with disabilities=2, aged=3, other=4

Section 2 Information related to productive safety net program (PSNP).

13. Are you beneficiaries of PSNP? Yes=1, NO=0
14. When were you targeted by the program? A/Before 1 year=1, B/Before 2 year=2, C/before 3 year=3, D/Before 4 year and above=4
15. Number of family members targeted by PSNP? _____
16. Number of family members not targeted by PSNP? _____

Section 3, Livelihood Assets (Human, social, Physical, Financial, Natural)

Human Capital

17. Have you ever attended any livelihood skill training provided by PSNP HABP? Yes=1, No=0
18. If your answer for the above question #17 is Yes, what type of training do you access from the PSNP?
1, Financial literacy, 2, Business skill, 3, Crop production and livestock fattening/on-farm 4, non-farm type, 5, off-farm type
19. How many members of your household are in the age category of 15-64 and are able to work?
A. Male_____, B. Female_____
20. Do any of your family members are semi-skilled? If yes=1, No=0
21. If your answer for question number #20 is yes, please mention type the skill listed under.
A, Masonry =1, B. Carpentry=2, C. Black smith=3, D. barberry...
22. How many family's members are skilled? A Masonry_____, B. Carpentry_____, C. Black smith_____, D. Barberry_____
23. Have your family members been sick and admitted to hospital in the last 12 months? Yes=1, No=0
24. Please mention the source of finance you used to access health services. A, Community-based health insurance, B, own finance, C, support from others (Idir, relatives, neighbor).
25. Do you have any health issues that hinder you from engaging in different livelihood activities? Yes=1, No=0

Social Capital

26. Are you member of Cooperative in your kebeles? Yes=1, No=0
27. If your answer for the above question#26 is yes, which cooperative types are you member? A, Rural saving and credit cooperative organization (RuSACCO), B, Multipurpose farmers cooperatives, C, Both Rural saving and credit cooperatives and multipurpose farmers cooperatives
28. Have you able to access any service from the Cooperatives in the last 12 month? Yes=1, No=0
29. If your answer is for question#28 is yes, what kind of service did you access from Cooperatives?
A=Saving, B=loan, C= Agricultural input (fertilizer, seed, pesticide, training), D. None
30. Are you members of social and economic insurance (Idir)in your kebele? Yes=1, No=0
31. If your answer is yes to the question above#30 what type of benefit/ service, you accessed in the last 12 month? A. benefit because of death, B. short term credit, C. Any other(specify)_____
32. Are you a member of a religious related social group? Yes=1, No=0
33. If your answer is yes for the above#36 questioner, did you conduct any celebration with the member in the last 12 months? Yes=1, No=0

34. How important are social networks (family, friends, and neighbors) in supporting your livelihood activities? A=Not important, B= somewhat important, C=Very important.
 35. Have you received any form of social or community support that has helped you in your livelihood pursuits? Yes=1, No=0, If yes, please describe the nature of the support and its impact on your livelihood activities: Please specify
 36. In the last 12 months, did you receive any kind of support from the government or NGOs? Yes=1, No=0, if yes, does really the support have any significant impact on your livelihood? _____
-

Physical Capital

37. How would you be the quality and accessibility of local infrastructure, such as roads, bridges, and water supply systems in your community?
A. Nothing=0, B. Moderate=1, C. Good=2
38. Do inadequate infrastructures or lack of access to basic service hinder your abilities to engage in diversified livelihoods?
Yes=1, No=0
39. Do transportation constraints affect your ability to transport goods or access market for selling agricultural produce or other products?
Yes=1, No=0
40. Do you face challenges in accessing markets or buyers for your products or services due to transportation barriers or poor road conditions? Yes=1, No=0
41. Did you visit the market center? Yes=1, No=0
42. Is there electricity power in your kebeles? Yes=1, No=0
43. If your answer to the question number# 42 is yes, do your electric power are supporting any of your livelihoods of business? Yes=1, No=0, If yes please specify how and what type of business you are doing with access to electric power? _____
44. Is your house being corrugated iron sheet roof type? Yes=1, No=0
45. Please say yes or no if you have the following household assets. Fill 1 if the answer is Yes and fill 0 if the answer is NO (Yes=1, No=0)

1/ TV____2/Bed____3/Chair and
table____4/Refrigerator____5/Mobile____6/Motorcycle____7/water pumpe____8/Farm tools_____

Financial Capital

46. Are there financial service providers in your kebeles (MFI, RuSACCO, Bank)? Yes=1, No=0
47. Are there informal financial mechanisms or community-based saving and lending (Ekub, Idir, relatives or neighbors) practices that you rely on for financial support? Yes=1, No=0
48. If your answer for the above question#47 is yes, did you access any financial services like savings, credit, insurance, and others in the last two years? Yes=1, No=0
49. Did you access any loan/credit from Financial Services in the last two years for investment in income-generating activities or productive assets? Yes=1, No=0
50. If your answer for the question# 49 is No, what were the challenges/ berries?
A. I have no awareness about the service =1,
B. I have awareness but no loan service=2,
C. Lack of collateral=3,
D. High interest rate=4,
E. Fear of indebtedness=5,
F. The service providers are too far=6

G. Just I don't need it=7

51. Are you currently engaged in savings or financial planning to meet future expenses or investment? Yes=1, No=0
52. Have you made any investments in productive assets or income-generating activities using your saving or financial resources? Yes=1, No=0
53. Have you received any remittance in the last 12 months? Yes=1, No=0
54. If your answer for the above question#53 is yes, did you use this money to start income generating activities? If you yes, what type of IGA? _____
55. Did you receive any awareness or training on financial literacy in the last two years? Yes=1, No=0
56. Please mention how many livestock resources you have?
A/Ox____, B/Cow____, C/Heifer and Calf____ D/Shoat (sheep and goat) _____
E/Donkey _____ F/Horse_____ G/poultry_____
57. Do you have accounts at Bank and MFI? Yes=1, No=0
58. Do you save money at Bank? Yes=1, No=0
59. If your answer for question #58 is yes, for what reason do you save? A. For consumption=1, B. For investment=2, C. For agricultural inputs=3, D. For social events (weeding, birthday, holyday.) =4 E. For accumulation of wealth

Natural Capital

60. Do you have your own land (irrigable)? Yes=1, No=0
61. If your answer is yes to the above question #60, please mention the in hectare? ____
62. Do you think your land is fertile and productive? Yes=1, No=0
63. Do you have grazing land? Yes=1, No=0
64. If your answer for question#63 is yes, do you gain any income from sales of grass or rent of grazing land in the last two years? Yes=1, No=0, Please mention the amount of the income. ____
65. Do you own a forest (eucalyptuses/baharzaf tree)? Yes=1, No=0
66. If your answer for question number #65 is yes, do you gain any income from the forest(eucalyptus) in the last two years? Yes=1, No=0
67. Do you have irrigation land? Yes=1, No=0
68. If yes for the above question #67, please mention the land size in (ha)_____
69. Did you produce any crop or vegetable by using the irrigation on your own land or rent in the last two years? Yes=1, No=0
70. If your answer for the above question#69 of yes, please answer the following question.

Types of Crop/vegetable	Amount produced	Amount sold	Income obtained
Wheat			
Meaza			
Beans			
Vegetables (Tomato, Onion, kale,)			
Others,			
Total Income gained in ETB			

71. Do you rent out irrigation land for specific time in the last two years? Yes=1, No=0
72. If your answer to the above question is yes, how many in cash? _____

73. Have you rented in or sharecropping method in the last two years? Yes=1, No=1

Section:4. Identifying Livelihood activities (types, duration and intensity, Income and contribution, challenges, and support)

74. Are you or any of your family members currently involved in any of the following

	Livelihood strategies	Answer Yes=1 if engaged, 0=otherwise	Duration and intensity (How long have you been engaging in this activity years? How many hours per week do you spend?	Income and contribution
A*	On-farm/Crop and livestock (Ox, fattening, Fruit seedling production, Goat and sheep fattening, poultry			
B**	Off-farm activities (Petty trading, sand collection, tailoring, transportation (Cart), Carpentry, masonry, milling,)			
C***	Non-farm/ employment (wage labor, formal employment, daily labor)			

activities? Please select all that apply, A. on-farm activities (Crop production

*A. On-farm (production of crop (wheat, maize, rearing of livestock (ox, cow, shoat, poultry

**B. Off-farm (small IGA (vegetable, hired and worked on other farm like irrigation, farming, postproduction activities, ...)

***C. Non-farm (any activities other than off and on-farm activities. (Daily labor, formal employment like guard in different private and government company, firewood and charcoal selling, renting land rent from urban house, rent of ox, rent of donkey,

75. What are the main reasons for choosing your current livelihood activity? Open-ended)

76. How do you perceive the profitability of each livelihood activity? A. Very low=1, B. Low=2, C. Moderate=3, D. High=4, E. Very high=5

77. Are there any challenges or constraints that you face in pursuing your chosen livelihood activities? (Open- ended)

78. Have you received any support or assistance from the PSNP-HABP program in your livelihood endeavor? A. Yes=1, B. No=0

79. If your answer for the above question #82 is yes, please specify support you received from the PSNP?

80. Have you notice any changes in the factors influencing your livelihood choice over time? Yes=1, No=0, Not use=2

Section 5. Checklist for Key informant and Focus group discussion

Key informant (KII)

1. From your viewpoint could you please list main livelihood alternative available for PSNP beneficiaries in your area?

2. How do beneficiaries of PSNP perceive on the accessibility and availability livelihood strategies in your area?

3. From your perspective what is the key factors that contributes to involve in livelihood strategies specifically for PSNP households?

4. Could you please mention some of the limitation or gaps that PSNP program is facing to address livelihood support service for PSNP beneficiaries in this study area?

5. *Would you please share us your idea regarding the effectiveness current PSNP program intervention that focus on promoting livelihood opportunities for PSNP beneficiaries?*

6. What do you think about the role external factors like policy changes, climate variability, and market condition shaping perception of PSNP beneficiaries regarding the livelihood option accessibility?

7. *Do you think perception of PSNP beneficiaries on accessibility and availability can affect the overall involvement of PSNP beneficiaries in different livelihood option and their economic resilience and well-being?*

Focus Group Discussion (FGD)

1. Could you please mention main livelihood strategies in your area that can PSNP beneficiaries get involve and really as source of income?

2. From your experience, how PSNP beneficiaries perceive regarding the accessibility of the above livelihood option you mention?

3. Would you please suggest key barriers that can hinder PSNP beneficiaries from involving and accessing some of the livelihood option you mentioned previously?

4. Do you believe and how community in your area shares information regarding to potential livelihood option?

5. Would you please suggest the role of government, community based organization, and NGOs in addressing some of the key barriers you mentioned above?

6. From you experience, would you please mention any recommendation or action that government and Community based organization can take to enhance and create livelihood opportunities for PSNP communities?

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