

# LASER PULSE

Long-term Assistance and Services for Research (LASER)  
Partners for University-Led Solutions Engine (PULSE)

Youth Empowerment through Livelihood Transformation in  
Agro-Pastoral Areas of East and West Hararghe Zones,  
Oromia Regional State, Ethiopia

Final Report

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## ABOUT LASER PULSE

LASER (Long-term Assistance and SErvices for Research) PULSE (Partners for University-Led Solutions Engine) is a \$70M program funded through USAID's Innovation, Technology, and Research Hub, that delivers research-driven solutions to field-sourced development challenges in USAID partner countries.

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LASER PULSE collaborates with USAID missions, bureaus, and independent offices, and other local stakeholders to identify research needs for critical development challenges, and funds and strengthens the capacity of researcher-practitioner teams to co-design solutions that translate into policy and practice.

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## TABLE OF CONTENTS

I. INTRODUCTION.....	1
1.1 RESEARCH QUESTIONS.....	4
1.2 CONCEPTUALIZING YOUTH ASPIRATIONS, TRANSITIONS AND LIVELIHOOD SYSTEMS.....	4
1.3 CONCEPTUAL FRAMEWORK.....	6
2. DATA AND METHODS.....	6
2.1 RESEARCH DESIGN.....	6
2.2 STUDY AREA AND SAMPLING.....	7
2.3 DATA COLLECTION.....	8
2.4 DATA ANALYSIS.....	8
2.4.1 Variables, measurement and descriptive statistics.....	9
3. RESULTS AND DISCUSSION.....	12
3.1 CHARACTERIZATION OF YOUTH ASPIRATIONS IN THE PASTORAL AND AGRO-PASTORAL AREAS.....	12
3.1.1 Youth aspiration formation and context.....	12
3.1.2 Categories of youth aspirations in the PAP livelihood system.....	15
3.1.3 Youth perception of agriculture and engagement in the agro-pastoral livelihood.....	20
3.2 STATUS OF YOUTH ACCESS TO AND PARTICIPATION IN PROGRAMS, PROJECTS AND DEVELOPMENT INTERVENTIONS.....	24
3.2.1 Status of youth access and participation.....	24
3.2.2 Determinants of youth access to/participation in development interventions.....	26
3.3 IMPACT OF DEVELOPMENT INTERVENTIONS ON YOUTH LIVELIHOODS AND WELFARE.....	32
3.3.1 Descriptive results of the outcome variables and their association with explanatory factors.....	33
3.3.2 Outcome variables: Income, Dietary Diversity and Food Consumption.....	34
3.3.3 Estimation of Propensity Score.....	35
3.3.4 Estimation of Average Treatment Effect on the Treated (ATT).....	38
3.3.5 Matching Quality Analysis.....	40
3.4 YOUTH INTERESTS, DESIRED SUPPORT, OPPORTUNITY SPACE, AND DEFICIENCIES.....	40
3.4.1 Youth’s current interest and desired support.....	40
3.4.2 Youth opportunity space and critical deficiencies.....	42
i) Youth policy landscape.....	46
ii) Livelihood opportunities (agricultural and non-agricultural) supporting the youth.....	48
iii) The social and cultural landscape.....	51
iv) Organization, program and service structure.....	54
4. SUMMARY, CONCLUSION AND RECOMMENDATION.....	60
4.1 SUMMARY AND CONCLUSIONS.....	60
4.2 RECOMMENDATIONS.....	63
APPENDICES.....	73

**LIST OF TABLES**

Table 1 Summary of dependent variables .....	10
Table 2 Explanatory variables, their descriptions and summary statistics .....	11
Table 3 Level of agreement if agriculture can be a basic means of livelihood for the youth (%).....	20
Table 4 Level of agreement if agriculture can be a viable profession with a reasonable financial return (%).....	21
Table 5 Level of satisfaction with current agricultural job (%) .....	22
Table 6 Logistic regression outputs: determinants of youth participation in public extension services and FTCs .....	29
Table 7 Logistic regression outputs: determinants of youth participation in CBOs, Networks and Groups, and NGOs.....	32
Table 8 Descriptive Results of Preintervention Demographic, Economic and Institutional Variables .....	34
Table 9 Descriptive results of the outcome variables.....	35
Table 10 Association between participation in selected programs, projects, interventions, groups and networks versus outcome variables.....	36
Table 11 Propensity Score Estimation .....	37
Table 12 Nearest Neighbour Matching Results of Average Treatment Effect on the Treated (ATT) .....	38
Table 13 Youth current interest (preferred investment to engage in) and desired support.....	41
Table 14 Youth opportunity space and critical deficiencies .....	44
Table 15 Aspects of the core challenge.....	45

**LIST OF FIGURES**

Figure 1 Conceptual framework (based on Mausch et al., 2021) .....	6
Figure 2 Map of the study area showing Oromia Region (left) and Intervention Woredas in East and West Hararghe Zones indicated in green circles (right).....	7
Figure 3 Procedure for validity (Authors' illustration) .....	9
Figure 4 Zonal and Woreda level comparison on whether agriculture can be a basic means of livelihood (%).....	21
Figure 5 Zonal and Woreda level comparisons of youth perception on whether agriculture can be a viable profession with a reasonable financial return (%).....	22
Figure 6 Zonal and Woreda level comparison of level of satisfaction with current job (%).....	23
Figure 7 Status of youth access to and participation in basic services and infrastructure by gender (%).....	24
Figure 8 Youth participation in programs, projects and development interventions by gender (%)	25
Figure 9 Propensity score graphs (psgraph).....	38
Figure 10 Capacity-building interventions prioritized by the youth in the study areas .....	42

**LIST OF APPENDICES**

Appendix 1 Matching quality analysis .....	73
Appendix 2 Distribution of FTCs/FTCs and CBOs/customary institutions across the study areas...	74
Appendix 3 Mapping of youth-identified organizations and programs in the study areas.....	75

**ABBREVIATIONS/ACRONYMS**

AfDB	African Development Bank
STI	Science, Technology and Innovation
ALSs	Agricultural Livelihood Systems
ATT	Average Treatment Effect on the Treated
AU	African Union
BoA	Bureau of Agriculture
CBOs	Community-Based Organizations
CBOs	Community Based Organizations
CRS	Catholic Relief Services
CSA	Central Statistical Authority of Ethiopia
DAs	Development Agents
ERT	Embedded Research Translation
ETB	Ethiopian Birr
FAO	Food and Agriculture Organizations
FCS	Food Consumption Score
FDRE	Federal Democratic Republic of Ethiopia
FFSs	Farmer Field Schools
FGDs	Focused group discussions
FTCs	Farmers' Training Centers
GROW	Growing Nutrition for Mothers and Children
ha	hectare
HABP	Household Asset Building
HCS	Hararghe Catholic Secretariat
HDDS	Household Dietary Diversity Score () and
ICTs	Information and Communication Technologies
IFAD	International Fund for Agricultural Development
IGAs	Income Generating Activities
KIIs	Key Informant Interviews
LASER PULSE	Long-term Assistance and Services for Research - Partners for University-Led Solutions Engine
LHIs	Life History Interviews
LLRP	Lowland Livelihood Resilience Project
MFI	Micro-Finance Institutions
MoA	Ministry of Agriculture
NEPS	The National Employment Policy and Strategy of Ethiopia
NGOs	Non-Governmental Organizations
OECD	Organization for Economic Cooperation and Development

OPaDCC	Oromia Pastoral area Development Coordination Commission
PAP	Pastoral and Agro-pastoral
PSM	Propensity Score Matching
PSNP	Productive Safety Net Program
PTCs	Pastoral Training Centers
PYD	Positive Youth Development
RUSACCO	Rural Saving and Credit Cooperatives
SMEs	Small and Medium Enterprises
SSA	Sub-Saharan Africa
TLU	Tropical Livestock Unit
UN SDGs	United Nations Sustainable Development Goals
UNDP	United Nations Development Program
USAID	United States Agency for International Development

**EXECUTIVE SUMMARY*****Background***

Pastoral and agropastoral youth play vital roles in the Ethiopian economy. Their participation in policy- and decision-making, projects, and development interventions has been constrained by various socio-economic, demographic, institutional and cultural, and ecological factors. The current study aims to: assess youth aspirations, perception, and available economic opportunities; identify the status and determinants of male and female youth participation in selected programs, projects, and development interventions; and evaluate the impact of programs and development interventions on youth livelihood transformation in the pastoral and agropastoral (PAP) production systems in Ethiopia.

***Methods***

The research employed a cross-sectional research design and mixed methods research approach, combining quantitative and qualitative methods. It utilized the Embedded Research Translation (ERT) model and the Positive Youth Development (PYD) approach to foster a co-design and collaborative research process between the researchers and practitioners from various organizations operating in the study area. In addition, a qualitative comparative case study design was followed. A multi-stage random sampling strategy was followed to select four agro-pastoral Woredas (Districts), 12 Kebeles (lowest level of administrative division) and 398 youth aged 15-29 years for a survey. Quantitative data from survey were analyzed through descriptive and inferential statistics, and Propensity Score Matching (PSM) estimation. Qualitative data were collected by conducting 29 key informants' interviews, 20 focus group discussions, and 32 life history interviews. Qualitative data were analyzed using combinations of interpretive or relational content analysis and thematic analysis. Five major steps were employed in data analysis: 1) transcription, 2) cleaning, 3) reviewing, 4) data organization, coding, categorizing into themes, finding patterns of relationship, and 5) interpreting.

***Key Findings******Youth aspiration***

*Youth aspirations are diverse and heterogeneous.* The most common aspirations are; getting rich, being successful in work (education, agriculture, professional employment, etc), marriage and family, making contributions to society, educational and formal employment, and migrating to urban areas. All aspirations are driven by a general desire to live a fulfilled life – which is locally conceptualized as “a state of well-being with good health, income, access to good food, clean water, good housing, and electricity.” But most aspirations were not met.

*Youth aspirations are gendered.* Gender and relational dynamics - mediated by the local contextual structure consisting of values, attitudes, norms, and forms of behavior - are important markers that shape the division of responsibilities and determine the distribution of key productive resources (such as land and finance) among male and female youth. Such processes often discriminate against young mothers and girls in accessing and utilizing such resources. The fact that young rural men and women are affected differently by structural- and rural transformations (Heckert et. al.) means that

rural development programs and the youth-specific components of those programs must explicitly and differentially address the needs of each (Arslan et al. 2021).

*Norms and value systems dictate youth aspirations.* Youth aspirations and expectations were found to be largely formed within a socio-cultural framework and expectations defined by society. Such norms and values also dictated the pattern of how livelihood resources such as land should be distributed, and hence the formation of aspirations.

*Youth career aspiration is not an individual's ego-centric pursuit.* Access to productive resources (access to land, finance, and skill), levels of education, individual personal characteristics, media narratives and peer influence, and family wealth background were found to be key variables used to determine and match individual career choices.

In terms of youth aspiration in agriculture, the youth study in Ethiopia identified four major categories of youth in agriculture: i) Youth who currently pursue Agro-pastoralism/agriculture as a primary career path; ii) Youth who currently pursue agro-pastoral livelihood temporarily to accumulate much-needed resources to fulfill their primary aspiration; iii) Youth who aspire for a primary career opportunity outside of agriculture/farming and the agro-pastoral areas (yet currently supported by agriculture); iv) Youth categories without a clearly defined aspiration.

#### *Youth perception of agriculture*

Youth aspiration of agriculture and their corresponding willingness to pursue it as a career as well as the specific paths how they choose to engage with agriculture/ rural life was largely influenced by how the youth perceived agriculture as a livelihood option – which, in turn, was influenced by the intersection of various other factors including perceived gains from agriculture (perceived financial gains, current level of satisfaction of their farming profession); shifting trends (generational and historical issues); youth-specific characteristics (age, sex, educational attainment, wealth level, and family background) and geography.

In general, agriculture was perceived differently by different actors. For people from government offices, agriculture was perceived as a viable venture with the potential to be transformed into a viable and lucrative opportunity. For older farmers – agriculture was considered a sacred profession and its future and continuity depend on the availability of youth working in agriculture. For young people, traditional agriculture/agro-pastoralism, as it stands today cannot be a viable source of income and food. Hence, they recommend commercial and modern agriculture. Among a few young people in school, agriculture was widely seen as an old lifestyle that cannot generate quick cash in the foreseeable future. Among migrant returnees and graduate students– agriculture was mostly a fallback option. But the consensus across all categories is a sheer recognition of agriculture's transformative potential if supported by modern technology, financing schemes, and market linkages.

Despite the evidence of the dwindling popularity of traditional agriculture/agro-pastoralism (in its current form and shape) as a viable source of income and food security among the younger generations, agriculture remains a dominant source of livelihood with a potential for youth livelihood. Young people constitute a significant portion of the agropastoral demographic structure and workforce. However, this doesn't mean that the youth are satisfied with it. The low status and



economic conditions of farmers, recurrent weather shocks and drought, subsistence mode of farming, and the low attention accorded to the youth were major constraints for youth engagement in agriculture as a viable profession.

#### *Youth preferred agricultural value chain to engage in and desired support*

The majority of young people in PAP areas have a positive interest in self-employment and starting their own businesses in agriculture and off/non-farm businesses mostly in their own localities. In general, the male and female youth wanted to participate in modern mixed crop-livestock farming with high returns as producers, processors, and market actors. They expressed the need for access to affordable financial services, time and labor-saving technologies such as drought-resilient crop & livestock technologies (climate-smart techs), and irrigation technologies, training and capacity-building support, research and extension support, and market linkages. The youth have also expressed a huge interest in modern livestock-crop farming with quick cash returns and the use of labor and time-saving technologies. This shows a shifting trend in youth aspiration.

#### *Status and determinants of youth participation in programs, projects and interventions*

We found a good level of youth involvement in agriculture as their primary occupation (74%), access to Farmers' Training Centers (FTCs) (86%), Community-Based Organizations (CBOs) (68%), and a modest level of youth participation in extension and advisory services (56%), FTCs (49%), non-/off-farm Income-Generating Activities (IGAs) (46%). We also found a low/very low level of access to and participation in the activities of NGOs (31%), on-the-job training (31%), Productive Safety Net Program (PSNP) (24%), women and children affairs (15%), credit and saving services from Micro-Finance Institutions (MFIs) (13%), women's group (13%), youth group (13%), agricultural training (13%), cooperative unions (10%), Small and Medium Enterprise (SME) promotion activities of the local government (5%), primary cooperatives (5%), Farmers' Field Schools (FFSs) (5%), and irrigation cooperatives (3%). Disaggregating these results by gender, we found that whereas male youth had better access to land, participation in extension/advisory services and FTCs, agricultural training, and NGOs, female youth had better participation in non-/off-farm IGAs and Productive Safety Net Program (PSNP). Our findings indicated that youth access to and participation in any of the programs and interventions was influenced by financial, economic, governance and administrative, institutional/organizational, infrastructural, socio-cultural, and environmental/ecological factors that determine youth participation in livelihood transformation interventions.

#### *Does youth participation in agricultural-related services lead to positive livelihood outcomes?*

The study measured the impact of youth participation in agricultural extension on key livelihood outcomes – income, food consumption and dietary outcomes. In general, the study showed participation in agriculture-related interventions can result in better livelihood outcomes. It is found that the youth who participated in agricultural extension programs had higher incomes compared to the control households. The PSM results further indicated that participation in agricultural extension programs did not result in better dietary outcomes in terms of dietary diversity and food consumption score.

*Opportunity structure and critical deficiencies/constraints*

There are several opportunity structures with the potential to support youth engagement in market-oriented mixed-livestock-crop farming in PAP areas – ranging from policies and proclamations supporting youth access to land, finance, education; potential for agricultural and non-agricultural business opportunities; availability of organization, program, and services (micro-finance, agricultural extension, education, health care); and other supporting infrastructure and services (Telecom, transportation, power, and water services); social and cultural institutions. However, there are critical deficiencies. The major constraints to youth engagement in pastoral and agro-pastoral areas were limited access to affordable and culturally appropriate finance, limited market access and networks, agricultural extension services, climate change and drought, and access to agricultural inputs, limited technical capacity, and lack of peace and stability.

***Recommendations***

The following 10 key recommendations were proffered to facilitate youth livelihood transformation in pastoral and agro-pastoral areas.

- Recommendation 1: Understand the vast complexities and the context in which agro-pastoral/pastoral youth operate.
- Recommendation 2: Males and females have varying occupational aspirations. Hence, tailoring programming to the varying occupational aspirations of young men and women is needed.
- Recommendation 3: Promote an inclusive extension system for the youth livelihood transformation.
- Recommendation 4: Re-orient and align agricultural extension service delivery to key nutrition outcomes and aspirations of youth in PAP areas.
- Recommendation 5: Reinvigorate and support youth agripreneurship and formal and non-formal education for youth economic empowerment.
- Recommendation 6: Promote culturally appropriate and affordable financial services for youth livelihood transformation.
- Recommendation 7: Recognize local social capital practices and networks for youth livelihood transformation.
- Recommendation 8: Promote co-learning and partnerships between formal and non-formal systems to address major sociocultural barriers to youth transformation.
- Recommendation 9: Invest in infrastructural development in PAP areas for youth and PAP areas' livelihood transformation.
- Recommendation 10: Work with local people and their institutions to address key livelihood shocks.

**Keywords:** youth, aspirations, opportunity structure, development interventions, Agricultural Extension, Impact, Welfare, participation, agro-pastoral, Eastern Ethiopia

## I. INTRODUCTION

The youth bulge is Africa's greatest asset. As stipulated in AU-agenda 2063 Aspiration Number 6, it is upon this population the continent aims to fulfil its aspiration of becoming a more developed continent by overcoming its millennia of underdevelopment and food insecurity. The greatest proportion of this youth lives in SSA and the horn. Smallholder agriculture serves as the largest source of youth employment. However, with rising land scarcity and other shocks, a youth's aspiration to become an independent farmer is altered (Giuliani et al., 2017; Leavy and Smith, 2010). As a consequence, a growing number of youths are dissatisfied and increasingly exiting from the rural areas. Addressing this problem and harnessing this biggest demographic dividend is at the core of the development and food security policies of African countries.

Ethiopia has one of the youngest populations in Africa, with 70% of the total population below the age of 30 (UNDP, 2018). A larger proportion of Ethiopia's youth lives in rural areas and make up an important part of the agricultural labor force, assuming responsibility across the various nodes of the agricultural value chain and food system. For instance, nearly 70% of male youths aged between 15 and 29, and 37.3% of females of the same age group, work in agriculture (CSA, 2017). Yet, the literature on rural youth and their role in rural and agricultural transformation as farmers, producers, and agents of change is limited (Arslan et al. 2021). The evidence is even weaker when it comes to youth participation in the agricultural value chain and the realities, aspirations, and opportunity structure in pastoral and agro-pastoral systems (Giuliani et al. 2017; BoonaBaana, 2019).

The youth are regarded as forces of change in many countries and contexts. Nevertheless, they continually grapple with tremendous challenges to acquire the necessary knowledge, business-oriented skills training and mentorship, and experiences to compete for available job opportunities (Tara, Lambert and Mottram, 2021), realize their dreams and childhood aspirations, and participate in livelihood-transforming and other income-generating activities (IGAs). Critical thinking ability and possession of problem-solving and other life skills were also identified to be important traits to accelerate youth participation (DeJaeghere and Murphy-Graham, 2022).

Furthermore, there are several socio-economic, cultural, institutional/organizational and demographic factors affecting the participation of youth in development interventions, programs, projects in various contexts and situations. Socio-demographic/personal constraints include age, race, ethnicity and disability (DeJaeghere and Murphy-Graham, 2022; Tara, Lambert and Mottram, 2021), gender/sex (DeJaeghere and Murphy-Graham, 2022; Moreda, 2020; Tara, Lambert and Mottram, 2021), and educational level/intelligence (DeJaeghere and Murphy-Graham, 2022; Sabu, 2020; Tarekegn et al., 2022). These challenges trigger the migration of youths to urban areas in search of work, exacerbating the gap between food production and consumption (Giuliani et al. 2017). This calls for studies that critically evaluate youth aspirations, transitions and realities to offer insights on areas of prioritization in overcoming youth-specific constraints. Understanding youth aspirations helps shed light on the possible employment outcomes that can be observed in adulthood and play a role in breaking poverty circles, which is highly relevant for public policy (Costa, Palacios-Lopez, Palacios-Lopez, 2022).

In relation to socio-economic, institutional and cultural dimensions, several studies identified a range of determinants, including norms, hierarchies and power relations (DeJaeghere and Murphy-Graham, 2022), and access to economic (land) and financial (credit) resources and infrastructure (DeJaeghere and Murphy-Graham, 2022; Moreda, 2020; Tara, Lambert and Mottram, 2021; Tarekegn et al., 2022). A global review on the determinates of active youth engagement in various aspects of designing policies, programs and services revealed the importance of organizational policies and existence of youth structures/clubs in fostering youth active participation (Singh et al., 2016). The study further made it clear that availability of role models and use of social media enhance youth participation. Likewise, the youth face discrimination on the basis of gender, socio-economic status and societal norms, which resulted in a rampant youth unemployment and underemployment both in urban and rural settings (Bicchieri, Jiang and Lindemans, 2014; Presler-Marshall et al., 2022), social unrest and chaos, frustration and low productivity (OECD Development Center, 2018). This is more pronounced among female youth due to the extent of discrimination on them.

In Ethiopia, more than 80 percent of the population lives in rural areas. The fast-growing youth population, dwindling landholding size, and growing unemployment are significant challenges the country has faced at the moment. Ethiopian youth also face a similar set of constraints to participate in programs, projects and development interventions that have a potential impact on their livelihoods and welfare. In addition to the above mentioned challenges, most youth in Ethiopia live in poverty and face limited employment opportunities; have limited access to and control over productive resources and services (e.g., health, education, water, credit, land); lack support from family/community; lack good role models; face discrimination on the basis of political affiliation/ideology; suffer from corruption, nepotism/favoritism and administrative bureaucracies; suffer from substance abuse and peer pressure; have limited representation in decision-making on matters affecting their livelihoods; and suffer from political instability leading to conflict, displacement and migration (Desta, Bitga and Boyson, 2018). For instance, youth participation in livelihood diversification, alternative income-generating activities (IGAs) and small and medium enterprises (SMEs) is found to be influenced by their access to market and information (Ahmed and Ahmed, 2021), financial resources (e.g., lack of initial capital and lengthy bureaucracies involved in getting credit) (Gebremeskel, Desta and Kassa, 2019), business skills (entrepreneurship) development training and other capacity-building initiatives and support (Ahmed and Ahmed, 2021; Gebremeskel, Desta and Kassa, 2019).

There are also studies conducted in the country that documented the effects of important issues, such as government policies, administrative structures and institutional linkages (Ahmed and Ahmed, 2021), encouraging SMEs through the provision of working place/shades (Tarekegn et al., 2022) improved agricultural technologies and tools, and behavior change communicative interventions to bring about changes in youth attitudes towards self-employment and entrepreneurship (Moreda, 2020). Tarekegn et al. (2022) also emphasize the importance of supporting youth-led enterprises and initiatives through addressing risks and uncertainties associated with the business, including seasonality in production and income. In terms of factors affecting Ethiopian youth political participation, Sabu (2020) identified lack of political knowledge and adequate education, youth political interest and apathy, economy, socio-centrism attitude and family's pressure, fear, partisan attachment and the incumbent government performances, age and the existing institutional structures of democracy to be key factors.

In the context of pastoral and agro-pastoral farming systems, available evidence suggests that there are several bottlenecks hindering youth from taking advantage of opportunities in on-farm and off-/non-farm IGAs. When compared to the country's agriculture-dominated highland areas, pastoral and agro-pastoral areas are generally ignored in terms of providing basic social services, economic infrastructure, and mechanisms that can help develop resilient adaptation to livelihood risks such as resource-based intercommunal conflicts and acute food insecurity associated with natural climatic variability and human-induced climate changes (Mihiretu, Okoyo and Lemma, 2019). For instance, a study conducted in Gumbi Boredede Woreda found that young women face reproductive health challenges due to poor healthcare service provision (Gizaw, Salah and Amanuel, 2022). Pastoral and agro-pastoral communities also face limited access to agricultural finance, shortage of land and restrictive land tenure policy, degradation of natural resources, recurrent drought, livestock diseases, lack of technical capacity and knowledge on modern livestock production, and growing intra- and inter-communal conflicts over dwindling natural resources (Gebremedhin et al., 2017; USAID, 2019; Bezu and Holden, 2014; Kosec et al., 2017).

Youth are also constrained by socio-cultural and attitudinal barriers for self-employment and entrepreneurial activities. The combined effect of these interrelating challenges is growing migration of youths to urban areas and desperate journeys to Arab countries in search of better means of livelihood. This in turn exacerbates the gap between food production and consumption. Rural capacity-building and livelihood support programs can provide viable career options, unlock youth opportunities, leverage their entrepreneurial capabilities, strengthen their skills, and increase their employability and productivity. Nonetheless, youths and their interests are diverse depending, among others, on their socio-economic, resource endowments, gender, cultural, and agroecological contexts. Thus, it is necessary to conduct primary studies on rural youth aspirations and transitions to inform policies and strategies targeting youth in fragile ecosystems. This requires an understanding of the rural youth in a local socio-cultural context - how their aspirations are formed, how those aspirations relate to, opportunity structures, support mechanisms, and challenges. It is also important to shed light on the status and determinants of youth participation in selected programs, projects and development interventions in four agro-pastoral Woredas of Ethiopia in an attempt to contribute to youth-friendly policy-making, development intervention design and implementation strategies, and fostering active youth engagement in the rural economy. Yet another core issue is whether participation in agriculture-related interventions can lead to improved livelihood outcomes. Many of the impact assessment studies have focused on the mixed crop-livestock farming systems in highland areas. There is scant literature on how agricultural extension programs implemented in the pastoral and agropastoral areas in Ethiopia are benefiting the youths. Thus, it is also essential to examine the impact of existing agricultural extension programs on the welfare of the youth with a focus on pastoral and agropastoral areas in Ethiopia.

The study targeted pastoral and agropastoral youth from east and west Hararghe Zones of Oromia Regional State, Ethiopia. The evidence produced from this study will add value to the existing literature in terms of providing recommendations on how development interventions in PAP areas can improve the welfare of rural youth and hence their effective engagement in livelihood opportunities in the pastoral and agro-pastoral livelihood system. The results of the study can trigger policy discussions in terms of designing pathways through which development interventions can make real contributions to improving the livelihoods of rural youth.

## I.1 Research Questions

This study was guided by the following key research questions.

1. What do the various youth categories in agro-pastoral areas of East and West Hararghe zones aspire to achieve?
2. What policy strategies, practices, and development interventions exist in the targeted areas that engage agro-pastoral youth to realize their potentials?
3. What are the impacts of existing development interventions on rural youth livelihoods and empowerment? (e.g., economic independence, income, food and nutritional security)
4. What opportunity structures (political, economic, social, technological, and cultural) are available in the targeted areas to foster youth participation for sustainable livelihood transformation?
5. What type of demand-driven capacity-building interventions can be co-designed and implemented to enhance youth economic participation, entrepreneurial capabilities, and skills, livelihood, and empowerment needs?

## I.2 Conceptualizing Youth Aspirations, Transitions and Livelihood Systems

Rural youth's aspirations (CRP, 2015; Proctor and Lucchesi, 2012; Leavy and Smith, 2010) remain a relatively unexplored area for researchers (Pyburn et al, 2015; CRP, 2015; Sumberg, 2012) and are struggling to find its place in sociological or socioeconomic research. Understanding the specific context of youth is critical to developing appropriate and effective strategies and programs. While some contend that aspirations are 'hopes and dreams that are not necessarily embedded in reality' (Leavy and Smith, 2010), they may also be what people expect to achieve (MacBrayne, 1987). Measuring youth aspirations helps shed light on the possible employment outcomes that can be observed in adulthood and play a role in breaking poverty circles, which is highly relevant for public policy (Costa, Palacios-Lopez, Palacios-Lopez, 2022). Aspirations give us a better understanding of the life trajectory that young people want to have. It enables marginalized groups to exercise their 'voice' and reflect on ways to change their situation (Appadurai, 2004; Carney, 2003).

In their attempt to tackle the methodological and conceptual problems surrounding the conceptualization and measurement of aspiration, Bernard and Taffesse (2014) conceptualized aspirations as having three distinctive aspects:

- i) aspirations as a future-oriented phenomenon and long-term dreams; that is, they are goals that can only be satisfied at some point in future time as opposed to the immediate gratification of dreams;
- ii) aspirations as motivators; that is, they are goals in which individuals are willing, in principle, to invest time, effort, or money to attain, and
- iii) aspirations as specific dimensions of well-being, such as wealth or social recognition, but are more generally perceived as an ambition to reach a multi-dimensional life outcome.

The key implication is that aspirations can influence an individual's future-regarding behavior. Thus, aspiration can be defined as an individual's target or goal and a preference or wish to attain it. The meaning also suggests, rather implicitly, that some effort must be exerted to realize the desired aim or target. As such, aspiration can be conceptualized as a set of expected, realistic plans rather than a youth's idealistic goal pursuit (Schaefer and Meece, 2009). Put another way, the pursuit of aspiration requires conscious efforts and the desire to perform well and reach high standards of excellence, and so can be influenced by teachers, parents, role models, and so forth (McLelland, 1961; Atkinson, 1957; Collier, 1994).

When it comes to understanding young people's occupational aspirations and determinants, Leavy and Smith (2020) identified two important approaches: developmental (individuals are understood to seek careers compatible with their self-concepts) and 'opportunity structure' (where it is assumed that few individuals fulfill their aspirations). The opportunity structure itself refers to the framework of rules people are encouraged to follow in order to achieve what their culture considers to be a success. Opportunity structure also refers to the notion that the development of certain aspirations or the achievement of certain goals, is shaped by the way an institution or a society is organized or structured.

The discussion thus far points to the potential difficulties of separating aspirations from expectations and, also, of conceptualizing aspirations in isolation from their determinants. Put another way, it is necessary to explore the underlying mechanisms operating within an opportunity space, environment or context that create or affect aspirations and expectations, and the way they play out in practice to result in particular life choices and outcomes. In doing so, we also need to incorporate notions of happiness, quality of life, lifestyle and satisfaction as ultimate life goals, which impact on educational aspirations and occupational choice. This fits with a well-being approach which considers wellbeing as arising from i) what a person has; ii) what they are able to do with what they have and iii) how they think about what they have and are able to do (McGregor, 2007).

This paper draws on these perspectives to explore the underlying mechanisms operating within an opportunity space, environment, or context that create or affect rural youth aspirations and expectations. It also examines the way they play out in practice to result in particular life choices and outcomes for rural youth.

In order to understand the rural youth situation, aspiration, perception and opportunity structure as well as the problems of rural youth today, we draw on White, (2014) and Glover and Sumberg (2020) four major perspectives in understanding youth. These are: i) youth as heterogenous and intersectional - argues that the specific curve of each person's life course is shaped uniquely by their individual circumstances and their relationships to cultural frameworks, such as norms governing gender roles and the status of married and unmarried men and women; ii) generational perspective, positions youth as a group with a subjective sense of common identity and shared experience—a generation—in relation to other generations (e.g., adults); iii) life course perspective - acknowledges that each person who lives beyond infancy experiences life through a succession of transitional phases, evolving continually; and iv) youth an actor and agent – positions youth an important actor in development.

1.3 Conceptual Framework

Based on the above concepts, we developed the following conceptual framework (Figure 1).

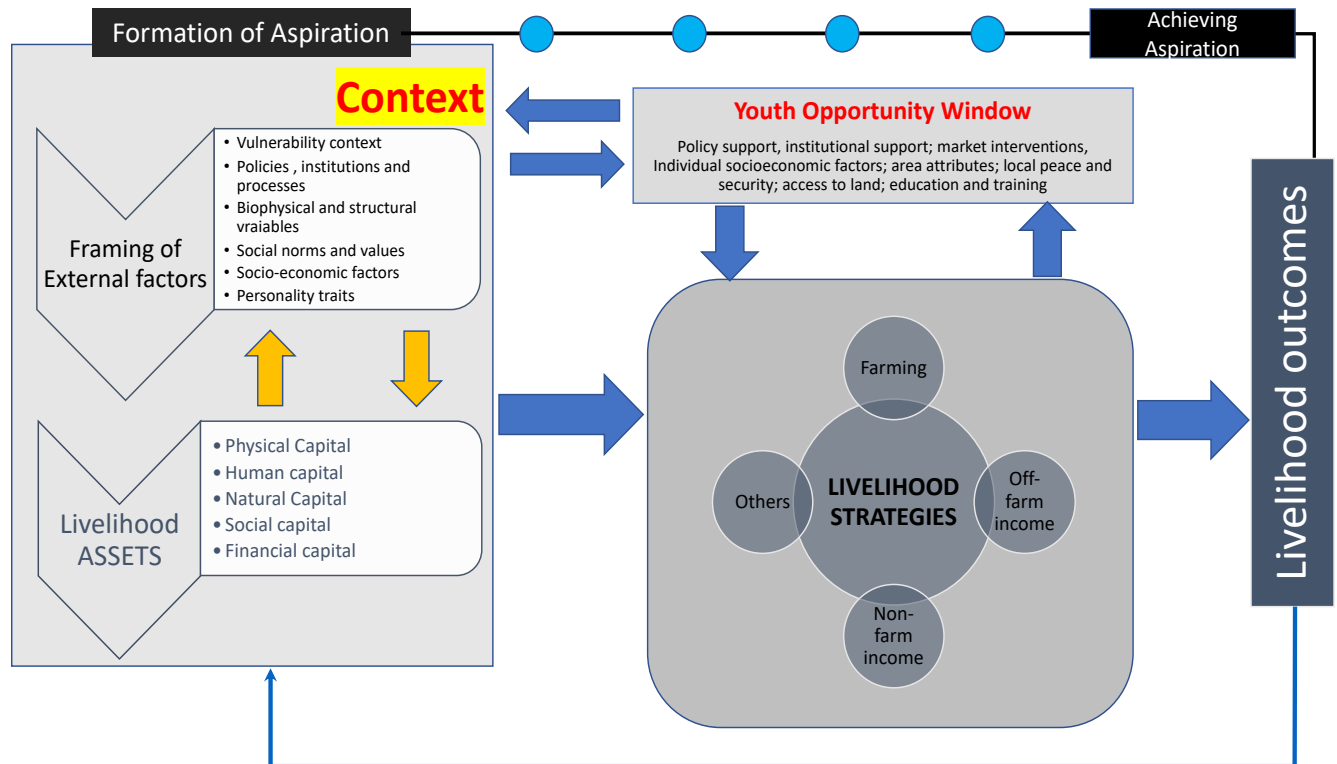


Figure 1 Conceptual framework (based on Mausch et al., 2021)

The conceptual framework depicts how livelihood assets and external political and institutional factors shape the aspirations of the youth and their options for taking decisions about their livelihood strategies and income structure. The framework is therefore well suited to explain the aspiration of the rural youth including how their aspirations are formed, how those aspirations relate to, opportunity structures, support mechanisms, and challenges to shape livelihood outcomes.

2. DATA AND METHODS

2.1 Research Design

This report is produced based on a cross-sectional study conducted among youth (aged 15-29) in agropastoral Woredas of the Oromia Regional State, Ethiopia. We employed a mixed methods research approach combining a semi-structured interview schedule (survey) and qualitative methods. The implementation of this research relied upon the use of the [Embedded Research Translation](#) (ERT) model, developed by [LASER PULSE](#), to foster “an iterative co-design process among academics, practitioners, and other stakeholders.” It enabled the “co-creation, experience-sharing and translation of research into practice by enhancing the process of evidence-based



decision-making at various levels.” The ERT model was also instrumental in identifying key stakeholders, guiding the collaborative research process and development of research products, and devising effective dissemination strategies. Furthermore, the ERT was complemented with the [PYD approach](#) to guide the collaborative research process and identify actors’/stakeholders’ assets/resources, agencies, contributions and enabling environments to enhance partnerships and co-learning.

## 2.2 Study Area and Sampling

This study spanned selected agropastoral areas of East and West Hararghe Zones of Oromia Regional State, Ethiopia (Figure 2). A multi-stage sampling procedure was used to select Woredas, Kebeles and rural youths for survey and qualitative research.

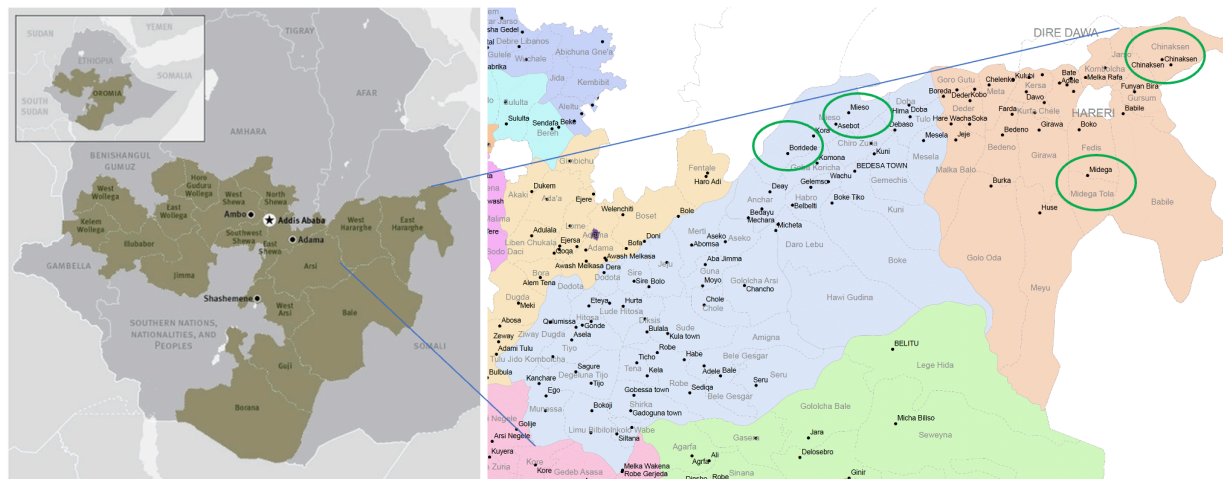


Figure 2 Map of the study area showing [Oromia Region](#) (left) and [Intervention Woredas](#) in East and West Hararghe Zones indicated in green circles (right)

The identification and selection of the four Woredas was based on participatory selection criteria established in consultation with local research translation partners (i.e., East and West Hararghe Zone Irrigation and Pastoralist Development Bureau, Heads of the four District of Bureau of Agriculture and Natural Resources, Development Agents, and policy partners from the Federal Democratic Republic of Ethiopia Member of Parliament), which considered the prevalence of pastoralism/agropastoralism as a dominant livelihood strategy, representativeness to the rest of the Woredas in the two selected Zones, existing diversities in terms of socio-economic, ecological and institutional factors, and proportion of male and female youth from the total population.

In each Woreda, three Kebeles were purposively selected based on representativeness to agro-ecological zones and farming systems, vulnerability context, existence/lack of development interventions, and accessibility. At each Kebele, a list of residents was prepared by the local research translation partners considering diversities in terms of gender, age, educational status, resource endowment, and other economic and social status. Consequently, a total of 398 youth (roughly 50% of which were females) were randomly selected to take part in this study. In addition, qualitative data were collected using key informants’ interviews (29), focus group discussions (20), and life history interviews (32).

Another objective of the project was examining the impact of agricultural extension programs on welfare of the pastoral and agropastoral youth. For this purpose, the study population was divided into two strata: participants and non-participants of public agricultural extension programs. Hence, a total of 224 (56.28%) participants (treated) and 174 (43.72%) non-participants (control) were selected for this study.

### 2.3 Data Collection

Both primary and secondary data were collected for the purpose of this study. Field work was conducted the 9<sup>th</sup> through 23<sup>rd</sup> of May 2022. The collected data were quantitative and qualitative. A survey questionnaire and guides/checklists for FGD, KII and LHI were designed. These were validated/pretested before the actual fieldwork, and the feedback obtained was used to improve the contents, language and accuracy of the questions to reduce cognitive burden/complexity, given the low educational level and limited experience of the respondents. The field-based primary data collection was undertaken using 12 trained enumerators and 5 supervisors. The secondary data on existing policy strategies, practices, development interventions, and study area background were obtained from district, zonal, regional and federal government offices as well as NGOs, private sector actors dealing with youth development, livelihood improvement, capacity-building and food security.

### 2.4 Data Analysis

Data analysis involved descriptive (mean, standard deviation, percent/proportion) and inferential statistics (t-test and  $\chi^2$ -test) as well as an econometric model estimation (Logistic regression). In this study, youth participation in development interventions – public extension and advisory services; Farmers' Training Centers (FTCs); Community-Based Organizations (CBOs), networks and groups; and activities of NGOs – was modelled using the Logistic regression model (Hosmer, Jovanovic and Lemeshow, 1989; Hosmer, Lemeshow and Sturdivant, 2013). The Propensity Score Matching (PSM) was used for the impact assessment purpose to identify the causal effect of participation in a given program, project or development intervention on selected welfare and livelihood outcomes. First, we estimated the Probit model to identify factors affecting youth participation in public extension and advisory services. In this stage, participation in an extension program was explained as a function of pre-treatment variables. This estimation was used to create propensity score from 0 to 1. This helps to make a comparison between the two groups which are close to each other. Second, we executed PSM estimation. For this purpose, Nearest Neighbour Matching (NNM) was implemented due to the nature of the data in the study (Caliendo and Kopeinig, 2008). The next stage in the PSM estimation is balance checking. A t-test was performed to evaluate mean differences (before and after matching). This helped to assess the quality of the PSM in balancing the treatment (i.e., participants of the extension program) and comparison (i.e., non-participants of the extension program) groups. Furthermore, the Pseudo-R<sup>2</sup> values before and after matching were compared to check balancing of covariates used in the matching process. We used both empirical and theoretical literature in selecting the variables that are included in the analysis and determination of the PSM model estimation.

Qualitative data were analysed in the field and afterwards in an iterative and reflexive process. Field teams held daily debriefing sessions after fieldwork to review and guide the next step in data collection. As data became available it was analysed in a rapid and preliminary way. The qualitative

data were analysed using combinations of interpretive or relational content analysis (Hardy et al. 2004) and thematic analysis. The interpretive content analysis approach integrates content and discourse analysis, so data collected through interviews and group discussions were analysed and categorized not only by looking at the text (content), but also by its relationship to its context where meanings are produced, to the intention of the producer of the transcripts, or the reaction of the intended audience (discourse analysis).

Five major steps were employed in data analysis: 1) transcription, 2) cleaning, 3) reviewing, 4) data organization, coding, categorizing into themes, finding patterns of relationship, and 5) interpreting. Standard ethical principles were followed in addition to securing an ethical clearance letter from the Haramaya University IRB. In every step of the data collection process, significant effort was made to ensure the reliability and trustworthiness of the study (Figure 3). Data were triangulated using multiple data sources and methods of data collection. Semi-structured interviews and unstructured interviews (casual and informal conversations with local people) and on-site observations of different events and livelihood activities were the major triangulation methods employed.

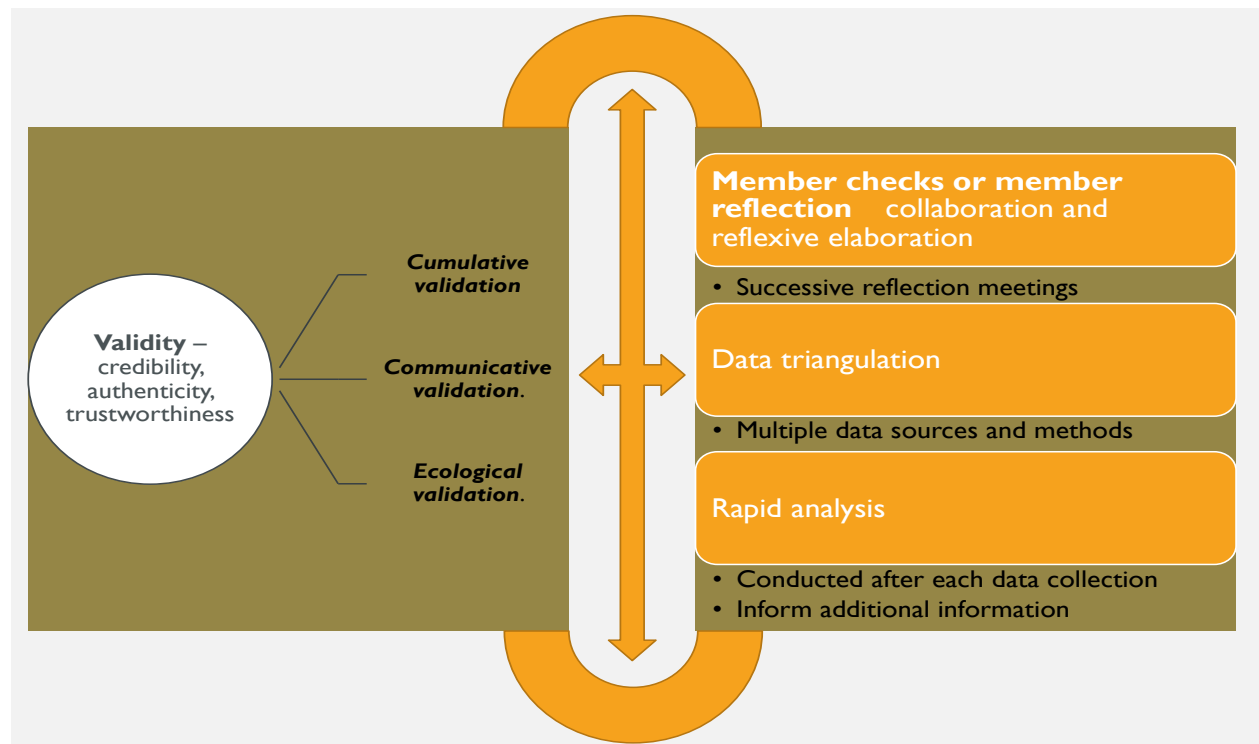


Figure 3 Procedure for validity (Authors' illustration)

## 2.4.1 Variables, measurement and descriptive statistics

### a. Dependent variables

There were several development interventions for which youth participation was assessed in this study. However, in-depth analysis and discussion was provided for youth access to and participation in Public Agricultural Extension Services; Community-Based Organizations (CBOs),

Networks and Groups; and Activities of NGOs. The definitions for these variables are indicated in Table 1 below.

Variable	Description	Per cent
Participation in public extension services (%)	1, if the youth participate in public extension services; 0, if otherwise	56.28
Participation in CBOs/groups (%)	1, if the youth participate in community-based organizations (CBOs), networks or groups; 0, if otherwise	67.84
Participation in NGO activities (%)	1, if the youth participate in the activities of NGOs; 0, if otherwise	30.90

Table 1 Summary of dependent variables

b. Outcome Variables

Farm income, Household Dietary Diversity Score (HDDS), and Food Consumption Score (FCS) were used as outcome variables for the impact assessment of participation in agricultural extension programs. Farm income refers to income obtained from sale of livestock and crops which is measured in Ethiopian Birr. HDDS refers to the number of food groups consumed by the respondents over the last 24 hours. FCS measures both the types of food groups consumed and the frequency with which the food group was consumed. The FCS was computed following the standard procedures. The frequency of food consumption is multiplied by the weight given to the food group. The summation of this results in food consumption score.

$$FCS = (\text{grains} \times 2) + (\text{legumes and nuts} \times 3) + \text{vegetables} + \text{fruits} + (\text{meat} \times 4) + (\text{dairy} \times 4) + (\text{fats} \times 0.5) + (\text{sugar} \times 0.5)$$

..... (1)

c. Independent variables

Table 2 presents the independent variables, their description and level of measurement, as well as a summary statistic. The variables are categorized under socio-demographic characteristics, employment/livelihood activities, agricultural production and income, asset ownership and decision-making, and networks and training.

Characteristics/Variable	Description/measurement	Mean	Std. Dev.
<b><i>Socio-demographic characteristics</i></b>			
Age (years)	Age of respondents	22.67	0.20
Education (years)	Education level of respondents	4.96	3.96
Family size (no.)	Family size in number of persons/household	3.82	0.11
Gender (%)	1, if male; 0, if otherwise	51.51	
Marital status (%)	1, if married; 0, if otherwise	70.85	
<b><i>Youth employment</i></b>			
Access to employment (%) <sup>1</sup>	1, if currently employed; 0, if otherwise	64.07	
<b><i>Agricultural production and income</i></b>			
Experience in farming (years)	Number of years of experience in farming/agriculture	5.37	0.23
Land holding size (ha)	Size of land being cultivated	1.33	0.05
Land registration certificate (%)	1, if possessing land registration certificate; 0, if otherwise	67.09	
Livestock possession (TLU)	Total number of livestock possessed	3.50	0.20
On-farm income (ETB/year) <sup>2</sup>	Total amount of farm income derived from crop and livestock production	27,162.72	2,700.06
<b><i>Ownership of asset, control over use of income, and decision about credit</i></b>			
Youth access to/decision about credit (%) <sup>3</sup>	1, if have access to and decision about credit; 0, if otherwise	68.09	
<b><i>Networks and training</i></b>			
Availability of viable networks/platforms (%)	1, if have access to viable networks/platforms; 0, if otherwise	29.90	
Received on-the-job training (%)	1, if received on-the-job training; 0, if otherwise	30.90	

Table 2 Explanatory variables, their descriptions and summary statistics

<sup>1</sup> For 74% of the youth, agriculture is the main/current occupation. Likewise, 46% of the youth participate in non-/off-farm income-generating activities (IGAs).

<sup>2</sup> The computed average expenditure (ETB/year) for productive inputs used in agricultural production was 7,450.19 with a std. dev. of 542.83.

<sup>3</sup> The proportion of youth owning asset was 73%, and 71% of the youth have control over use of income.

### 3. RESULTS AND DISCUSSION

#### 3.1 Characterization of youth aspirations in the pastoral and agro-pastoral areas

##### 3.1.1 Youth aspiration formation and context

This section presents youth dreams and ambitions in the Pastoral and agro-pastoral (PAP) areas. The most common aspirations were getting rich, being successful in work (education, agriculture, professional employment, etc.), marriage and having a happy family, making contributions to society, educational and formal employment, and migrating to urban areas. All aspirations were driven by a general desire to live a fulfilled life – which is locally conceptualized as “a state of well-being with good health, income, access to good food, clean water, good housing, and electricity” (focus group discussants in Mieso Woreda).

##### *Education – the aspiration with multiple goals*

Education was considered one of the aspirations of male and female youth in the study locations – however, with varying objectives. The youth across the study locations believed that the goal of aspiration for education varies depending on the specific characteristics of the youth (economic background, sex, access to resources), career goals, and available opportunities in the locality. In both West and East Hararghe zones, young people aspire to education due to one or more of the following goals: perceived importance of education in finding employment opportunities in the non-agricultural sector (white-collar jobs); improving social status; perceived outcome to enhance the efficiency of current livelihood activity (farming, and small business activities).

For Mr. Ibsa (a youth leader from east Hararghe) and other community members, the majority of the young people who preferred to attend formal education from their community did so to secure gainful employment opportunities (white-collar jobs) from govt and non-govt sectors in the foreseeable future. Whereas others attend school – due to the perceived role of education (basic numeracy and literacy skills) in enhancing the outcome of other livelihood activities - including decision-making on farming, enhancing farm productivity, non-farm business activities, petty trading and others. Mr. Ibsa said the following:

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*“The young people of from this community commonly prefer to attend formal education (many have attended or are attending) with a general belief that their schooling will open for them ways/access to formal and better occupational opportunities. Some, for example, would want to become leaders of public organizations and they know that education is necessary to achieve such an objective. Many others do also trust that education will have, at least, some level of positive impact on either the quality or quantity of outcomes on their current livelihood opportunity (e.g. trading and agriculture) that the youngsters will be engaging in afterward. Those youngsters from economically disadvantaged households do, particularly, seem to give a higher regard for attending education as a necessary tool to finding employment since they lack access to other means of livelihood. This category will, therefore, need to get financial assistance to enable them to start a business if they do not graduate and are employed.”*

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The above is an example of why people pursued education and perceived aspirational outcomes for the various categories of youth. This finding on the multiple goals and the positive role of education also relates to a study in Ethiopia by Leavy and Hossain (2014) who found that educational attainment was invariably viewed by people as a positive achievement not purely to do with income-earning potential, but also about how schooling could contribute to greater productivity in agriculture and other non-farm sectors.

### *Migration as aspiration – a ‘necessary evil’*

The lack of gainful employment opportunities in the PAP areas forced some young people to resort to migration as a career option. Migration was conceptualized as a necessary evil by the majority of migrant returnees.. For the majority of youth interviewed, migration is portrayed as a ‘necessary evil’ that should be pursued only temporarily to achieve certain goals and objectives. Young people often resort to migration for social, economic (livelihood), and cultural reasons. Poverty and lack of productive resources were important economic important push factors. Youth, mostly from resource-poor families, pursue migration as means of capital accumulation for renting land and buying livestock. Others resort to migration to complete socio-cultural obligations such as marriage.

In the PAP communities, marriage was invariably viewed by male and female youth as an important aspiration not only to do with its biological objectives but also its role in transitioning the person from dependence to independence and the social status that comes with it. This relates to earlier studies in the PAP communities that highlight the importance of the marriage institution in facilitating the person’s transition and status changes – a married person will be considered a functional member of the community. For instance, married persons will be given full membership status in mutual support groups (funeral associations, labor-sharing groups, etc) (Endris et al., 2020). In order to fulfill this cultural obligation and declare their independence, often male young people resort to travel to earn the financial capital to start a family. Flight from danger, mostly from conflict and drought shocks were also the other drivers for migration. Djibouti, Hargessa, and Saudi Arabia were the most favored migration destinations abroad identified by the youth.

Most of these migrants were influenced by the perceived economic gains. Success stories of former migrants, peer influence, and social media were some of the pull factors. Halima, a young key informant said the following;

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*“Perceived financial gains and better employment opportunities abroad or in urban/industrial areas are the major drivers for youth migration. News and experiences of formal migrants and social media are also big influencers. Drought and lack of gainful employment opportunities in the pastoral/agropastoral areas are some of the push factors.”*

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However, among the majority of the people interviewed migration was taken only temporarily. Migration, though one of the aspirations, is the least favored. The majority of male and female youth envision a future in their own country and others within their current location. Family ties,

tribal networks and local culture were very important drivers for staying around. Such networks also offer the youth access to livelihood resources. His finding is consistent with White (2018) who argued that rural outmigration does not necessarily reflect a permanent, lifetime abandonment of rural life, agriculture or the possibility of a return to farming (White, 2018, 2019, 2015).

### *Personal experiences and role models shape youth aspirations*

As compared to other young people, the youth with migration experience had the tendency to appreciate farming and agro-pastoralism as career options and perform very well. This is especially the case for youth with unsuccessful migration experiences. An expert key informant, Mrs. Kedija, from Midhega Tola Office of Agriculture mentioned that a good number of migrant returnees are engaged in agriculture in her location. Most of these migrant returnees had invested their hard-earned money and unique experiences from abroad into their current farming ventures. Personal stories of returnee youth from the four districts confirm this assertion.

For instance, Tofik is a male returnee from Mieso woreda. Unable to continue his education, he left his village and spent the last couple of years on migration in which he was exposed to a lot of hardships and also gained lots of experience in farming and related activities. Tofik, proudly mentioned that his experience as a former migrant made him appreciate the value of agriculture, the agro-pastoral area and the potential return that can be generated through farming. He also believed that his migration experience offered him with skills and experiences to engage in productive agriculture. He is currently leading (principally) an agropastoral livelihood with his family and works in mixed-crop-livestock farming and produces sorghum, maize, and wheat. This year alone (the 2022 production season), he obtained around 40 quintals of wheat by participating in the newly introduced cluster-based wheat production. He has also a few cattle and goats.

This is an example of how aspiration can be frequently modulated by personal encounters. This is an important finding to previous studies which presented all migration experiences as bad and may consequently lead to a permanent abandonment of rural areas and farming. However, not all migrations experiences are bad. In fact, some migration experiences inspired youth, like Tofik to work hard and appreciate the rural areas. This finding is contrary to an earlier study in Ethiopia which revealed that previous migration experiences are negatively associated with the desire to stay in rural areas – and if one has already moved, perhaps one can more easily imagine doing so again (Schewel & Fransenn, 2022).

### *Youth aspirations are gendered*

Aspirations varied for male and female youth. At the local community level, gender and relational dynamics were important markers that dictate the distribution of key productive resources and shape the division of roles and responsibilities between male and female youth, hence their aspiration and transition. The gendered findings are elaborated hereunder for aspects, such as access to productive resources, roles and responsibilities, norms and belief systems and other characteristics.

### *Norms and value system dictates aspirations*

In the PAP communities, youth is a social and cultural construct. Youth aspiration and expectation largely operate within a socio-cultural framework defined by society. Each stage in the person's transition (from childhood to adolescence and youth) is marked by distinct stages accompanied by roles and responsibilities assigned to each individual. Such norms and values also dictate the pattern



of how livelihood resources such as land should be distributed, hence their aspirations. Certain aspirations will be given-up or exchanged for other aspirations as new roles and responsibilities emerge. For instance, for the majority of youth, marriage and fatherhood/motherhood status were widely cited as major markers of transition. Marriage and parenthood endow male and female youth with new domestic relations and caring responsibilities and unlock youth livelihood access to resources (access to land through inheritance and marital gifts). For instance, for the majority of married male and female youth, the aspiration to migrate or establish a life outside the agro-pastoral areas is often exchanged for a career path that comes with greater staying aspiration working within the PAP areas. With marriage comes responsibility and the need for a more sedentary lifestyle.

### *Shock and risks shaping aspiration*

The risk of loss of rural livelihoods due to shocks, such as those related to ecological, political, policy, and economic adverse events—are a major concern for communities located in pastoral and agro-pastoral livelihood systems (Befikadu et al., 2019). These shocks shape the development of youth aspirations and anticipated outcomes. Drought, flood, disease and pests are the dominant climate-induced shocks affecting livestock and crop production across the districts. The livestock population has been decreasing substantially due to continuous drought, soil erosion, livestock diseases, and expansion of arable land in the districts. Conflicts due to grazing land disputed borders (between Somali and Oromia pastoralists in Midhega Tola, Miesso, Chinaksen areas), land grabbing (gradual expansion of land by Somali pastoralists), water scarcities (with adjacent regions and Somali pastoralists), and cattle-raiding were some of the most recurrent conflicts cited by youth participants. Most of these conflicts often involve armed confrontations lasting for days and months. The youth are the primary targets of such conflicts, so they are often forced to flee from the area looking for safety.

All the above cases demonstrate the complex process of how youth aspirations develop within a set of constraints and opportunities – involving circumscription (which compels the individual to limit their occupational aspirations to a zone of acceptable alternatives (which is socially and culturally determined) or compromise (involves the exchange of aspirations for more realistic career choices from within acceptable alternatives (Armstrong and Crombie, 2000; cited in Leavy and Smith, 2010).

### **3.1.2 Categories of youth aspirations in the PAP livelihood system**

Aspirations are heterogeneous. Analysis of the focus group discussions and the life history interviews reveal the category of youth aspirations. Agriculture/farm-related activities and education paths (towards formal employment) were the two competing parallels (default paths) often compared to determine the career choices and aspirations of the youth in the study areas. The different categories of aspiration correspond with particular profiles of young people. Young people's sex, personal experiences, prior experience and current employment history with farming, their current and expected educational attainment, access to productive resources, and family background were major variables implicated in farming youth aspirations.

The following 4 categories emerged in relation to young people's aspirations in agriculture in pastoral and agro-pastoral areas:

- i) Youth who pursue agro-pastoralism/agriculture/farming as a primary career path;
- ii) Youth who currently pursue agro-pastoral livelihood temporarily to accumulate much-needed resources to fulfill their primary aspiration;
- iii) Youth who aspire for a primary career opportunity outside of agriculture/farming and the agro-pastoral areas (yet currently supported by agriculture)
- iv) Youth categories without a clearly defined aspiration/undecided category

### *Youth who currently pursue Agro-pastoralism as a primary career path*

Contrary to the popular narrative that portrays youth as averse to agriculture and that only very few young people are interested in pursuing livelihoods linked to agriculture, some youth in our study expressed aspirations to pursue agro-pastoralism or farming-related activities as a primary career path within their own locality. This group of respondents envisions a future in market-oriented agriculture activities in livestock production; milk, poultry and mixed farming businesses. Our study revealed that youth aspiration to pursue farming as a career option was a function of several factors including current employment status as a farmer, gender, family wealth, access to land, level of education, and migration experience. This finding relates to an earlier youth study in Ethiopia by Getnet and Asrat (2012) who also found that the desirability or undesirability of agriculture as a way of life appeared to vary with age, gender, farming background, level of education, and notably whether the young person was still in school or had left school.

For young people, aspiration is not an ego-centric pursuit. Career decisions are often made after objective and subjective evaluation of opportunities. Male and female youth widely expressed that the decision whether to take education as part of young people's career aspirations and goals comes after an extensive assessment of the availability of employment opportunities or the labor market situation/payment situations in their localities. For some young people and parents in the pastoral and agro-pastoral areas, there was a deep disappointment that education aspirations and expectations hardly reflect available employment opportunities and the realities of the labour market. The majority of youth respondents who wished to pursue agriculture as a career option were mostly based on the premise that education cannot guarantee a good income in the foreseeable future.

They also argued that a higher level of education will not lead to a good income. This perception among young people, that higher levels of education did not translate automatically into good jobs as people perceived there to be little value in completing education where job prospects are so limited, was also echoed in Levis (2014) study. The massification policy of higher education programs, limited job opportunities and small salaries were among the disincentives mentioned by key informants against pursuing education goals as a career option. Respondents used the experiences of recent graduates and public sector employees from their respective villages as an example to strengthen their argument as to why they choose to pursue farming as a career goal. For instance, Ahmed, a male youth from Gumbi Bordode, mentioned how the experiences of his own elder brother (who was a teacher) made him despise education and give up his childhood dream. Ahmed mentioned that his childhood dream was to complete his education. However, after seeing his brother's subsistence earnings as a teacher, he hated education and eventually decided to drop out of school.

This was also a view widely shared among many parents in the community who expressed deep dissatisfaction with the value of education. Most parents regard education as a very expensive

investment with low returns. For instance, focused-group discussants highlighted this situation as the following:

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*“Though there are many youngsters who completed their higher education, many of them are not employed. Most of these graduates still depend on their families instead of helping them. The expenses many parents incur for sending their children to high school and college are increasingly becoming unaffordable. One of the mothers called her son ‘hey, son, who only knows how to reduce what we have than adding what your education offers’”.*

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The orientation to pursue agriculture as a career was to some extent associated with one's current employment status as a farmer and farming experience. Respondents who were currently engaged in agriculture or have established a living in rural areas expressed that they wanted to continue as farmers. Most of these are young people who were married and have children.

Farming (livestock, crop, or mixed) aspiration was also correlated with one's family and kin's economic background. Young people from well-to-do families and agricultural backgrounds were more likely to engage in farming and pursue agriculture as a career option. Agriculture for wealthier youth offers greater hope or prospects for staying in agro-pastoral areas and pursuing a future in agriculture than it does for those with fewer resources. The transition of stories of some youth from the agro-pastoral areas also demonstrated that youth from well-to-do families had greater chances of becoming successful as they have the means to start with (experience, land, and other financial resources). For instance, Mr. Younus was a young and successful pastoralist male from Gumbi Boredede Woreda. He came from a well-to-do pastoralist family. He took his inspiration of becoming a successful pastoralist from his own family and the pastoralist community in general. As a young boy, Younus used to dream about owning a large number of camels, cows, and goats. Yousuf is currently a successful pastoralist with huge herds of livestock and other animals. He attributed his success to his family and role models for giving him the experience and the start-up to attain his dreams. Yousuf's childhood career aspiration and current economic activity are somehow similar. Yousuf wanted to increase the number of camels, goats, and cows. Younus also was planning to shift his farming activity to a commercial level so that he can support his family in general and particularly his children attend school and complete their education.

The study findings also showed a relationship between migration experience and willingness to consider agriculture as a career option. Though this may not work for every context and youth typology (and also depends on the youth's access to resources after migration), for youth returnees with unsuccessful migration experiences, agriculture was often considered a viable investment (check the earlier case of Tofik). Respondents across all districts expressed that the desire of some returnees to reengage in market-oriented agriculture and other non/off farming businesses in their localities suggests a gradual shift in youth aspiration in agriculture. According to Mr. Kumsa, observed a growing number of returnees working in agriculture.

*“Many youngsters (specifically until the recent past) used to wish not to engage in farming activities. Instead, they wanted to migrate to other places such as Middle Eastern countries so that they would be able to engage in non-farm businesses. However, there is a gradual shift in what young people wish to engage in currently. I am witnessing several returnee youngsters are increasingly working in business-oriented agriculture. This type of engagement is only a recently observed phenomenon.”*

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### *Youth who pursue Agro-pastoral livelihood temporarily towards a non-farm primary occupation*

Youth under this category aimed to accumulate the capital required to start their own non-farm primary aspirations. This category of youth temporarily works in agriculture as a stepping stone to fulfill their primary aspirations. This category includes youth whose educational careers were less successful (including dropouts, and graduates) and did not lead to further or higher education and jobs in the public sector. For the majority of these groups, agriculture was considered a fallback option – to be pursued only if other plans didn't work. This sentiment of agriculture being the last resort, something you do if you fail at school, in business, or as a migrant, is echoed in similar works (Getnet et al.,2012; Leavy, 2014).

### *Youth who aspire for a primary career opportunity outside of agriculture and rural areas*

Farming and related livelihoods were considered less advantageous as compared to employment outside agro-pastoralism. This view was particularly upheld by educated young people (graduates or those advanced in their secondary education) who aspire to pursue a career in the formal sector or through migration (to urban areas or abroad). Male and female youth respondents under this category aspire to a career outside of agriculture and wanted to live in urban areas. Most of the respondents under this category argued that farming as a profession doesn't lead to a substantial return in income and consumption, confirming the narrative that farming is an unattractive career that cannot continue supporting rural livelihood. The difficulty of managing life as an agro-pastoral/pastoral and the risks associated with the agro-pastoral lifestyle were identified as reasons the youth lack interest in pursuing agriculture as a career.

- (i) **The physical and mental challenges of life as an-agropastoral:** agro-pastoralism and farming were widely portrayed by young male and female respondents as tough, backward, physically-demanding, and financially unrewarding. Young people like Abraham, his transition to youthhood was full of bitter experiences. He expressed that the challenging roles involved in herding the cattle and carrying out farm activities as a child – coupled with the frequent drought and consequent damages to crops and livestock were the factors that made him consider leaving that agro-pastoral lifestyle and aspire for professional employment opportunities by completing his education.
- (ii) **The increasing levels of shocks and vulnerability.** People across the 4 agro-pastoral/pastoral districts pointed out why the youth in their localities didn't like to consider agro-pastoralism as a career option. People expressed that young people didn't choose agriculture because of the vulnerability of agro-pastoral areas and livelihood to natural and

man-made shocks. They perceived farming as an occupation with no guarantee of regular income. They also expressed the risk associated with farming, particularly due to reliance on rainfall, climate-induced shocks, which are felt in shifting weather patterns, higher temperature, rainfall variability, increasing intensity of drought, and water scarcity were the major factors identified by respondents. People reported that the recent drought shock they experienced acutely bruised livestock and crop production, and households lost a larger size of their livestock assets and agricultural production. The situation also compelled the households to sell the remaining asset at much lower prices, thereby forcing them to experience a severe socio-economic crisis. A traditional leader from Chinaksen district mentioned that the difficult living conditions and limited availability of support structures pushed the youth not to consider farming a viable enterprise. A female, traditional leader from Chinaksen added that

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*“The youth has lost confidence in relying on agriculture as a viable activity due to the frequent damage of crops and livestock due to drought and the absence of support structure to the pastoral community. The young community members are currently unable to aspire to any occupation related to agriculture as things are increasingly becoming unpredictable. This is attributable to the increasing level of drought and the risks of conflict between different community segments.”*

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- (iii) **The portrayal of urban life as easy** – Among the youth, urban life and life outside of agro-pastoralism has been wrongly portrayed as extremely easy and comfortable. People associate this view with increased access to education, exposure to social media, increased exposure to urban lifestyles and peer influence

#### ***Youth without a clear aspiration***

Aspiration, vision, and future expectations were the most difficult questions for some young people to answer. Some young people across the villages upheld the view that “in a context where opportunities are limited, it should be none but fate and luck that should guide”. The majority of male and female youth in the villages expressed their deep frustration and despair in the agro-pastoral areas. The rise in the cost of living, unemployment, poverty, rural-urban inequality, drought and desertification, lack of support services and interventions, lack of role models, water shortages, and growing pasture conflict (involving armed struggles) were identified as major factors that contributed to the inability of the youth to form meaningful career aspirations. For community leaders like Mr. Umer, the growing youth despair was very troubling. As a community leader, he was very concerned about the future of the youth and the agro-pastoral areas. He worries that the inability of the youth to secure gainful employment opportunities and institutional support may drive the youth to resort to criminal activities. He expressed:

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*“The youth are not accorded the attention they deserved. I am increasingly becoming skeptical as to whether the young people in this community are able to form any tangible and positive occupational aspirations given the lack of career opportunities and career guidance. I am very worried that this situation may lead to organized crime and such as theft.”*

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### 3.1.3 Youth perception of agriculture and engagement in the agro-pastoral livelihood

In the earlier section, we presented findings on youth aspirations, characterization of aspirations in agriculture, and determinants of youth aspiration. In this section, we present quantitative and qualitative data to understand the youth's current perception of agriculture/agro-pastoralism and the determinants of perception.

Across the PAP areas, youth aspiration of agriculture and their corresponding willingness to pursue it as a career option and the specific paths in which they choose to engage with agriculture/ rural life was largely influenced by how the youth perceived agriculture as a livelihood option – which, in turn, is influenced by the intersection of various other factors including perceived gains from agriculture (perceived financial gains, current level of satisfaction of their farming profession); shifting trends (generational and historical issues); youth-specific characteristics (age, sex, educational attainment, wealth level, and family background) and geography.

#### Perceived financial return from agriculture

Survey respondents provided their perceptions regarding the proposition that agriculture can be a basic means of livelihood (Table 3). Accordingly, about 72% of the youth perceived that the agricultural sector cannot fulfill their basic livelihood necessities. Furthermore, there exists a statistically significant difference in perception between male and female youth – a greater proportion of male youth (76%) believe that the agricultural sector cannot support their livelihoods adequately compared to 67% of female youth who indicated the same.

Table 3 Level of agreement if agriculture can be a basic means of livelihood for the youth (%)

Level of agreement	Pooled Sample	Female Youth	Male Youth	$\chi^2$ -test
Strongly agree	0.75	1.04	0.49	8.82*
Agree	18.59	19.69	17.56	
Neutral	8.79	11.92	5.85	
Disagree	34.67	36.27	33.17	
Strongly disagree	37.19	31.09	42.93	

At Zonal level, although the score for youth in West Hararghe is higher compared to those in East Hararghe, the difference is not significant. The Woreda level data, however, shows that there are

some significant differences – a greater number of young people in Gumbi Boredede indicated that they do not believe agriculture to be a basic means of livelihood (Figure 4).

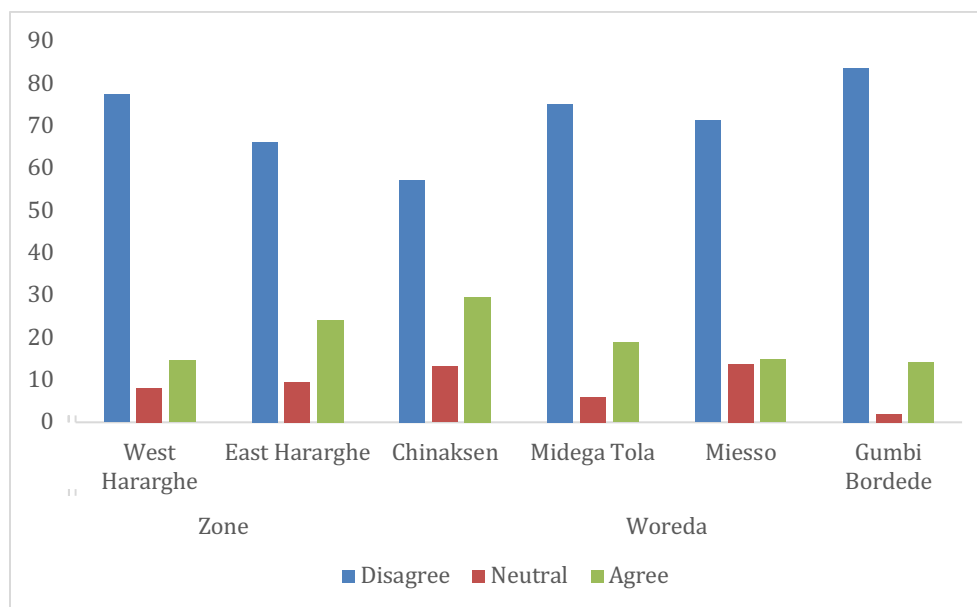


Figure 4 Zonal and Woreda level comparison on whether agriculture can be a basic means of livelihood (%)

Likewise, the youth were asked about their perception of whether agriculture can be a viable profession with a reasonable financial return. Accordingly, 74% of the youth indicated that agriculture, as it currently stands, cannot be a viable profession with a reasonable economic gain. Although there was a difference between male youth (69%) and female youth (79%), the overall  $\chi^2$ -test shows that the difference is not significant.

Level of agreement	Pooled Sample	Female Youth	Male Youth	$\chi^2$ -test
Strongly agree	0.75	1.04	0.49	5.95
Agree	16.83	19.17	14.63	
Neutral	8.29	10.36	6.34	
Disagree	34.92	35.23	34.63	
Strongly disagree	39.20	34.20	43.90	

Table 4 Level of agreement if agriculture can be a viable profession with a reasonable financial return (%)

Looking at the Zonal level data (Figure 5), there were significant differences, with greater proportions of youth in West Hararghe indicating that agriculture cannot be a viable profession. Similarly, at Woreda level, there exists significant difference in perception: greater proportion of youth in Mieso (81%) indicated that agriculture cannot be a worthwhile profession compared to only 59% of the youth who indicated the same in Chinaksen.

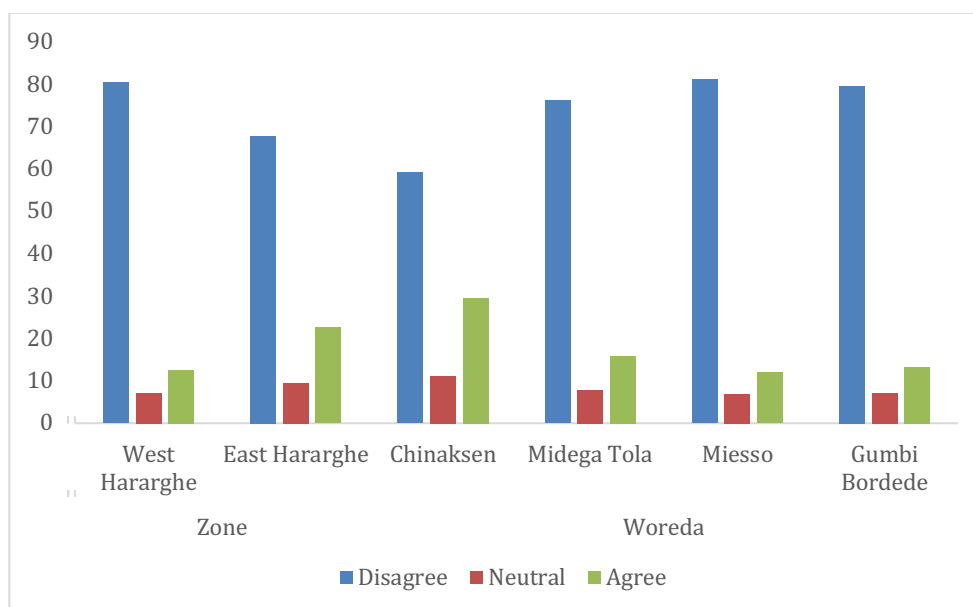


Figure 5 Zonal and Woreda level comparisons of youth perception on whether agriculture can be a viable profession with a reasonable financial return (%)

Table 5 presents data on youth's level of satisfaction with their current (agricultural) job. About 65% of the youth indicated that they are not satisfied with their current job. Greater proportion of male youth (71%) are dissatisfied compared to female youth (58%) and the difference is significant.

Level of satisfaction	Pooled Sample	Female Youth	Male Youth	$\chi^2$ -test
Very satisfied	3.27	5.18	1.46	12.05 **
Satisfied	18.84	23.83	14.15	
Average/Neutral	13.07	12.95	13.17	
Not satisfied	32.91	28.50	37.07	
Not very satisfied	31.91	29.53	34.15	

Table 5 Level of satisfaction with current agricultural job (%)

At Zonal level, although greater proportion of youth in West Hararghe were dissatisfied (69%) compared to East Hararghe (61%), the overall difference is not significant. At Woreda level, however, there are significant differences: greater proportion of youth in Miesso were dissatisfied (69%) compared to those in Chinaksen (57%). Figure 6 presents detailed data on the Zonal and Woreda level comparisons.



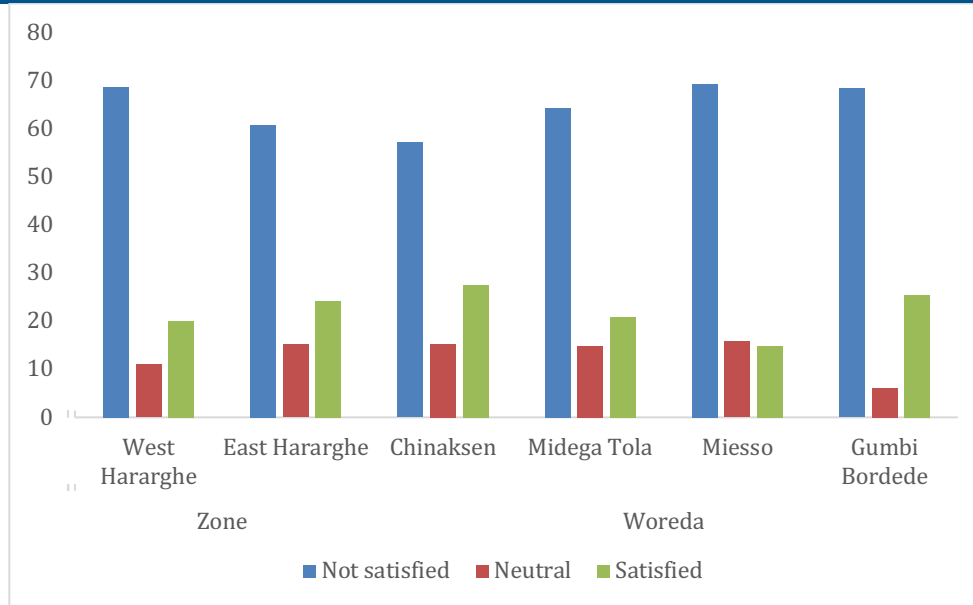


Figure 6 Zonal and Woreda level comparison of level of satisfaction with current job (%)

Despite evidence of the dwindling popularity of traditional agriculture/agro-pastoralism (in its current form and shape) as a viable source of income and food security among the younger generations, there was a general consensus among community members, agricultural professionals, and various categories of youth across the four districts that agriculture was a dominant source of livelihood with a potential for youth livelihood. This is confirmed by the large demography of the youth population currently working in the sector. Male and female youth across the four districts actively participated in the food system across the crop and livestock value chain. Most of them operate subsistence agriculture on family plots, while others operate on their own holdings, rented plots, or shared cropping. They produce food crops such as sorghum and Maize and others produce vegetable crops (in this case particularly onion and peppers) for markets. Others also participate in keeping livestock and small ruminants. Very few young people have also already engaged in the recently initiated dry-season irrigation and cluster-based wheat production others in the bull fattening business (which is male-dominated) and khat trading (particularly the females).

The study also found that the youth do not hate agriculture and agropastoral lifestyle. The youth are only losing interest in agriculture due to the current performance of agriculture, low status and economic conditions of farmers, recurrent weather shocks and drought, subsistence mode of farming, and the low attention accorded to the youth in pastoral and agropastoral areas. In fact, a large number of male and female youth reported that agriculture has been and can be a source of livelihood if the sector is supported by modern technology, financing schemes and market. This is also in line with Clover and Sumberg (2020), as well as Anyidoho, Leavy and Asenso-Okyere (2012) that contrary to the popular narrative that very few young people are interested in pursuing livelihoods linked to agriculture, they found good evidence that some youths do find farming appealing if the terms of engagement are attractive.

With regard to the fate of agriculture, people have varying and complementary views. For people from government offices, agriculture was perceived as a viable venture with the potential to be transformed into a viable and lucrative opportunity. For older farmers, agriculture was considered a

sacred profession and its future and continuity depend on the availability of youth working in agriculture to enhance productivity, ensure the continuity of agro-pastoral lifestyle, and safe-guarding ancestral land. For young people, traditional agriculture/agro-pastoralism, as it stands today cannot be a viable source of income and food. Hence, they recommend commercial and modern agriculture. Among a few young people in school, agriculture was widely seen as an old lifestyle that cannot generate quick cash in the foreseeable future. Among migrant returnees and graduate students, agriculture was mostly a fallback option. However, the consensus across all categories is a sheer recognition of agriculture’s transformative potential.

### 3.2 Status of Youth Access to and Participation in Programs, Projects and Development Interventions

#### 3.2.1 Status of youth access and participation

Analysis of primary data in the study area revealed a varying level of access to and participation in basic services, infrastructure (Figure 7), and livelihood support development interventions (Figure 8).

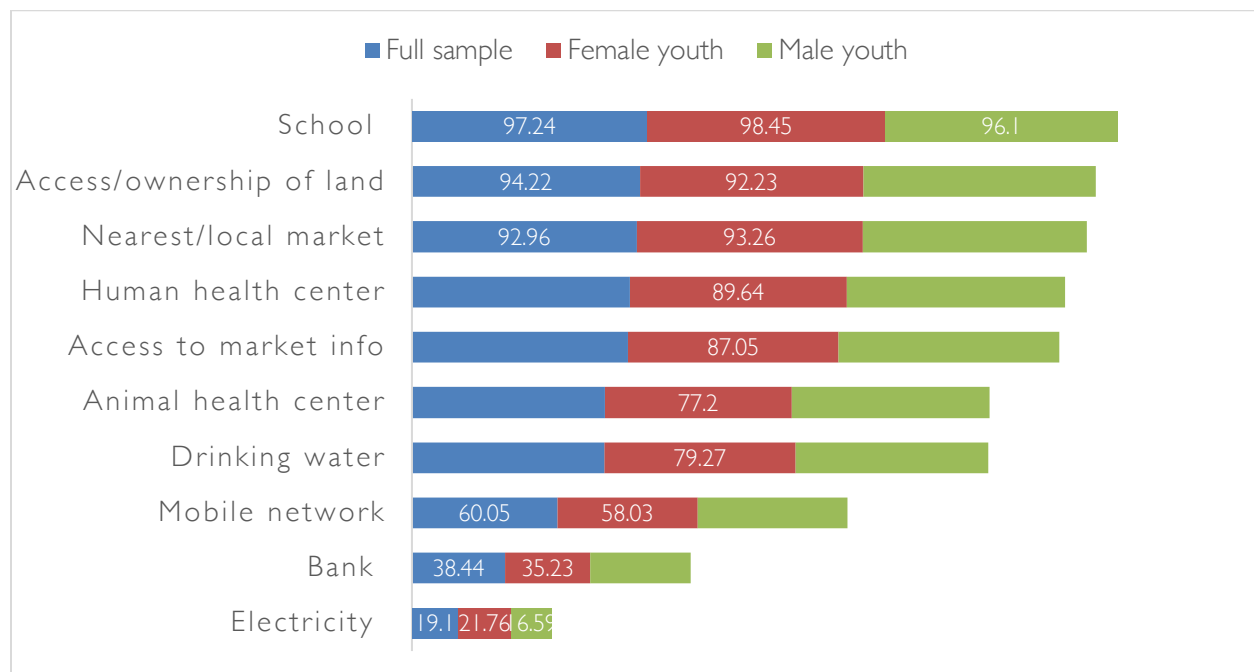


Figure 7 Status of youth access to and participation in basic services and infrastructure by gender (%)

Survey data analysis showed that a host of factors affect the level of youth participation and benefits resulting from their engagement. To start with, the youth possess a low level of education (grade 5, on average) and early marriage is a characteristic feature of the study population (71% married, despite their average age being 23). Availability of appropriate job opportunities is low (41%) and there is a huge mismatch between the occupational aspirations of the youth and their

current job (70%), leading to a high level of dissatisfaction with their current job (65%). Youth engagement in the agricultural sector has been hampered by small land size (1.33 ha, on average), limited experience in farming (5 years, on average), high cost of productive inputs and low farm income. Consequently, 74% of the youth indicated that the agriculture sector cannot be a viable profession to fulfil their basic livelihood necessities.

There are also limited off-/non-farm employment opportunities for the youth to engage in. The youth also lack the necessary knowledge, skills and financial capital to participate in the job market and local economy. For instance, only 13% of the youth benefit from microfinance institutions (MFIs), 5% participate in small and medium enterprises (SMEs), 5% engage in the farmer field schools (FFSs), and 13% received capacity-building training. These have seriously limited the ability of the youth to create self-employment opportunities or tap into available job vacancies. The low coverage of rural electrification (19%) and banking (38%) have also hampered the youth from operating lucrative enterprises, such as wood/metal work, poultry and agro-processing. Low level of participation in networks/viable platforms (30%), women's group (13%), youth group (13%), and women and children affairs office (15%) have also been found among the youth. The limited access to the PSNP (24%), NGOs (31%), irrigation cooperatives (3%), primary cooperatives (5%) and cooperative unions (10%) have also contributed to the low level of youth engagement in the local economy.

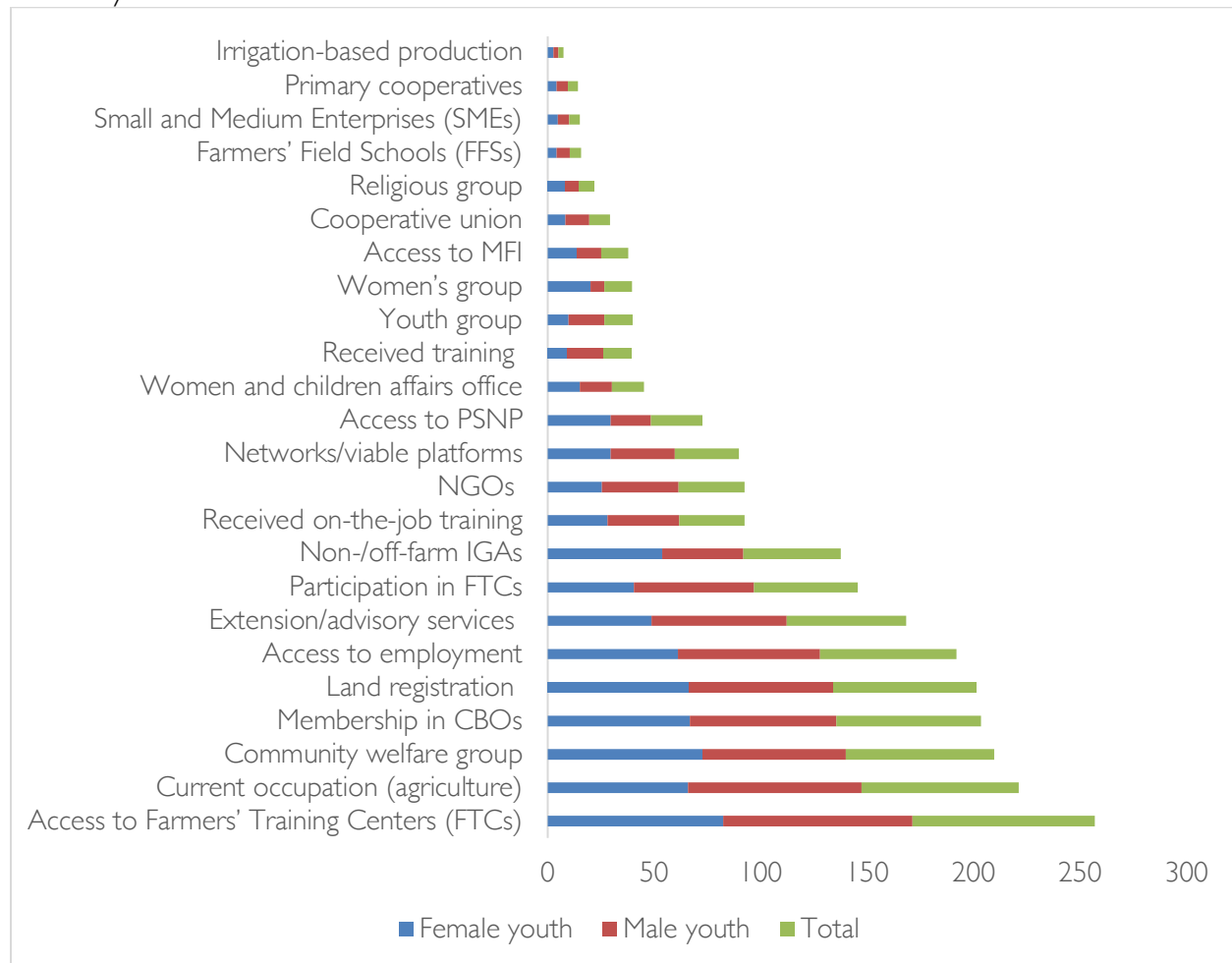


Figure 8 Youth participation in programs, projects and development interventions by gender (%)

Readers interested in understanding the status of youth access to and participation in these interventions and other livelihood activities, disaggregated by gender and specific study area, are directed to a recent article published by the authors (Wordofa et al., 2023).

### 3.2.2 Determinants of youth access to/participation in development interventions

The systematic/desk reviews conducted in the study Woredas (Aweke et al., 2022; Endris et al., 2022; Wordofa et al., 2022a) also identified key financial, economic, governance and administrative, institutional/organizational, infrastructural, socio-cultural and environmental/ecological factors affecting youth participation in programs, projects, development interventions and other livelihood activities. Youth participation in profitable agricultural and non-agricultural (off-/non-farm) income-generating livelihood activities has been found to be greatly affected by lack of financial resources. The lack of, or limited access to, start-up capital has severely limited the youth's ability to start and grow their own small and medium enterprises. Complemented with the lack of entrepreneurial skills development training, mentorship, mindset and behaviour change communication interventions, this has resulted in the limited integration in and contribution of the youth to the local economy.

The difficulty to obtain financial support has also affected the participation of the youth in the agriculture-based livelihood activities by limiting their ability to purchase improved seeds and livestock breeds, feed/fodder, farm implements, fertilizer, chemicals, and renting in land or participation in contract farming. Furthermore, the youth's engagement in the agriculture sector was constrained by mechanisms governing the access to land. In the study area, there is a general lack of access to land due to population pressure. Hence, landlessness or inadequate land size prevents the youth from benefiting from agricultural activities. The difficulty to acquire land, especially due to long and cumbersome administrative procedures, has discouraged the youth. This is truer for female youth, who, due to socio-cultural reasons and local customs, were excluded from land inheritance. The limited access to input/output markets, price fluctuations, too expensive input prices, poor extension and animal health services, lack of water and poor transport facilities have all contributed to the youth's limited interest and participation in the agriculture-based employment.

The youth in the study area do not participate adequately in rural credit and saving schemes. Consequently, they do not benefit much from these services. The main reasons for the limited participation identified by the systematic reviews include limited coverage and scope of the financial services by micro-finance institutions (MFIs); bureaucracy; requirements such as large amount of advance saving and collateral; short repayment period; high interest rate; and lack of interest-free credit. Furthermore, the exclusion of poor farmers, group-based lending and credit tied to inputs (i.e., lack of flexibility in the use of the credit) have affected the participation of the youth.

The youth participation in development interventions and employment opportunities has been limited by governance, administrative and policy related factors. Lack of good governance, resulting in difficulty to access governmental and other organizations' support, has been key among them. This reflects itself in several forms, including lack of transparency in targeting, nepotism/favouritism, corruption and bureaucracy. Consequently, the youth were left with no or limited support to tap into existing supporting programs, such as financial services and engagement in small and medium enterprises (SMEs).

Conflict, violence, instability and unrest have also affected the participation of the youth in various livelihood activities and interventions of the government/public sector, NGOs, CBOs and other agencies. In the study area, there were many sources of conflict, including inter-ethnic tensions, border conflict, violence related to competition for (grazing) land, forage/feed, water sources and cattle raid. These tensions and instabilities have resulted in welfare loss, mass displacement and destruction of properties and infrastructures.

There were also socio-cultural impediments to youth participation in development interventions. Chief among them were discrimination based on gender, cultural norms and belief systems, perception, traditional/social structure and power relations. Early marriage, domestic workload on women (including fetching water and collecting firewood by travelling long distances), land inheritance that excludes women, and gender disparity in schooling have all affected youth empowerment and participation. Some qualitative respondents also highlighted the lack of recognition of the role of customary institutions as a setback. The widely practiced tradition of chewing Khat has also been mentioned as a source of despair and depression for some youth addicted to it (i.e., substance abuse).

The limited availability of supporting organizations/institutions (public, private, NGOs, CBOs etc) and poor infrastructural developments (water, healthcare, rural electrification, road networks) have hampered youth participation. For instance, extension and advisory services in the area were regarded as inadequate in terms of content, coverage, and quality. There is a critical water shortage in the study area. This affected human and livestock health, schooling (e.g., absenteeism, drop-out), agricultural practices (e.g., irrigation-based production) and income. Existing infrastructures also require maintenance to be able to serve the community. The youth were found to be less organized into interest groups and associations, such as cooperatives, youth groups, women's groups etc. For instance, the participation of the youth in primary cooperatives, irrigation cooperatives and cooperative unions was found to be very low. The lack of youth interest groups and associations has affected their ability to collectively demand services and support schemes, such as credit, tailor-made capacity-building training, and shades/working space for their enterprises. Coupled with low level of education and employable skills, the lack of organized youth groups/institutions hampered collective action on matters affecting their choices of livelihood activities and welfare.

In relation to environmental and ecological factors, there were various climate-induced shocks and uncertainties affecting youth livelihood transformations. Some of the major shocks include erratic rainfall, drought, flooding, soil erosion/low soil fertility and gully formation, prevalence of invasive weeds, and incidence of pests and diseases (e.g., desert locust, fall armyworm). These climate-induced uncertainties, coupled with lack of or poor early warning and disaster risk forecast, reduction and management systems, have resulted in natural resource degradation affecting crop and livestock productivity, income, food and nutrition security.

In what follows, determinants of youth participation in extension and advisory services, farmers' training centers (FTCs), community-based organizations (CBOs), and NGOs are presented and discussed.

## i) Youth Participation in Public Extension Services and Farmers' Training Centers (FTCs)

In this study, youth participation in extension and advisory services was assessed in terms of their access to public extension service, involvement in training organized by the extension system, involvement in farmer field schools (FFSs), access to farmers' training centers (FTCs), and participation in the activities of the FTCs. Appendix Figure 1 provides some details on the FTCs/PTCs and extension/development agents across the study Woredas.

We found that about 56% of the youth participated in the public agricultural extension services, obtaining advice and on-farm demonstration on relevant aspects of agricultural production. However, only 13% of the youth received the much-needed hands-on agricultural training. Worryingly, only 5% of the youth were found to participate in the farmers' field schools (FFSs). This has seriously limited the capacity of the youth to try new technologies and production practices through horizontal learning and on-farm trials. Although 86% of the youth reported to have access to the FTCs, only 49% of them participated in the educational, advisory and training functions of the FTCs. The gender-disaggregated results showed that greater proportions of male youth participated in the extension/advisory services ( $\chi^2$ -test = 8.74 \*\*\*), FTCs ( $\chi^2$ -test = 10.40 \*\*\*), and agricultural training ( $\chi^2$ -test = 6.60 \*\*) compared to the female youth (see Wordofa et al., 2023 for the details). These findings suggest that female youth benefit less from the prevailing organization and delivery of the public extension services. Women participation in extension services has been found to increase their level of satisfaction with the services, enhance rate of technology adoption and improve their economic situation (Buehren et al., 2019).

To identify the determinants of youth participation in selected extension service modalities (i.e., public extension and advisory services and FTCs), the Logistic regression model was estimated. The outputs are given in Table 6. Accordingly, youth participation in the public extension system was found to be affected by their place of residence, gender, marital status, family size, on-farm income, availability of viable networks, and on-the-job training. More specifically, the odds of youth participation in the public extension services were found to increase by a factor of 2.49 for male youth; by 4.44 for married youth; by 1.29 for a unit increment in family size; by 1.00 for a unit increment in on-farm income; by 2.31 for youth with access to viable networks/platforms; and by 4.37 for youth who received on-the-job training. However, it was found to decrease by a factor of 0.47 for youth from West Hararghe zone (Table 6). The same set of variables were found to affect youth participation in the FTCs. However, there was one more variable (i.e., access to employment opportunities) that was found to be a significant predictor. The model estimation result showed that the odds of participation in the FTCs increases by a factor of 2.21 for the youth with access to employment opportunities (Table 6).

	Public Extension Services		Farmers' Training Centers (FTCs)	
	Odds Ratio (Robust Std. Err.)	z (p> z )	Odds Ratio (Robust Std. Err.)	z (p> z )
West Hararghe Zone	0.47 (0.12) ***	-2.96 (0.003)	0.61 (0.16) *	-1.88 (0.060)
Male youth	2.49 (0.68) ***	3.37 (0.001)	2.64 (0.74) ***	3.46 (0.001)
Age (years)	0.98 (0.04)	-0.63 (0.526)	1.00 (0.04)	0.02 (0.981)
Education (years)	0.97 (0.03)	-1.02 (0.309)	0.96 (0.03)	-1.10 (0.273)
Married youth	4.44 (1.99) ***	3.33 (0.001)	2.11 (0.95) *	1.66 (0.097)
Divorced youth	2.36 (1.17) *	1.74 (0.083)	2.24 (1.07) *	1.69 (0.092)
Separated youth	2.07 (2.28)	0.66 (0.510)		
Family size (no.)	1.29 (0.09) ***	3.76 (0.000)	1.22 (0.08) ***	3.03 (0.002)
Access to and decision about credit	0.72 (0.25)	-0.95 (0.344)	0.67 (0.24)	-1.10 (0.271)
Land holding size (ha)	1.13 (0.14)	1.00 (0.319)	1.09 (0.14)	0.69 (0.490)
Land certificate	1.16 (0.33)	0.52 (0.600)	1.50 (0.42)	1.45 (0.146)
Experience in farming (years)	1.04 (0.03)	1.13 (0.257)	1.01 (0.03)	0.23 (0.817)
Livestock possession (TLU)	0.99 (0.03)	-0.47 (0.639)	0.98 (0.03)	-0.69 (0.489)
On-farm income (ETB)	1.00 (3.50e-06) **	2.14 (0.032)	1.00 (3.53e-06) **	2.41 (0.016)
Access to employment opportunities	1.45 (0.38)	1.43 (0.153)	2.21 (0.60) ***	2.93 (0.003)
Availability of viable networks/platforms	2.31 (0.68) ***	2.82 (0.005)	2.06 (0.59) **	2.54 (0.011)
Received on-the-job training	4.37 (1.33) ***	4.83 (0.000)	3.53 (1.01) ***	4.39 (0.000)
Constant	0.09 (0.08) ***	-2.65 (0.008)	0.06 (0.05) ***	-3.14 (0.002)
Log pseudolikelihood	-211.51		-211.54	
Obs	396		390	
Wald chi2 (16)	100.94 ***		90.56 ***	
Prob > chi2	0.000		0.000	
Pseudo R2	0.22		0.22	

Table 6 Logistic regression outputs: determinants of youth participation in public extension services and FTCs

Note: \*, \*\* and \*\*\* denote statistical significance levels at 10%, 5% and 1%, respectively

The results of a systematic desk review conducted in the study Woredas highlighted important bottlenecks of youth participation in the current extension and rural advisory services. For instance, in Miesso Woreda, it was found that, like other parts of the country, agricultural extension service provision suffers from organizational, structural, and capacity-related problems affecting proper service delivery (Endris et al., 2022). Agricultural extension services are poorly organized and staffed in the Woreda (Endris and Hassan, 2019). There is also low motivation and high mobility/turnover of DAs. Several Subject Matter Specialists (SMSs) and DAs in the Woreda quit the extension service and joined better-paying NGOs or other government offices. This was due to the poor incentive packages and remoteness of most of the Kebeles from urban centers (Endris et al., 2022). The desk review conducted in Gumbi Bordede Woreda also showed that the Woreda lacks Pastoral Field Schools and Livestock Clinic. In addition, the available Pastoral Training

Centers (PTCs) require major maintenance and provision of materials and equipment for training and demonstration. Furthermore, there is a need to expand PTCs in the Woreda through the construction of new PTCs to create access to youth and women to educational, training and demonstration services provided through the PTCs (Wordofa et al., 2022a).

Analysis of qualitative data gathered from FGDs and KIs in the study areas revealed several factors affecting youth participation in agricultural extension services. Agricultural extension service provision is found to be very limited both in terms of coverage and scope as compared to the demand for it. There has been limited human resources to carryout extension activities. Agricultural extension offices across most districts were found to be poorly staffed and organized. The number of extension professionals appears to be too small to satisfy the emerging needs. A related problem reported was also a lack of motivation and high mobility/turnover of extension agents. It was reported that several DAs quit their job and joined other organizations. Very low incentive packages, such as salaries, logistics (transportation facilities), and lack of opportunity for career development as well as forced engagement in non-professional duties, such as in political mobilization activities were among the major contributing factors mentioned by the DAs for the low work motivation and high turnover. The extension service has also been criticized for not evolving along with the rapidly changing agro-ecological conditions and needs of the community. The extension services were not specifically tailored to address and support youth livelihood needs, including market-oriented livestock production businesses. Furthermore, extension beneficiaries blame agricultural extension agents for not committing to their duties and for their use of traditional teaching methods. For instance, several FGD respondent farmers highlighted that the use of a model farmer approach is discriminatory as it excludes the landless and resource-poor farmers. In addition, respondents criticized the extension teaching method for lacking a practical orientation. But for extension agents, this has to do more with the FTCs. The FTCs' are poorly equipped and organized.

The above were the major institutional and structural problems directed toward both the extension agent and the bureau of agriculture and rural development. There were also other sets of barriers directed at the farmers. A lack of willingness to apply expert recommendations has been one of the barriers frequently mentioned during the course of this research. It was reported that some farmers choose to resort to old methods over modern practices. A lack of farmers' willingness to participate in extension training was also a widely mentioned problem. It was reported that some farmers are not interested in attending training unless there is a financial incentive involved in compensating them for their participation.

Therefore, there is a need to reorient extension service provision in agro-pastoral areas by carefully setting selection criteria, exclusively targeting male and female youth, modifying the content of extension services based on expressed needs and priorities, and utilizing developments in ICTs to address farmers in remote localities with real-time information on aspects, such as market prices, current and emerging pests and diseases, and improved agricultural technologies and best practices.

Our findings call for the need to recalibrate the targeting criteria of extension service beneficiaries in agro-pastoral areas. Actions such as exclusive selection of female youth, use of female Development Agents to address the specific needs of female and women farm households, preferential treatment through affirmative action, and awareness creation about the extension services may encourage the participation and benefit of female youth in the study area. We further



echo the suggestions of Buehren et al. (2019) to take a special care in the planning and implementation of extension services towards addressing the constraints facing women farmers. There is a need to facilitate the access of young men and women to improved cattle breeds that give more yield and resist disease and drought, poultry and crop seeds (maize, sorghum and vegetables), fertilizers, insecticides and pesticides. There is also a need to facilitate access to modern agricultural technologies, such as fertilizers and chemical pesticides/insecticides, tractors and small-scale irrigation schemes to encourage youth to engage in cluster farming (Federal Democratic Republic of Ethiopia (FDRE) Ministry of Peace, 2019).

## ii) Youth Participation in CBOs, Networks and Groups, and NGOs

In this study, we found that 68% and 70% of the youth were members of CBOs and community welfare groups, respectively. About 13% of the youth were found to be members of women's/youth group. However, there was significant difference between male and female youth in relation to participation in women's group and youth group – female youth participate more in women's group ( $\chi^2$ -test = 16.83 \*\*\*), but less in youth group ( $\chi^2$ -test = 3.91 \*\*) compared to their male counterparts. The data did not show any significant difference regarding membership in CBOs, participation in community welfare groups, religious groups (7%), networks/viable platforms (i.e., mutual support groups) (30%) and women and children affairs (15%). Appendix Figure 2 presents the various types of customary institutions and their respective roles. In relation to youth participation in the activities of NGOs operating in the study area, only 31% of the youth reported to have participated. However, we found that there is significant difference between male and female youth, with male youth participating better compared to the female youth ( $\chi^2$ -test = 5.34 \*\*).

The results of the Logistic regression estimation for determinants of youth participation in CBOs/networks and NGOs are provided in Table 7. Accordingly, marital status, access to and decision about credit, land holding size, land registration certificate, livestock possession, and access to employment opportunities were found to be significant predictors of youth participation in CBOs, networks, and groups. More specifically, the odds of youth participation in CBOs, networks and groups were found to increase by a factor of 2.88 for married youth; by 2.67 for youth with access to and decision on credit; by 1.3 for a one hectare increase in land holding size; by 1.86 for youth possessing a land registration certificate; and by 1.68 for youth with access to employment opportunities. However, our result also showed that the odds of participation in CBOs decreases by 0.91 for a one unit increase in livestock possession in TLU (Table 7).

Concerning determinants of youth participation in NGOs, we found that gender, education level, on-farm income, and on-the-job training were the significant predictors. More specifically, the odds of youth participation increase by a factor of 1.96 for male youth; 1.00 for a unit increase in income; and by 1.87 for youth who received on-the-job training. However, the odds of participation were found to decrease by a factor of 0.92 for the youth with relatively better education status (Table 7).

	CBOs, Networks and Groups		NGOs	
	Odds Ratio (Robust Std. Err.)	z (p> z )	Odds Ratio (Robust Std. Err.)	z (p> z )
West Hararghe Zone	1.25 (0.34)	0.80 (0.422)	1.37 (0.35)	1.23 (0.219)
Male youth	0.88 (0.25)	-0.45 (0.649)	1.96 (0.52) **	2.51 (0.012)
Age (years)	1.03 (0.04)	0.70 (0.483)	1.01 (0.04)	0.28 (0.778)
Education (years)	0.96 (0.03)	-1.02 (0.310)	0.92 (0.03) **	-2.24 (0.025)
Married youth	2.88 (1.45) **	2.09 (0.037)	1.03 (0.48)	0.07 (0.944)
Divorced youth	0.91 (0.49)	-0.18 (0.860)	1.80 (0.93)	1.13 (0.257)
Separated youth	4.16 (5.33)	1.11 (0.266)		
Family size (no.)	1.12 (0.08)	1.56 (0.119)	1.04 (0.07)	0.55 (0.585)
Access to and decision about credit	2.67 (0.77) ***	3.39 (0.001)	1.30 (0.43)	0.79 (0.430)
Land holding size (ha)	1.30 (0.18) **	1.97 (0.049)	0.91 (0.12)	-0.76 (0.445)
Land certificate	1.86 (0.57) **	2.04 (0.042)	1.25 (0.35)	0.78 (0.436)
Experience in farming (years)	0.98 (0.03)	-0.64 (0.519)	1.04 (0.03)	1.40 (0.162)
Livestock possession (TLU)	0.91 (0.03) **	-2.59 (0.010)	0.99 (0.03)	-0.26 (0.798)
On-farm income (ETB)	1.00 (5.28e-06)	1.31 (0.191)	1.00 (1.97e-06) ***	2.84 (0.004)
Access to employment opportunities	1.68 (0.44) **	1.98 (0.047)	1.33 (0.34)	1.10 (0.271)
Availability of viable networks/platforms	0.71 (0.22)	-1.10 (0.272)	0.67 (0.19)	-1.44 (0.150)
Received on-the-job training	0.66 (0.19)	-1.42 (0.156)	1.87 (0.52) **	2.24 (0.025)
Constant	0.13 (0.12) **	-2.25 (0.024)	0.11 (0.10) **	-2.39 (0.017)
Log pseudolikelihood	-210.58		-224.68	
Obs	396		390	
Wald chi2 (16)	52.47 ***		36.72 ***	
Prob > chi2	0.000		0.002	
Pseudo R2	0.15		0.08	

Table 7 Logistic regression outputs: determinants of youth participation in CBOs, Networks and Groups, and NGOs

Note: \*\* and \*\*\* denote statistical significance levels at 5% and 1%, respectively

### 3.3 Impact of Development Interventions on Youth Livelihoods and Welfare

One of the most important interventions selected for the impact assessment is agricultural extension as the respondents are targeted through training and obtaining agricultural and advisory services. The treated groups were involved in farmers field school, FTCs and trainings offered by agricultural extension. A slightly more than half of the respondents reported to have participated in agricultural extension services. A small proportion of households participated in trainings across the target districts. There was statistically significant difference between male and female youth in terms of access to agricultural extension services. A higher proportion of male respondents had access to

extension services compared to their female counterparts. This implies that the provision of agricultural extension services is gendered implying gender consideration in their targeting.

Agricultural extension intervention is selected as agriculture is one of the major livelihood activities in rural Ethiopia. The intervention is selected for impact evaluation, as majority of the youth in the study area are engaged in agriculture or farming (73.87%). Both female and male youth are engaged in farming with significant difference between the two categories. A large majority of the youth (74.87%) participate in all stages of the agricultural production. Livestock is one of the major livelihood activities across the target areas as the target areas are agropastoral. Both male and female youth are engaged in livestock production and related activities. They were asked the trend in terms of youth involvement in livestock production. Of the total respondents, 69.35% of the respondents reported that their engagement in livestock production has declined over time while 14.82% of the respondents reported that their engagement remains the same. Hence, the impact assessment focused on how agricultural extension impacted the welfare of rural youth in the study areas as there are enough number of observations for the assessment.

### **3.3.1 Descriptive results of the outcome variables and their association with explanatory factors**

Households across the study districts had access to a wide range of demographic, economic and institutional services (Table 8). The demographic characteristics of the respondents was analysed using simple descriptive statistics. In terms of age, the average age of the sample respondents was estimated at 22.67 years. In terms of gender, more than half of male respondents participated in agricultural extension (58%) while the number of female respondents participating was very much lower. There was a statically significant difference between male and female respondents in their participation in the targeted intervention. The average family size for the sample respondents was estimated at 3.8. There was statistically significant difference between participants and non-participants in terms of family size. The participants had a higher family size compared to the non-participants. The average educational status of the respondents was estimated at 4.97 years. The respondents had an average of 5.37 years of farming experience. There was statistically significant difference between the two groups in terms of their farm experiences. Respondents with more years of experience in farming were less likely to participate in agricultural extension.

Variable	Sample Group (mean/percent)		t-test/x2 test
	Comparison	Treated	
Sex of HH (Male)	43.10	58.04	8.74***
Age of the HH (years)	22.49	22.81	-0.79
Education level (Years)	5.08	4.88	0.49
Family size (numbers)	3.27	4.25	-4.37***
Landholding size (ha)	1.26	1.38	-1.11
Land certification (Yes)	58.62	73.70	10.03***
Farm experience (years)	4.56	6.01	-3.23***
Livestock ownership (TLU)	3.50	3.50	0.01
Market Information (Yes)	38.44	50.75	0.51
Access to Cooperatives (Yes)	17.8	35.7	15.60***
Participation in Off/Non-farm activities (Yes)	45.40	46.00	0.013
Credit Access (Yes)	17.80	35.7	15.60***
Mobile network access (Yes)	26.4	33.7	0.011
Community-based organizations (Yes)	60.30	73.66	7.96***
Participation in PSNP (Yes)	20.12	27.23	2.71
Participation in NGOs	23.56	36.6	7.80***

Table 8 Descriptive Results of Preintervention Demographic, Economic and Institutional Variables

Note: \*, \*\*, \*\*\* denote statistical significance at 10%, 5%, and 1% level, respectively

The analysis also shows that there was a statistically significant difference between treated and comparison groups in terms of family size, farm experience, gender of the household head, land certification, access to credit, and membership in community-based organizations. Participation in agricultural extension can partly be attributed to family size, farm experience, gender of the household head, access to credit, land certification and membership to community-based organizations.

### 3.3.2 Outcome variables: Income, Dietary Diversity and Food Consumption

One of the major research questions is how participation in agricultural extension programs impacted outcome variables such as income, household dietary diversity, and food consumption score. The result indicated a statistically significant difference between the two groups in terms of income and dietary diversity at 1% significant levels (Table 9). In terms of income, households participating in agricultural extension programs had higher income compared to non-participants. The result implies that the interventions made by agricultural extension programs across the target territories could have possibly contributed to higher income to the target youth compared to the non-participants. However, in terms of dietary diversity, households participating in agricultural extension programs had a slightly lower level of dietary diversity compared to non-participants. This suggests that participation in agricultural extension program increases income but may not positively contribute to dietary diversity. This can be attributed to the fact that the agricultural

extension programs may be focusing on increasing income and agricultural productivity instead of focusing on improving dietary diversity.

Variable	Mean (Std. Err.)	Comparison	Treated	T-test/x2 test
Income	27,162.72 (2,700.06)	19,162.57	33,377.12	-2.63 ***
HDDS	5.37 (0.09)	47.40	42.24	2.65 ***
FCS	44.50 (0.97)	5.49	5.27	1.23

Table 9 Descriptive results of the outcome variables

Note: \*, \*\*, \*\*\* denote statistical significance at 10%, 5%, and 1% level, respectively

To provide a brief association between development interventions and outcome indicators (i.e., income, dietary diversity and food consumption), we conducted statistical analysis. The results were provided in Table 10. However, due to lack of enough number of observations, impact evaluation was conducted only with the ‘agricultural extension’ variable.

### 3.3.3 Estimation of Propensity Score

The probability of youth participation in development interventions such as extension programs was estimated using a probit regression model. The estimation considered all covariates that affect youth participation in agricultural extension programs and welfare. Variables affecting both youth participation and welfare were considered using observational data. The results are indicated for all the outcome variables as shown below (Table 11). The model result indicated that the model was found to be significant. We found statistically significant difference between treated and control groups in terms of family size, farm experience, and access to cooperatives (using income as outcome variables). A significant difference between the treated and control groups were found due to differences in gender, family size, farm experience, livestock ownership, access to cooperatives, farm income and participation in NGOs (using dietary diversity and food consumption as outcome variables). These factors are contributing to differences in participation in agricultural extension programs in the study areas. The major purpose of this study is estimating propensity score matching. Hence, the details on how each of these factors are contributing to youth participation in agricultural extension programs is not discussed. The result indicates that the PSM was successful in terms of creating two comparable groups or treated and control groups (Appendix Table 1). The welfare outcomes (income, HDDS and FCS) of the two groups are comparable.

Description of variables	Income			HDDS			FCS		
	Treated	Comparison	t-stat	Treated	Comparison	t-stat	Treated	Comparison	t-stat
Agricultural extension services	33,377.12	19,162.57	-2.63 ***	5.27	5.49	1.23	42.24	47.40	2.65 ***
Credit and saving (MFI)	29,510.68	26,254.63	-0.54	4.90	5.55	3.20 ***	35.67	47.91	5.88 ***
CBOs	29,120.19	23,033.68	-1.05	5.59	4.91	-3.51 ***	45.44	42.52	-1.40 *
SMEs	87,029.00	23,995.19	-5.27 ***	6.40	5.31	-2.61 ***	59.55	43.70	-3.61 ***
PSNP	44,328.60	22,776.49	-3.25 ***	5.35	5.37	0.08	43.25	44.90	0.72
Community welfare groups	26,411.16	28,903.83	0.42	5.56	4.91	-3.33 ***	45.19	42.89	-1.09
Youth group	41,184.72	25,008.62	-2.04 **	5.23	5.39	0.60	48.14	43.94	-1.47 *
Cooperatives/union	52,868.46	24,370.18	-3.17 ***	5.56	5.35	-0.71	50.51	43.85	-2.05 **
Training (last 5 years)	53,014.91	23,191.23	-3.82 ***	5.66	5.32	-1.26	49.78	43.69	-2.14 **

Table 10 Association between participation in selected programs, projects, interventions, groups and networks versus outcome variables

NB: participants may also mean those with access to and/or participation in a given service, program, project or intervention.

Agricultural Extension	Income (Std. Err.)	Dietary Diversity Score (Std. Err.)	Food Consumption Score (Std. Err.)
Sex of HH (Male)	-0.409 (0.26)	-0.458 (0.273) *	-0.453(0.273) *
Age of the HH (Years)	-0.002 (0.02)	-	-
Education (Years)	-0.0105 (0.02)	-0.0002 (0.018)	-0.0004 (0.018)
Family Size (Number)	0.1201 (0.03) **	0.121 (0.033) ***	0.123(0.033) ***
Landholding size (ha)	0.0250 (0.07)	0.010 (0.075)	0.007 (0.076)
Land certification (Yes)	0.226 (0.16)	0.163 (0.155)	0.162(0.155)
Farm Experience (Years)	0.041 (0.02) **	0.034 (0.016) **	0.0337 (0.016) **
Livestock Ownership (TLU)	-0.024 (0.02)	-0.051 (0.023) **	-0.050 (0.023) **
Market Information (Yes)	0.184 (0.22)	0.015 (0.22)	0.011(0.221)
Access to Cooperatives (Yes)	0.800 (0.37) **	-	0.733 (0.373) **
Participation in Non/Off Farm Activities (Yes)	0.040 (0.13)	-	0.028 (0.135)
Credit Access (Yes)	0.164 (0.20)	-	0.162 (0.200)
Farm Income (Birr)	-	7.02e-06 (2.91e-06) **	6.93e-06 (2.91e-06) **
Mobile network (Yes)	-	0.015 (0.22)	0.067 (0.138)
Community-based organizations (Yes)	-	0.366 (0.148) **	0.371 (0.149)
Participation in PSNP (Yes)	-	0.175 (0.178)	0.180 (0.178)
Participation in NGOs	-	0.357 (0.148) **	0.358 (0.148) **
Constant	-0.315 (0.55)	-0.430 (0.420)	-0.541 (0.423)
Log likelihood	-251.349	--243.41	-243.29
Number of observations	398	398	398
LR chi2(12)	42.75	58.64	58.87
Prob > chi2	0.0000	0.0000	0.0000
Pseudo R2	0.0784	0.1075	0.1079

Table 11 Propensity Score Estimation

Note: \*, \*\*, \*\*\* denote statistical significance at 10%, 5%, and 1% level, respectively

Of all the observations, only four were not in the 'common support region' in estimating PSM for income and food consumption score, while five observations were not in the common support region in PSM estimation for dietary diversity. The following graphs (Figure 9) indicate the propensity score distribution (*psgraph*) which indicated comparison and treated observations that fall in the common support regions for the three outcome variables. Four observations were out of the common support region for the estimating the five treated observations that are out of the common support region for the three outcome variables (Income, Dietary Diversity and Food Consumption).

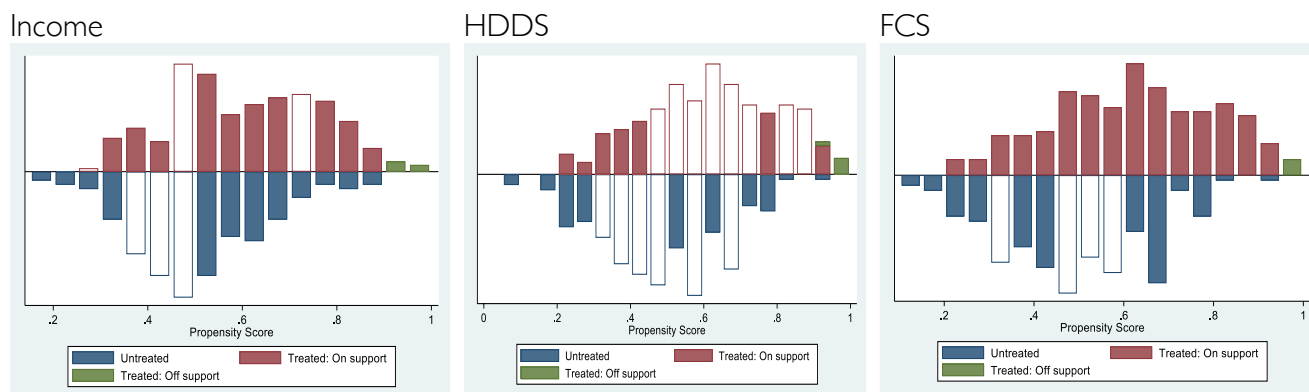


Figure 9 Propensity score graphs (*psgraph*)

### 3.3.4 Estimation of Average Treatment Effect on the Treated (ATT)

The average treatment effect on the treated was estimated for three outcome variables namely, income, household dietary diversity, and food consumption using nearest neighbor matching. A total of 220 treated and 174 control households who fall in the common support region were included in the matching process. The detail results are presented in Table below. In this regard, we used the mean values of the outcome variables, mean difference between the two groups and bootstrap standard errors. The table below (Table 12) indicates a very good convergence between the two algorithms at 5% significant level.

Outcome Variable	Sample	Treated	Comparison	Difference	Std. Err.	T-stat
Household Income						
	Unmatched	33377.12	19162.58	14214.55	5403.1	2.63
	ATT	30691.67	17831.105	12860.56	4647.52	2.77**
Dietary diversity score						
	Unmatched	5.27	5.49	-0.23	0.185	-1.23
	ATT	5.23	6.08	-0.85	0.30	-2.85**
Food consumption score						
	Unmatched	42.24	47.40	-5.16	1.95	-2.65
	ATT	41.7	56.91	-15.21	3.60	-4.23***

Table 12 Nearest Neighbour Matching Results of Average Treatment Effect on the Treated (ATT)

Note: ATT = Average Treatment Effect on the Treated; \*, \*\*, \*\*\* denote statistical significance at 10%, 5%, and 1% level, respectively; b 219 (out of 224) untreated and 174 (all) treated households found on the common support region were used.



## Impact on Income

The impact of agricultural extension programs on income of the rural youth was assessed in pastoral and agropastoral areas. The youth are participating in various agricultural extension programs such as training in pastoral training centers or farmer training centers, and obtaining advisory services from Development Agents at the local level. The result indicated that youth households participating in extension programs were found to have a higher level of income compared to youth households who didn't participate in extension programs. The youth participating in these agricultural extension programs had twice as much income as the youth who did not participate in these programs which was highly significant at 1% significance level. The descriptive result also supports this finding. This shows that agricultural extension programs targeting the youth in the study area are positively contributing to household income. This suggests the youth participating the agricultural extension programs are more likely to have a higher income. A recent study in eastern Ethiopia found out a positive impact of agricultural extension on household income through the adoption of improved agricultural technologies in Eastern Ethiopia (Wordofa et al., 2021). Another study in Ethiopia also reported the positive impact of agricultural extension on household income (Gebrehiwot, 2015). Households adopting improved agricultural technologies were found to have a higher income compared to household who didn't adopt these technologies. This suggests that participation in agricultural extension programs can result in better income and thereby improved livelihoods in pastoral and agropastoral areas if the youth are targeted.

## Household Food Consumption and Dietary Outcomes

The propensity scores matching estimation on both dietary diversity score and food consumption score was found to be negatively and significantly associated with participation in agricultural extension programs. This indicates that youth participation in agricultural extension programs has no impact or negative impact on their dietary outcomes. The control group had a slightly higher dietary diversity and food consumption scores than their treated counterparts. This shows that participating in the existing agricultural extension programs across the study pastoral and agropastoral areas did result in positive dietary outcomes. These results contradict with a recent study by Aweke et al., (2021) in eastern Ethiopia which found out a higher dietary diversity and food consumption score among rural households as a result of the adoption of extension interventions (adoption of improved agricultural technologies). It also contradicts with another study (Mengesha, 2017) in East Hararghe, Ethiopia which revealed that farmers who had access to development interventions such as irrigation (through public agricultural extension) significantly increased their food consumption, and dietary diversity. The differences in the study outcomes can be due to the fact that the later studies were conducted in mixed crop-livestock farming in midland and highland agroecology while the current study focused on pastoral and agropastoral areas.

The lack of impact on food consumption and dietary diversity in the pastoral and agropastoral areas can be attributed to lack of capacity of the existing agricultural extension systems in terms of staffing and materials resources. There was a wider consensus among the key informants that the existing extension has limited coverage and lacks capacity in addressing the youth in the target areas. Agricultural extension services in the target areas are not specifically tailored to address and support youth livelihood needs including market-oriented livestock production businesses (according to a key informant from Gumbi Bordede). A key informant from Midega also reported

the limited coverage of the extension services compared to the existing demand in the study areas. Furthermore, a dynamic agro-climatic nature of the pastoral and agropastoral areas makes extension service provision even more difficult in the study areas. This highlights the need for improving the capacity and tailored agricultural extension services that fits well with local contexts and that can improve the livelihood outcomes (dietary diversity and food access) of the pastoral and agropastoral youths in Ethiopia.

### 3.3.5 Matching Quality Analysis

In this study, t-test and standardized percentage bias were used for assessing the performance the matching quality analysis. A statistically significant difference was found for some of covariates between the treated and control groups in the unmatched sample. These variables were excluded from the analysis implying the effective balancing distribution for the covariates in the matched sample. The results of the standardized percentage sample results or estimates fall within the acceptable range supporting the post-estimation t-test result. Both the post estimation t-test and standardized percentage test results show the good performance of PSM in producing unbiased estimates of ATT (See Appendix Table 1 for the details). Appendix Table 2 also shows other measures of quality tests for the PSM estimation. The results clearly indicate that the matching was very good in balancing the pre-treatment characteristics.

## 3.4 Youth Interests, Desired Support, Opportunity Space, and Deficiencies

### 3.4.1 Youth's current interest and desired support

The types of agricultural livelihood opportunities that are open to some young rural men and women will be determined partly by the agricultural and economic geographies in which they live, and partly by their access to productive assets and resources, particularly land, but also capital and technology (Doss et al., 2019; Sumberg et al., 2019), as well as output markets (IFAD, 2019).

The youth study on aspiration in Ethiopia shows a shifting trend in youth aspiration. When asked about their career aspiration "If you had the means/opportunity, what do you want to do in the next five years?" - The majority of the youth expressed positive interest in self-employment and starting their own businesses in agriculture and off/non-farm businesses mostly in their own localities. Male and female youth across the four districts had been asked particularly about their preferred enterprises (on/off-farm enterprises) across the livestock-crop value chain and the type of support they seek to receive (Table 13). The male and female youth wanted to participate in modern mixed crop-livestock farming with high returns as producers, processors, and market actors. They expressed the need for access to affordable financial services, time and labor-saving technologies such as drought-resilient crop & livestock technologies (climate-smart techs), and irrigation technologies, training and capacity-building support, research and extension support, and market linkages. The youth have also expressed a huge interest in modern livestock-crop farming with quick cash returns and the use of labor and time-saving technologies.

Youth typology	Preferred enterprises & commodities	Value chain nodes interested in	Desired support for both male and female
Male	<ul style="list-style-type: none"> <li>- Midhega Tola: Mixed Livestock-crop farming – goat, ox, peanut, sorghum, maize, early maturing haricot beans, tomatoes, and peppers</li> <li>- Chinaksen: Mixed livestock-crop farming – cluster based wheat production, livestock, poultry chicken</li> <li>- G- Bordode: Mixed livestock-crop farming – dairy cattle, goats, and camels, crops</li> <li>- Miesso: Mixed crop - livestock farming - wheat, sorghum, Sesame, mung-bean, maize, bull fattening,</li> </ul>	Production and marketing nodes	<ul style="list-style-type: none"> <li>- Access to affordable, inclusive, and culturally appropriate financial services</li> <li>- Improved access to drought-resilient crop &amp; livestock technologies (including livestock breeds, fodder, etc)</li> <li>- Alternative water resource development for crop and livestock production</li> </ul>
Female	<ul style="list-style-type: none"> <li>- Midhega Tola: vegetable and fruit - peppers, tomatoes, onions and their value chain</li> <li>- Chinaksen: small-scale poultry, goat, and milk production &amp; marketing - goat, dairy cattle, poultry chicken</li> <li>- G- Bordode: vegetable and fruit marketing</li> <li>- Miesso: Khat trading and milk trading</li> </ul>	Production, processing, Marketing nodes	<ul style="list-style-type: none"> <li>- Improved access to an inclusive</li> <li>- agricultural extension service</li> <li>- Research-based solution to drought (drastic and concerted actions to address drought problems)</li> <li>- Support market linkages and integration</li> <li>- Building youth technical capacity and innovativeness (market, enterprise development, crop and livestock production, etc)</li> </ul>

Table 13 Youth current interest (preferred investment to engage in) and desired support

The survey responses, summarized in Figure 10, show some priority capacity-building interventions mentioned by male and female youth in the study area.

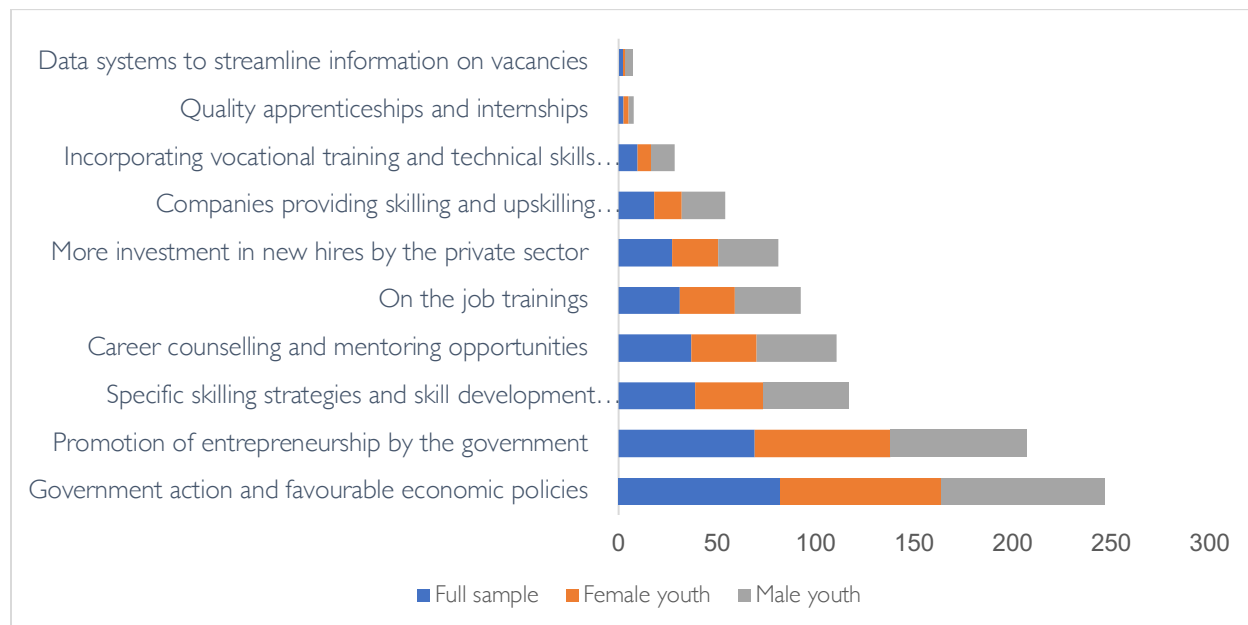


Figure 10 Capacity-building interventions prioritized by the youth in the study areas

### 3.4.2 Youth opportunity space and critical deficiencies

There are several opportunity structures with the potential to support youth engagement in market-oriented mixed-livestock-crop farming in PAP areas – ranging from policies and proclamations supporting youth access to land, finance, education; potential for agricultural and non-agricultural business opportunities; availability of organization, program, and services (micro-finance, agricultural extension, education, health care); and other supporting infrastructure and services (Telecom, transportation, power, and water services); social and cultural institutions. However, there are critical deficiencies. The major constraints to youth engagement in pastoral and agro-pastoral areas were limited access to affordable and culturally appropriate finance, limited market access and networks, agricultural extension services, climate change and drought, and access to agricultural inputs, limited technical capacity, and lack of peace and stability. Youth opportunity space and critical deficiencies are summarized in Tables 14 and 15.

Opportunity space	Aspects	How they benefit the youth	Critical deficiencies
Policy environment (policies supporting youth access to land, finance, education, etc)	<ul style="list-style-type: none"> <li>- Ethiopia's National strategy for youth development</li> <li>- Youth specific UN SDGs targets</li> <li>- AU-Agenda 2063 youth specific targets</li> <li>- Local programs and initiatives</li> </ul>	<ul style="list-style-type: none"> <li>- Youth targeting in development</li> <li>- Facilitate youth inclusion &amp; visibility</li> <li>- Facilitate access to productive resources</li> </ul>	<ul style="list-style-type: none"> <li>- Policies lack proper implementation at local level</li> <li>- Precedence of political objectives over youth career goals</li> </ul>
Livelihood opportunities (agricultural and non-agricultural opportunities)	<ul style="list-style-type: none"> <li>- Agric and non- agric opps</li> <li>- Availability of organizations and programs supporting youth enterprise development</li> <li>- Conducive agro-ecology</li> <li>- Unemployed youth willing to work in their locality and engage in market oriented agricultural enterprises</li> <li>- Availability of youth with experience in the livestock sector</li> <li>- Potential for mixed-livestock crop farming</li> <li>- Land (ample and fertile arable available across all sites)</li> <li>- Natural resources (Mineral resources such as limestone, sandstone for non -agricultural employment)</li> </ul>	<ul style="list-style-type: none"> <li>- Employment opportunities in farming and off/non-farming businesses</li> </ul>	<ul style="list-style-type: none"> <li>- Male and female youth are unable to tap into these opportunities due to limited financial, technical support</li> <li>- Lack of skill and knowledge to invest in agric</li> <li>- Exclude female youth</li> <li>- Presence of powerful private firms (especially in the mining sector)</li> <li>- Land grabbing</li> </ul>
Social and cultural capital	<ul style="list-style-type: none"> <li>- Social capital and networks – youth groups and women's groups                             <ul style="list-style-type: none"> <li>o Hirta</li> <li>o Guza</li> <li>o Afosha</li> </ul> </li> <li>- Customary rules and institutions (Gadda system)                             <ul style="list-style-type: none"> <li>o Aba Gadaa (Daaminaa)</li> <li>o Aba Malaaqaa (Father of Water)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>- Provide financial and in-kind support</li> <li>- Labor sharing/reciprocity in agriculture among youth and the community</li> <li>- Saving and credit</li> <li>- Risk-sharing and risk-pooling</li> <li>- Advisory and sentimental support/ Moral support, guidance and disciplining</li> <li>- Peace and security</li> <li>- Facilitate equitable use of natural resources</li> </ul>	<ul style="list-style-type: none"> <li>- Limited capacity</li> <li>- Male domination in some cases</li> <li>- Male and female youth often dropout of school due to early marriage</li> </ul>

	<ul style="list-style-type: none"> <li>o Abbaa Saalfaa/father of grazing</li> </ul>	<ul style="list-style-type: none"> <li>- including water and pasture</li> <li>- Marriage counseling and support for young people and others</li> </ul>	
<p>Organization, program and service structure (micro-finance, agricultural extension, education, health care)</p>	<p>State and non-state actors</p>	<p>Capacity building; Business coaching; Financial support &amp; facilitation; market and networking; Health-care support; Education; youth inclusion; agricultural inputs</p>	<ul style="list-style-type: none"> <li>- Limited capacity</li> <li>- Limited coverage</li> <li>- Lack transparency in targeting</li> <li>- Female are disadvantaged</li> <li>- Overlapping mandates and responsibilities among institutions/instead of complementing each other (contributing to lack of efficiency, collaboration, ...)</li> </ul>
<p>Supporting infrastructure and services (Telecom, transportation, power, and water services)</p>	<ul style="list-style-type: none"> <li>- Electric power</li> <li>- Telecom services</li> <li>- Road networks</li> </ul>	<ul style="list-style-type: none"> <li>- Market information</li> <li>- Facilitate marketing of agricultural products</li> </ul>	<ul style="list-style-type: none"> <li>- Very limited</li> </ul>

Table 14 Youth opportunity space and critical deficiencies

Aspects of the core challenge	Remarks
Access to financial services	<ul style="list-style-type: none"> <li>- Limited access to rural financial services for youth enterprise development</li> <li>- Available services were limited in capacity and coverage (very few service providers)</li> <li>- Project-based financial services are very limited to young people who become household heads</li> <li>- Lack of culturally appropriate financial services - Often available services were not compliant with religious values (as they involve interest)</li> <li>- Lack of trust due to a high level of loan defaults</li> <li>- Lack of willingness of financial institutions to invest in non-agricultural employment enterprises (such as mining)</li> <li>- Female young people are relatively disadvantaged - due to their limited access to information on available financial services</li> </ul>
Agricultural extension services	<ul style="list-style-type: none"> <li>- Agricultural extension service is very limited (coverage and scope) as compared to the available demand for it</li> <li>- Extension service failed to evolve along with the rapidly changing agro-ecological conditions</li> <li>- Household-based targeting approaches often exclude youth farmers who lived with their family</li> <li>- Extension services were not specifically tailored to address and support youth livelihood needs (including market-oriented livestock production businesses)</li> </ul>
Access to market	<ul style="list-style-type: none"> <li>- Limited access to livestock and crop products markets (mainly for onion and livestock)</li> <li>- Huge interference of middlemen (illegal brokers-market actors) - the market is often dominated by illegal brokers (who came from as far as Somali – reducing the potential benefit young people could earn from their products – especially in cattle and onion markets)</li> <li>- Poor infrastructure (road and transportation); poor quality commodity – due to inadequate support during production –compromising the market value of the product/the price</li> <li>- Limited participation of female youth in market-based and enterprise development interventions</li> <li>- Limited value addition - Females are more affected due to the nature of these enterprises - as they are engaged in trading of quickly perishable products such as khat and milk</li> <li>- Limited market surplus and price fluctuation (price volatility); lack of marketable products owned and managed by the youth</li> <li>- Male dominance in the market – leaving the female in a disadvantaged position</li> <li>- Market-based interventions lacked a gender component/while agricultural marketing was gendered- for instance, goat and khat trading tend to be managed by females while bull-fattening is dealt with mostly by the males</li> </ul>
Skills	<ul style="list-style-type: none"> <li>- Limited skill in agripreneurship development (limited financial literacy.)</li> <li>- Limited marketing skills and Knowledge</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>- Limited access to agricultural inputs (crop and livestock techs)</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>- Recurrent drought – contributed to youth despair and migration</li> <li>- Lack of alternative water sources and pest and diseases</li> </ul>
Other constraints	<ul style="list-style-type: none"> <li>- Poverty</li> <li>- External firms taking hold of opportunities from the youth – mining (sand and limestone)</li> <li>- Substance abuse (khat addiction)</li> <li>- Land grabbing; ongoing border conflict – as a negative driver for young people to invest and engage in a stable livelihood activity (especially in Miesso and G-bordede)</li> <li>- Gender-based discrimination against female youth – negative traditional norms that consider females as subordinates – reducing their ability to benefit from interventions</li> <li>- High marriage rate (early marriage) and high divorce rate</li> </ul>

Table 15 Aspects of the core challenge

### i) Youth policy landscape

Ethiopia is a signatory of many global and regional conventions. The UN-SDGs and AU-agenda 2063 are the two most pertinent conventions which allude to the role of youth and women in development. The strategies underscore the role of youth.

#### *Youth-specific UN SDGs targets*

The most relevant SDGS gender and youth targets are SDG -2 – Zero hunger (achieve food security and improved nutrition and promote sustainable agriculture); SDG 4 - Quality education; SDG 5- Gender equality; SDG 6 - clean water and sanitation; SDG 8 Decent work and economic growth (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all); as well as SDG 10- Climate action – (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss).

#### *AU-Agenda 2063 youth-specific targets (APP and agrarian system)*

The following are key strategic goals of AU-agenda 2063 pertinent to youth and women's issues in agriculture and beyond. Goal 2 - Building Education and Science, Technology and Innovation (STI); Goal 3 - skills-driven revolutions (Healthy and well-nourished citizens with priority areas in Health and Nutrition; Goal 5 -Modern Agriculture for increased productivity and production; Goal 7- Building environmentally sustainable and climate-resilient communities through increased investment in sustainable natural resource management, biodiversity conservation, water security, and climate resilience and natural disasters preparedness; Goal 17- Full Gender Equality in All Spheres of Life; as well as Goal 18- Engaged and Empowered Youth and Children.

#### *Rural and Pastoral and agro-pastoral (PAP) youth-focused strategies in Ethiopia*

The policy discussion with key stakeholders in PAP areas about conducive policies and proclamations that can support youth engagement in livelihood opportunities resulted in the following key policy themes as opportunities: i) the recognition of pastoralism and pastoral livelihood as a very important economic activity; ii) the availability of a youth-friendly policy framework and directives; and iii) the increasing political importance of the youth.

Ethiopia's development policy generally recognizes youth as a very important agent of change and development. Anyidoho et al. (2012) studied young people and policy framing and narratives in policy documents in Ethiopia and SSA. The most common narratives underlying the youth policies and strategies in Ethiopia youth are mainly two issues: 'youth as a nation's future' - based on the potential of young people to contribute – and considered a positive framing – youth are increasingly portrayed as important agents of change (mainly in agriculture and health sectors) and identified as innovative, and receptive to new knowledge and technologies. The second narrative is -youth as unemployed or underemployed" – which is majorly based on the notion that a lack of gainful employment opportunities for the youth not only holds back national development but is also associated with the youth resorting to negative behaviors such as risk-taking, crime, and violence. This narrative is undoubtedly one of the fundamental arguments used to promote youth



employment opportunities in various sectors of Ethiopia (Anyidoho et al., 2012). Against this background, the Ethiopian government developed and endorsed some youth-related policies and strategies.

#### *The National Employment Policy and Strategy of Ethiopia (NEPs)*

NEPS promotes youth employment for poverty reduction. The policy suggests improving the knowledge and skills, networking and relationships, transportation and communication facilities, and saving credit schemes for the rural poor so that they engage in non-farm activities);

#### *Rural Job Opportunity Creation Strategy (2017)*

This rural job opportunity creation act focuses on creating gainful employment opportunities for rural youth by linking rural job creation efforts with entrepreneurship. This strategy is underpinned by the “youth as an underemployed or unemployed” thesis. As such it calls for development interventions to consider the daunting problems of youth unemployment in rural areas by targeting various social groups such as youth, women, poor, and marginalized members.

#### *Ethiopia's national youth strategy*

The 2004 Ethiopian National Youth Policy Document highlights the importance of creating favorable conditions to enable the youth to create new jobs for themselves based on their competence and to benefit from them (FDRE Ministry of Youth, Sports and Culture, 2004). The phrase “supporting condition” could mean any support the youth may require to realize their aspirations. For the rural youth, land is one of the key assets to support the successful agroecological transition. The FDRE Rural Land Administration and Land Use Proclamation (456/2005) recognizes the right of any person who is a member of a peasant farmer, semi pastoralist and pastoralist family having the right to use rural land may get rural land from his family donation, inheritance or from the competent authority. The proclamation specifically underscores the right of women and youth to acquire and use agricultural land stating that “any citizen of the country who is 18 years of age or above and wants to engage in agriculture for a living shall have the right to use rural land”. The proclamation also recognizes the right of women who want to engage in agriculture to get and use rural land.

#### *Pastoral Policy and Strategy of Ethiopia*

This policy recognizes pastoralism as an economic activity that is suitable and adapted to vast rangelands and accepts pastoral mobility as a key mechanism for ensuring the sustainability of that livelihood system.

#### *Ethiopia's agricultural extension policy*

Ethiopia's strategy for the agricultural extension system also recognizes the mainstreaming of gender and youth as one of the 9 pillar strategies to achieve the country's food and nutrition security and poverty reduction goals.

## Deficiencies with youth policy in Agriculture and PAP Areas

There are several issues when it comes to youth policies in pastoral and agro-pastoral areas.

**Generic policies.** There is a lack of clear policy that addresses youth engagement in agriculture. It even gets scarcer when it comes to policies directly addressing the occupational aspiration of youth from pastoral and agro-pastoral areas.

**Loophole in the key assumptions that underlie the formulation of youth policies.** The premises used to inform rural and PAP youth policy framing in Ethiopia were mostly based on the context of urban youth since data are easier to collect in urban areas where formal employment predominates or based on youth from high agricultural potential areas and are rarely applicable to youth in agro-pastoral and pastoral (PAP) areas who operate within a drastically different opportunity space. Such blanket recommendations affect the PAP youth's self-concept and career aspirations, forcing them to form their career and life-goal aspirations within narrowly defined realities that are rarely applicable to their circumstances and the opportunities available. Second, agro-pastoral and pastoral settings/systems represent complex systems with a dynamic interplay of people, institutions, livestock and environmental resource base. Such complexities are not often adequately entertained in framing youth policies, strategies, or action plans to promote youth engagement in rural economies. Moreover, most of these strategies designed to target, engage and empower rural youth have failed to clearly define and distinguish youth typologies and aspirations.

The problem with most of these policy frameworks has been that they treated youth (agro-pastoral and pastoral and other agrarian youth) as a homogeneous group of people who operate within the same opportunity space enjoying the same rights to ownership and access to key productive resources. And this is a reductionist notion and an oversimplification of the vast complexities and internal dynamics involved in the formation of male and female youth aspirations, thus constraining the sensitivity to and overshadowing the importance of tailoring youth interventions to the diverse and changing needs of the youth. Yet another downside to the policy issues is the lack of consideration of key social, historical, environmental, political and economic transformation pathways that agro-pastoral and pastoral areas have gone through; which, altogether are expected to shape the youth career aspirations and opportunity space. For instance, socio-ecologically, agro-pastoral areas are characterized by environmental and climatic uncertainties. Politically, PAP communities have been at the margins of state-building. The state-building processes of successive Ethiopian regimes involved imposition on pastoral and agro-pastoral communities of state-led and top-down political and economic policies that largely ignored the communities' socioeconomic and environmental problems and disregarded their indigenous institutions and risk-coping strategies.

### ii) Livelihood opportunities (agricultural and non-agricultural) supporting the youth

Respondents from each district identified livelihood opportunities (Agric and non- agricultural opportunities) and deficiencies for male and female youth to engage in income-generating activities. Existing opportunities in the area are arable land and potential for irrigation (untapped groundwater), natural resources (such as limestone, sandstone for non -agricultural employment), conducive agro-ecology for livestock-crop mixed farming, educated youth willing to stay and work

in market-oriented agricultural enterprises, availability of youth with experience in the livestock sector (experience in the livestock sector) and livestock.

### *Arable land and irrigation potential*

The four districts are generally endowed with large chunks of uncultivated land which presents a huge agricultural opportunity for male and female youth. Male and female youth can access land through inheritance, marriage, rental arrangements, government allocation, or share-cropping. Everywhere people share the optimism that provided they are supported; the youth could find potential employment opportunities in the agricultural sector. The local people believed that the land in their vicinities is so abundant and fertile that with the right management and investment, it can feed more population beyond their districts. Fetih, a young male key informant from Midhega Tola expressed his optimism about the transformative potential of the land resource saying that,

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*“Our district has an ample amount of fertile land – even more than what people could actually cultivate. Our district alone can feed many districts. This place could simply become productive (like that of Egypt) if there had been an appropriate investment towards tapping into this potential, specifically by exploring water resources and installing appropriate farm inputs.”*

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For people like Fetih, and many young people in the localities the transformative capacity of the agricultural land for youth livelihood was undermined by rain-dependent agriculture and a lack of investment in modern irrigation technologies to make use of perennial rivers and underground water potentials for a sustained investment in market-oriented livestock and crop production. The ground reality across the study districts suggested that despite the potential for irrigation (such as access to perennial rivers and river basins like that of Miesso and Gumbi Bordode), none of the locations had access to modern irrigation facilities. However, by the time of this study, the research team observed ongoing irrigation construction projects in Miesso (on the Korra River) and Gumbi Bordode areas.

### *Non-farm employment opportunities – limestone and sandstone mining*

Huge deposits of limestone and sandstone available in the districts (particularly in Midhega Tola and Gumbi-Bordode) present huge employment potential to promote youth enterprise development in the non-farming sector. A few licensed groups of rural young people, with support from the local enterprise development bureau work in the mining sector in the two districts.

However, most of these activities were said to be poorly organized and financed. Most of these interventions also sideline the female youth. Female young people complained that they were not included in such enterprises due to the domination of male young people in such types of enterprises and the community’s perception that such physically demanding enterprises belong to males. But the most pertinent challenge of all was the ‘gradual’ and ‘systematic’ disenfranchisement of the youth from the mining businesses. Young people and their parents from Gumbi Bordode decried that powerful firms are controlling mining sites. The grabbing process involved powerful external firms taking over large chunks of mining sites previously owned by unemployed youth. The

overall view of the young people and their parents was that this process is a land grab by external firms to generate wealth to the detriment of the local youth. Local people believed the government has not given attention to defending the rights of youth to own land and prosper. A key informant from the SMEs office said the following:

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*“There is a growing level of tension in the localities as companies are grabbing a huge land (mining sites) which belongs to licensed youngsters excavating sand and limestones. The situation left many youngsters out of jobs and depressed. Out of frustration and despair, many of the youth are resorting to Khat addictions. The SME office has attempted to approach some of these “unknown firms” but without success so far.”*

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Such cases demonstrate a major setback in the development process of how certain development interventions may lead to the economic marginalization of the youth and the dispossession of their livelihood assets. Development interventions should be carefully designed and implemented to benefit the youth not to disenfranchise them. Such processes were major factors that contributed to the negative conception of agriculture and rural areas as a viable source of livelihood. This relates to other work (Chinsinga and Chasukwa, 2012) highlighting the effect of such continuous peripheralization of the youth in the development process in agriculture which is manifest and reflected in the youth's negative conception of a good life – male and female youth not see working in the agricultural sector as a viable means of realizing their dreams, which they link instead to employment in urban areas and migration (Chinsinga and Chasukwa, 2012).

### ***Conducive agro-ecology for livestock-crop mixed farming***

The suitability of the PAP areas for mixed crop-livestock farming was identified as an opportunity for youth engagement. Most of the districts have two dominant farming systems: sorghum/pulse/oil crops/livestock (mixed crop/ livestock farming system) and the pastoral system. The common crops grown under the former system include maize, sesame, groundnut, haricot bean, teff, flax, and sorghum. khat, sesame, mung bean, vegetables, fruits, coffee and tuber crops are grown as cash crops. Mung bean is also increasingly adopted by young farmers in the locality mainly to generate income. Most of the cereals were primarily cultivated for farmers' own consumption. The vegetative part is fed to livestock during drought periods. The Pastoral system was the other most important livelihood zone. Livestock production is a major livelihood activity prioritized by both PAP households across the four districts. The youth actively participate in livestock production in the district. Livestock is an important source of household income and food security. Cattle and goats were the major marketable livestock commodities followed by camel. All of these have been identified as opportunities for youth engagement. A key informant, from HCS, one of the non-state actors supporting the youth in east and west Hararghe zones, has concurred with the view that the local agro-ecology is an opportunity that can be tapped into to create gainful employment opportunities in the agriculture sector. He said the following:

*“The suitable agroecology to produce moisture stress tolerant varieties of different crops such as sorghum, maize, early maturing haricot beans, as well as vegetables such as chili/peppers, tomatoes, onions, and their value chains, are the major opportunities to engage the youth. The agroecology is also suitable for the production of commercial poultry breeds, goats, beekeeping as well as bull fattening. These are agriculture-related opportunities to engage the youth. HCS is already supporting youth enterprise development initiatives, facilitates product markets & related value chains, and enterprise development in beekeeping.”*

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### **Educated youth willing to stay and work in market-oriented agriculture**

The viability of agriculture and its sustainability depends on young people remaining in rural areas (Giuliani et al. 2017). People across all target woredas considered unemployed youth as potential resources that should be utilized and harnessed to transform the rural economy. This conception of youth as a “resource” is a deconstruction of previously held narratives and notions that largely regard unemployed youth as “problems” that should be addressed. Local people viewed the youth in terms of their strengths (as innovative, energetic, etc). Hundo, a female development agent believed that “being young itself should be considered as an opportunity to this community since young people are naturally energetic and eager to involve in innovative agriculture”. Similarly, Kedija, a female traditional leader, also sees the growing population of educated but unemployed youth in her village as an opportunity. She expressed that

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*“Many young people in my village are attending school (others also completed education). This is an opportunity for both farming and non-farming businesses. I suggest tapping into this abundant resource, for instance, in market-based/commercial and technology-intensive farming and non-farming activities.”*

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As earlier discussed, the youth study confirms a shifting trend in youth aspiration. A growing number of educated youth widely expressed willingness to stay and work in agriculture-related and off/non-farm businesses – provided that favorable opportunities are created. A growing number of unemployed youth were increasingly inclined to market-oriented production as opposed to subsistence-oriented farming. This finding on the shifting aspiration of youth toward commercial agriculture resonates with an earlier study that mentions agriculture could acquire currency among young people to the extent that it is modern and cash-based rather than subsistence-oriented (Leavy and Hossain, 2014).

### **iii) The social and cultural landscape**

Among others, the formation of youth aspiration and achieving it is essentially a socio-cultural process. Young people's aspirations and expectations in relation to economic outcomes are constantly modulated within their sociocultural space and are strongly related to the degree of social embeddedness (Glover & Sumberg, 2020; Leavy and Hossain, 2014; White, 2019). The local

environment comprises an active contextual structure consisting of values, attitudes, norms, and forms of behavior (Timms, 1978) which reinforce the pattern of resource sharing and reciprocities across diverse youth categories. In PAP communities, complex sets of socio-cultural structures and norms underpin daily social interactions, livelihood activities, and patterns of resource mobilization and reciprocities. Such structures determine how certain resources should be distributed across male and female youth.

Respondents identified customary institutions and social capital practices as the two most important arrangements that have been institutionalized and widely practiced among the pastoral and agro-pastoral communities across the four districts. The former is more like a political/administrative arrangement governed by elected customary authorities, whereas the latter, is a resource-sharing and mutual support system.

### *Customary institutions*

Customary institutions play a vital role in resource-based conflict management, sustainable land management, and water resource management, and counseling and sentimental support. Customary institutions also facilitate and buttress the effective implementation of development intervention in pastoral and agropastoral areas. People mentioned that the wide presence of customary institutions in the PAP areas presents an additional opportunity to promote and encourage youth engagement in agriculture-related activities. Through such systems, the youth can receive regular advisory support and guidance to engage in agropastoral livelihoods. Kumsa is a local elder from Gumbi Boredede Woreda. He believed that “being a local elder myself, we offer the youth constant support and guidance (through Gedda system) about the agro-pastoral lifestyle and encouraging them to engage in agropastoral livelihoods. However, these efforts must be accompanied by other formal forms of assistance/interventions such as the provision of access to micro-finance services.” This is further complemented by a young development agent who viewed the presence of functional sociocultural institutions as an opportunity. She believed that customary institutions offer young people advisory and sentimental support. She expressed that

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*“Young people in my community are privileged. They have unconditional access to guidance and sentimental support by elders and traditional authorities whenever they feel so.”*

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Key customary authorities identified by research participants were Aba Gadaa (Daaminaa) (mandated for conflict resolution); Aba Malaaqaa – Father of water (coordinate equitable water resource use); Abbaa Saalfaa - Father of grazing (authorized to coordinate and facilitate equitable use and distribution of grazing land); and Haadha Afooshaa (a female authority responsible for addressing issues raised by women during meetings, encourages women’s participation in meetings, resource-sharing, etc).

### *Social capital arrangements*

In addition to the customary authorities that are mandated to govern resource utilization and settle disputes at the community level, there are also other types of social arrangements that facilitate resource access and reciprocities between individuals. In literature, these arrangements are generally known as “social capital” - operationalized as connections among individuals—social networks, organizations, and the norms of reciprocity and trustworthiness that arise from them (Putnam, 1993). In the PAP communities, such arrangements are often organized on the basis of clan, reciprocity networks (consisting of kin, friends, or acquaintances) and norms underpin as essential resources for accessing resources. The majority of the youth across the study areas regarded mutual support arrangements as opportunities for the youth to mobilize essential resources to engage in farming and non/off farming activities. Male and female youth identified various types of family and group-based mutual support arrangements which offer youth and other community members access to mutual insurance, labor sharing for agriculture, loan, and savings. These are Hirta (an alternative way of accessing land through sharecropping or contract farming among the youth and others); Guza (labor-sharing networks involving labor reciprocities in agricultural activities); Afosha (a multipurpose group exclusively for females’ mutual support) and other formal youth business groups.

Other types of family and kin-based networks also helped youth returnees financially and morally in the process of reintegrating them back into their community. There was evidence from the study sites that such networks helped several young people financially to a safe return home. Halima, a 29-year-old female returnee trader expressed how she was supported by migrant networks and acquaintances. She mentions that influenced by the recurrent drought that resulted in the loss of their livestock and crops, she fled to Hargessa with her husband to make a living at a young age but couldn’t bear the challenges she faced there. The challenge of life as a migrant was further exacerbated by the behavior of her former husband’s lack of commitment to engage in income-generating activities, which eventually led to the couple’s divorce while in migration. She was stranded in Hargessa since she couldn’t afford transportation back home. Halima recalled how she was rescued by networks of kin, acquaintances and family in bringing her back home and starting a meaningful life afterward. Halima expressed that:

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*“I was desperate and had no money to afford return transportation back to my country. Luckily, I was able to return from migration with financial support from acquaintances and relatives in Hargesa and the courage of my parents (particularly my father who even came to Hargesa to help facilitate my safe return). Upon arrival home, I started living with my parents and was supported by my family to start a small business selling eggs and algae (a plant used to make ropes).”*

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The above are cases of how social capital practices and customary institutions can facilitate economic opportunities for youth in PAP areas. However, most social capital practices have very limited financial and technical capacities, affecting their effectiveness. Most organized groups were unable to forge meaningful connections with state and non-state actors to mobilize essential

resources. Furthermore, most youth networks operate exclusively relying on bonding capital (closed networks) without any bridging connection with other potential networks within their own locality, limiting their ability to mobilize additional resources. The growing poverty and drought in the PAP areas were also cited as major setbacks constraining the efficiency and vitality of mutual support groups. A local social capital system contributes better to the pursuit of sustainable community resilience when households possess bundles of other forms of household assets and capabilities among others – which depends on the survival of the livestock system, the ability to grow crops and access to potential markets (Endris et al., 2018).

#### iv) Organization, program and service structure

The youth have identified various organizations, programs and services in their localities.

##### *Access to financial services*

The availability of locally adaptable and affordable rural financial services offers the rural youth the opportunity and leverage to invest in gainful employment. Male and female youth identified various organizations and programs which provide financial services. Some of the organizations provide financial services directly (mostly government-based financial intermediaries), whereas others provide financial support indirectly as a sub-component of their major development activities (mostly NGO-supported programs and projects). WALQO and Small and Micro Enterprises (SMEs)/ Rural youth enterprise development office were the most prominent financial service providers across the districts. The lowland resilience program (LLRP) (in Gumbi Bordede, Midhega Tola & Mieso); and PSNP (in Midhega tola and Gumbi Bordode); Islamic relief (in Gumbi Bordode & Mieso) were identified as some examples of project-based agricultural financial service providers for male and female youth for on-and off-farm enterprises.

Customary-based financial arrangements (male and female youth Afosha and table banking) were also very common across the study sites. However, young females and males often find it difficult to make use of the existing financial arrangements due to structural and institutional barriers. Lengthy loan processes and administrative cumbersome, limited coverage of financial services, very few financial service providers, the requirement of a large amount of advance savings, the short-term loan repayment period, collateral and high-interest rate, and lack of interest-free credit were widely cited as key challenges in accessing rural credit by male and female youth.

On top of these challenges, people across the villages widely mentioned that financial service providers (project-based financing) lack inclusiveness in their targeting and service provision, often to the detriment of the female youth. For instance, certain program-based interventions only financed enterprises commonly (traditionally) undertaken by male youth (such as Sand and limestone mining and bull fattening). In relation to this, Mr. Kemal, an expert from the Small and Micro Enterprises office from Gumbi Bordode expressed his observations and suggested the need for more inclusive and balanced financing for male and female youth. He expressed that

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*“Enterprises traditionally considered as males’ enterprises such as sand and lime mining and bull-fattening often excluded female youngsters from benefitting. Female*



*youngsters are also more disadvantaged even when the limited available financial resources are disbursed among youngsters due to a lack of information and patriarchal arrangements that prioritizes male youth over female. Therefore, service providers should consult the community and understand the power dynamics and preferred livelihood activities of male and female youth before implementing project-based interventions.”*

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People also widely mentioned that project-based financial service providers sometimes exclude youth by only targeting young people who already became household heads. For instance, the lowland resilience program (LLRP) that supports households to engage in the rehabilitation of natural resources, mainly targeted young people who became household heads.

A lack of culturally appropriate financing instruments was the other major challenge to tapping into loans to invest in available agricultural business opportunities. Study participants reflected that the loan schemes that are made available through WALQO and other small and micro enterprises are usually tied with interest which makes them contradictory with the religious values of the community. Community members generally detest any financial transactions and loan arrangements involving interest. Violations of such community norms by any one of the community members lead to social sanction –boycotting the person. People generally believe that taking a loan involving interest is the same as committing incest (sexual intercourse particularly with one’s own mother) and violations are punishable. A participant reflected on how such interest-based loan schemes are considered an abomination and a curse. He said, ‘Akka nama hadha ofiiti ni godhatutti’ – meaning that the person who receives the service of such a scheme is ‘considered as a person who committed sexual intercourse with his own mother’. One of the elders from Miesso woreda told us a recent example of a person who took money from one of these institutions to start a small-scale bull-fattening business. After some time and laborious investment, the guy took one of his bulls to market. Nonetheless, he couldn’t find a single buyer (despite the good quality) – because he used money that involved usury. Such cases demonstrate the challenges male and female youth experience in finding appropriate financial services to tap into available opportunities in their localities. Financial services should evolve in line with the specific political, economic, and socio-cultural circumstances and the specific context of the youth.

### ***Mapping of organizations and services***

Youth-identified organizations and programs in the study areas are provided in Appendix Table 3.

### ***Access to market***

All districts provide access to a strategic livestock and crop market for traders from different locations. Most districts also had a bi-weekly local market. In addition, location advantage, in terms of proximity to major towns provided potential markets for agricultural produce from the study area. Male and female youth engage in the marketing of agricultural products across the value chain. The common types of crops grown and sold at the local market include maize, sesame, groundnut, haricot bean, khat, mung bean, and tuber crops (sweet potato). The common types of livestock sold at the local market include camel, goat, sheep, poultry, and oxen. Male youth mainly engage in the marketing of livestock, whereas female youth largely engage in the marketing of goat, poultry chicken, vegetables, fruits, khat, and milk. Cooperative unions and primary cooperatives

were also involved in marketing grains from member farmers and selling agricultural inputs to member households in Woreda. However, respondents indicated that they sell most of their produces at the local market. Various organizations facilitate the marketing of agricultural produces across the study sites. The various organizations identified by youth in supporting marketing activities by male and female youth include the local Bureau of Agriculture (marketing skills training in all districts); Low land Resilience program (facilitate market linkages in Midhega Tola, Gumbi Bordode, and Miesso); CRS (train male and female youth in marketing and negotiations) and Mercy Corps (support commercial goat production & marketing integration in Miesso district).

Several challenges faced the youth in tapping into available marketing opportunities in the locality. Key market constraints identified by the youth were limited surplus or the subsistence nature of the farmers (as well as limited enterprises independently owned by the youth), excessive interference of middle-men, information asymmetry, limited control over market prices (including price volatility), and market interventions lack a gender component. The ground realities across the study areas also suggest the presence of such problems. For instance, in Miesso district the lack of a reliable market for agricultural products such as mungbean has discouraged young farmers so much that many of them decided to withdraw from farming it. Female youth also face additional marketing constraints in marketing agricultural produces due to the nature of the enterprises they deal with.

For instance, a development agent from Chinaksen Woreda said the following:

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*“Generally, male and female youth who are engaged in agricultural marketing activities have poor/weak levels of control over the market prices of their own commodities. Females are particularly more affected as they are primarily engaged in selling quickly perishable products such as khat and milk. They should be provided with the right training on value addition to prolong the shelf life of their commodities.”*

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Several respondents also stressed that the value chain was often dominated by unequal power relationships and information asymmetry that often force farmers to be price takers. One such scenario was the excessive interference by illegal brokers. Male and female youth discussants across the target districts emphasized that unnecessary compulsion and unlawful interference by illegal brokers in the market segment often force farmers to involuntarily resort to lower prices. Malia, a female youth discussant said the following:

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*“The wide presence of illegal brokers in our localities become a challenge, especially in livestock and small-trading activities. The brokers usually take the commodities away from the youngsters and negotiate on their behalf with devalued selling prices. Such problems are not unique to male and female youth. This is a general problem we all face. My suggestion is to implement project interventions to assist youngsters and other farmers in establishing market linkages”*

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Whereas planned interventions in agricultural marketing were widely suggested by the youth to address recurrent marketing problems, a lack of gender integration in the existing market interventions was cited as a major problem affecting the participation of female youth. Several respondents argued that market-based interventions in the locality lack a gender component, while agricultural marketing was principally gendered. For instance, goat, milk, vegetables and khat trading were primarily managed by females while bull-fattening is dealt with mostly by males. Market interventions should align with such differences to address gender-related challenges.

### *Access to agricultural extension*

Agricultural extension service was one of the most important services in the localities. The district Bureau of Agriculture and Natural Resources is mandated in the provision of public agricultural extension services across the study areas. Agricultural extension agents, otherwise known as development agents (Das) are tasked with the provision of agricultural extension in the localities. Advisory services, skill and capacity-building in agriculture and marketing through farmers' training centers (FTCs), information and market linkages, and facilitation of agricultural inputs were the major agricultural extension services identified by male and female youth across the study sites. Despite the benefits, agricultural extension service provision across the four districts reportedly suffers from organizational, structural, and capacity-related problems affecting proper service delivery.

One of the major barriers to agricultural extension service delivery across the target territories has been limited human resources. Agricultural extension service delivery was said to be poorly staffed and organized. Most of the respondents argued that the number of agricultural extension workers is generally very low compared to the number of households requiring the service. As the public agricultural bureau is the single largest source of agricultural extension service in the target districts, the number cannot satisfy the available demand. This is further exacerbated by the high turnover of development agents. It was widely mentioned that agricultural extension workers regularly leave their jobs for better-paying salaries. Very low incentive packages such as salaries, logistics (transportation facilities), lack of opportunities for career development, forced engagement in non-professional duties such as in political mobilization activities, as well as the availability of non-governmental organizations to hire them, were among the major contributing factors widely cited by as factors. This finding on the challenges of agricultural extension service provision is also echoed by other studies (Gebremedhin et al., 2006).

The design and implementation of Agricultural extension service provision in the pastoral/agro-pastoral areas were largely criticized for not considering the youth dynamics and livelihood aspiration. The views of several key informants such as Urjy, a female traditional leader from Midhega Tola, support the assertion that extension services were not specifically tailored to address and support youth livelihood needs (including market-oriented mixed livestock-crop production businesses). She expressed:

*“In my opinion, the Agricultural extension service provision does not address young members of the community and their occupational aspirations at all. These days the youth are inclined towards market-oriented/commercial agriculture production. However, agricultural extension is still implemented in the old way. Supporting youngsters in market-oriented livestock production businesses should have been the priority of agricultural extension.”*

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A lack of inclusiveness and a tailor-made program in the delivery of a public extension considering the varying interests and needs of women and youth was also another bottleneck identified by respondents. Agricultural extension across study sites was mainly targeted and implemented at the household level following a household-based targeting approach, often excluding women and youth. Often, women and youth are targeted indirectly through their husbands or parents. This is also one of the major limitations of the evolution of Ethiopia’s public extension system, which marginalizes the youth from agriculture and agriculture support programs. Several people across all research districts highlighted the paradox which is manifested in the wider recognition of the role of rural youth and women in agriculture and food security on one hand, and the failure of the public extension system to target and support youth and women as key stakeholders in agricultural activities, on the other. This is a clear manifestation of the marginalization of youth from agriculture and agricultural support programs.

Moreover, it was widely believed that the development of agricultural extension services in the pastoral/agro-pastoral areas has failed to evolve along with the rapidly changing agro-ecological conditions. It was argued that climate change and its effects such as drought have threatened the livelihood of pastoral/agro-pastoral communities more than other livelihood systems. This situation is also pushing the youth away from agriculture and their places of residence. Agricultural extension failed to catch up and evolve with such changes and bring climate-smart agricultural and market solutions to address the problem of the community and, in particular, youth. One of the focus group discussants stated,

*“One of the major weaknesses of the agricultural extension system in our locality is that the service has not adapted itself to local circumstances and emerging threats of climate change. To support the youth and community, extension services should be customized to the rapidly changing agroecological conditions.”*

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The above cases are illustrations of the main deficiencies in the provision of agricultural extension services in PAP areas. The youth continue to experience marginalization which is manifest in their continued sidelining in agriculture services. While agriculture continues to be the principal source of livelihood in the PAP system with young people constituting a significant portion of the agropastoral demographic structure and workforce, the marginalization of youth from agriculture services (such as extension) is lamentable. This is not surprising that a significant portion of the youth considers agriculture as a less viable investment.

### *Human and livestock healthcare services*

Access to adequate and quality human and livestock healthcare services is one of the core elements to promote sustainable investment by the male and female youth in PAP areas. Most of the districts lack healthcare facilities. Available facilities were said to be

way too small compared to the population size and prevalence of human and livestock diseases in the pastoral/agro-pastoral areas. It was widely expressed by people across the study districts that the provision of state-of-the-art human/veterinary healthcare services through strengthening animal/human health extension systems and building the capacity of healthcare providers is vital for youth livelihood transformation in the PAP areas. Some of the key actors identified to facilitate such transitions include development agents, animal/human health extension workers, veterinarians, NGOs working in the area of livestock health, and higher education institutions.

### *Supporting infrastructure and services*

#### *Transportation, communication, and energy infrastructure*

Access to basic road networks and transportation offers opportunities to enhance youth engagement in agricultural production and marketing along the value chain. Most of the surveyed PAP districts were connected by good mobile phone networks. Nevertheless, most of the locations lack access to a good road network. Most people lived in areas either with dirt roads that are difficult for cars or with no road at all. Most roads were washed away during the rainy season and others get muddy – limiting the mobility of people and other services during the rainy season. Some of the roads were also dusty during the dry season. All districts are connected by good mobile phone networks. Access to electricity was a problem across all rural areas. None of the areas had access to electricity.

Access to clean water was a serious problem across all locations (especially in Gumbi Boredede and Miesso districts). Rivers, boreholes, and streams were the most important sources of water for the majority of households. Often households experience water shortages for domestic uses. Miesso district is one of the most affected by water shortages. For instance, in 2021, nearly 53,854 people suffered critical water shortages (multi-agency need assessment report, 2021). Reports also showed that nearly 34 schools in the woreda had no access to water causing 14,693 young girls and boys to drop out of school (ibid). The impact of some of these problems are gendered and affects male and female youth differently. For instance, as women and younger girls are traditionally responsible for fetching water for the entire household, younger girls may likely drop out of school for fetching water. For instance, the average time taken to fetch water in Miesso woreda is reported to be 203.18 minutes/day (Woreda Disaster Risk- profiling Programme, no date). Such problems are also reported as push factors, facilitating youth migration to urban areas.

## 4. SUMMARY, CONCLUSION AND RECOMMENDATION

### 4.1 Summary and Conclusions

#### Youth aspiration

*Youth aspirations are diverse and heterogeneous.* The most common aspirations are; getting rich, being successful in work (education, agriculture, professional employment, etc), marriage and family, making contributions to society, educational and formal employment, and migrating to urban areas. All aspirations are driven by a general desire to live a fulfilled life – which is locally conceptualized as “a state of well-being with good health, income, access to good food, clean water, good housing, and electricity.” But most aspirations were not met.

*Youth aspirations are gendered.* Gender and relational dynamics - mediated by the local contextual structure consisting of values, attitudes, norms, and forms of behavior - are important markers that shape the division of responsibilities and determine the distribution of key productive resources (such as land and finance) among young male and female youth, hence aspiration and transition. Such processes often discriminate against young mothers and girls in accessing and utilizing such resources. The fact that young rural men and women are affected differently by structural- and rural transformations (Heckert et. al.) means that rural development programs and the youth-specific components of those programs must explicitly and differentially address the needs of each (Arslan et al. 2021).

*Norms and value systems dictate youth aspirations.* Youth is a social and cultural construct so is their aspiration. Youth aspirations and expectations were largely formed within a socio-cultural framework and expectations defined by society. Each stage in the person's transition (from childhood to adolescence and youth) is marked by distinct stages accompanied by roles and responsibilities culturally assigned to each individual. Such norms and values also dictate the pattern of how livelihood resources such as land should be distributed, hence their aspirations.

*Youth career aspiration is not an individual's ego-centric pursuit.* It is a conscious and rational choice often involving an objective and subjective assessment of complex sets of variables to determine what is and what is not possible within their opportunity space – their geographical, socioeconomic and policy context. Access to productive resources (access to land, finance, and skill), levels of education, individual personal characteristics, media narratives and peer influence, and family wealth background are key variables used to determine and match individual career choices by the youth in the pastoral and agro-pastoral areas. In the process, some aspirations are given-up or limited (to what is socially and culturally acceptable) or exchanged for more realistic career choices from within acceptable alternatives.

In terms of youth aspiration in agriculture, the youth study in Ethiopia identified four major categories of youth in agriculture: i) Youth who currently pursue Agro-pastoralism/agriculture as a primary career path; ii) Youth who currently pursue agro-pastoral livelihood temporarily to accumulate much-needed resources to fulfill their primary aspiration; iii) Youth who aspire for a primary career opportunity outside of agriculture/farming and the agro-pastoral areas (yet currently supported by agriculture); iv) Youth categories without a clearly defined aspiration. Each category

features a specific characteristic of youth, access to resources, and constraints in mobilizing useful resources. It is important that interventions targeting rural youth in pastoral and agro-pastoral areas should consider the different categories of youth aspiration. Youth aspiration is not a linear process.

### **Youth perception of agriculture**

Youth aspiration of agriculture and their corresponding willingness to pursue it as a career as well as the specific paths how they choose to engage with agriculture/ rural life was largely influenced by how the youth perceived agriculture as a livelihood option – which, in turn, was influenced by the intersection of various other factors including perceived gains from agriculture (perceived financial gains, current level of satisfaction of their farming profession); shifting trends (generational and historical issues); youth-specific characteristics (age, sex, educational attainment, wealth level, and family background) and geography.

In general, agriculture was perceived differently by different actors. For people from government offices, agriculture was perceived as a viable venture with the potential to be transformed into a viable and lucrative opportunity. For older farmers - agriculture was considered a sacred profession and its future and continuity depend on the availability of youth working in agriculture. For young people, traditional agriculture/agro-pastoralism, as it stands today cannot be a viable source of income and food. Hence, they recommend commercial and modern agriculture. Among a few young people in school, agriculture was widely seen as an old lifestyle that cannot generate quick cash in the foreseeable future. Among migrant returnees and graduate students– agriculture was mostly a fallback option. But the consensus across all categories is a sheer recognition of agriculture’s transformative potential if supported by modern technology, financing schemes, and market linkages.

Despite the evidence of the dwindling popularity of traditional agriculture/agro-pastoralism (in its current form and shape) as a viable source of income and food security among the younger generations, agriculture remains a dominant source of livelihood with a potential for youth livelihood. Young people constitute a significant portion of the agropastoral demographic structure and workforce. However, this doesn't mean that the youth are satisfied with it. The low status and economic conditions of farmers, recurrent weather shocks and drought, subsistence mode of farming, and the low attention accorded to the youth were major constraints for youth engagement in agriculture as a viable profession.

### **Youth preferred agricultural value chain to engage in and desired support**

The majority of young people in PAP areas have a positive interest in self-employment and starting their own businesses in agriculture and off/non-farm businesses mostly in their own localities. In general, the male and female youth wanted to participate in modern mixed crop-livestock farming with high returns as producers, processors, and market actors. They expressed the need for access to affordable financial services, time and labor-saving technologies such as drought-resilient crop & livestock technologies (climate-smart techs), and irrigation technologies, training and capacity-building support, research and extension support, and market linkages. The youth have also expressed a huge interest in modern livestock-crop farming with quick cash returns and the use of labor and time-saving technologies. This shows a shifting trend in youth aspiration.

## Status and determinants of youth participation in programs, projects and interventions

Our findings indicated that youth access to and participation in any of the programs and interventions was influenced by financial, economic, governance and administrative, institutional/organizational, infrastructural, socio-cultural, and environmental/ecological factors that determine youth participation in livelihood transformation interventions. The finding that the youth were not organized into youth-led interest groups (e.g., youth group, women's group) to enable them to benefit from group-based lending, cooperatives, small and medium enterprises etc has also been found to constrain effective youth participation. This is an important finding in that the vast majority of social capital practices (groups and networks) that youth participated in are not formally organized and structured to enable male and female youth to connect with formal organizations, programs, and interventions and mobilize useful resources to facilitate their engagement on gainful employment opportunities in rural on/non-farm businesses. This is a major issue rural development programming and intervention in PAP areas should support.

### Does youth participation in agricultural-related services lead to positive livelihood outcomes?

The study measured the impact of youth participation in agricultural extension on key livelihood outcomes – income and dietary outcomes. In general, the study showed participation in agriculture-related interventions can result in better livelihood outcomes. It is found that the youth who participated in agricultural extension programs had higher incomes compared to the control households. The PSM results further indicated that participation in agricultural extension programs did not result in better dietary outcomes in terms of dietary diversity and food consumption score. This is said to be due poor alignment of agricultural extension services with major nutrition outcomes. Agricultural extension service delivery across the PAP areas is poorly staffed and organized. The design and implementation of Agricultural extension service provision in the pastoral/agro-pastoral areas were largely criticized for not considering the youth dynamics and livelihood aspiration. A lack of inclusiveness and a tailor-made program in the delivery of a public extension considering the varying interests and needs of women and youth was also another bottleneck identified by respondents. Agricultural extension across study sites was mainly targeted and implemented at the household level following a household-based targeting approach, often excluding women and youth. This shows the continued sidelining of agriculture services in the PAP areas. This calls for the need to improve the agricultural extension program and align it with key livelihood outcomes.

### Opportunity structure and critical deficiencies/constraints

There are several opportunity structures with the potential to support youth engagement in market-oriented mixed-livestock-crop farming in PAP areas – ranging from Policies and proclamations supporting youth access to land, finance, education; potential for agricultural and non-agricultural business opportunities; availability of organization, program, and services (micro-finance, agricultural extension, education, health care); and other supporting infrastructure and services (Telecom, transportation, power, and water services); social and cultural institutions. However, there are critical deficiencies. The major constraints to youth engagement in pastoral and agro-pastoral areas were limited access to affordable and culturally appropriate finance, limited market access and networks, agricultural extension services, climate change and drought, and access to agricultural inputs, limited technical capacity, and lack of peace and stability.



## 4.2 Recommendations

The following 10 key recommendations were proffered to facilitate youth livelihood transformation in pastoral and agro-pastoral areas.

***Recommendation 1: Understand the vast complexities and the context in which agro-pastoral/pastoral youth operate.*** Youth problems are complex. Strategies by government and policymakers to address youth issues should consider the vast complexities and the context in which agro-pastoral/pastoral youth operate. Actions such as participatory project appraisal, co-creation consultative engagements, and scoping studies may provide baseline data for evidence-based decision-making for project design and implementation. It is also important to consider internal dynamics between and among youth groups. The appropriate development pathways and livelihood strategies for youth livelihood transformation should be based on a clear understanding of these dynamics and the type of constraints youth face, along with their aspirations.

***Recommendations 2: Tailor programming to the varying occupational aspirations of male and female youth.*** A major finding in this study was that career aspirations are gendered. Efforts to create agribusiness enterprises should consider the varying aspirations and interests of both male and female youth and the constraints they face in accessing key productive resources. The fact that young rural men and women are affected differently by structural- and rural transformations means that rural development programs and the youth-specific components of those programs must explicitly and differentially address the needs of each. Youth development and livelihood transformation interventions by the local, zonal, and regional government and their development partners (NGOs, community-based organizations) should take into account differences between the occupational aspirations of young men and young women.

***Recommendation 3: Promote an inclusive extension system for the youth livelihood transformation.*** Agricultural extension services are often provided at the household level but mainly target the male household head, often excluding women and youth. This is also one of the major limitations of the evolution of Ethiopia's public extension system, which marginalizes the youth from agriculture and agriculture support programs. This features a major paradox in the country's agriculture policy that is manifested in the wider recognition of the role of rural youth and women in agriculture and food security on one hand, and the failure of the public extension system to target and support youth and women as key stakeholders in agricultural activities, on the other. This is a clear manifestation of the marginalization of youth from agriculture and agricultural support programs. Thus, the Ministry of Agriculture and Natural Resources should design a tailored extension system that targets both male and female youth and enforce its implementation by district bureaus of agriculture in pastoral and agro-pastoral areas. This is in line with Ethiopia's strategy for the agricultural extension system, which recognizes the mainstreaming of gender and youth as one of the pillar strategies to support livelihood transformation.

***Recommendation 4: Reorient and align agricultural extension service delivery to key nutrition outcomes and aspirations of youth in PAP areas.*** The agricultural extension should be aligned with key major dietary and nutrition goals. Services are also criticized for not being specifically tailored to address and support youth livelihood aspirations (including market-oriented mixed livestock-crop production businesses). The extension programs should provide technical support and facilitate finance and technology provision to the youth for improving the livelihood outcomes of

the pastoral and agropastoral youth. It is also important to accommodate a shift to nutrition-sensitive production focusing on improving dietary diversity and food security through training and nutrition education. The Ministry of Agriculture and other non-state actors working in agriculture and youth livelihood improvement programs in the PAP areas such as MERCICOPRS, USAID, HCS, and FAO should work together in facilitating such outcomes. There is also a need to facilitate adequate finance and staff for extension organizations, supply materials and facilities to FTCs, and expand the availability of animal health care and forage, PTCs and FFSs, MFIs, and cooperatives.

***Recommendation 5: Reinvigorate and support youth agripreneurship and formal and non-formal education for youth economic empowerment.*** Promoting youth employment for livelihood transformation requires investment in agripreneurship development. Project interventions and the government should consider supporting youth entrepreneurship development in various ways, including training for appropriate business selection, technical training, financial support, market information and integration and infrastructural development should be prioritized. Moreover, it is also important to strengthen formal and non-formal education, training, and behavior change communication interventions in the Woreda office, as it focuses on small and medium enterprise promotion, farmer training centers, and youth, women, and children's affairs. support and fund youth agricultural enterprises that are most attractive to male and female youth.

***Recommendation 6: Promote culturally appropriate and affordable financial services for youth livelihood transformation.*** The availability of locally adaptable and affordable rural financial services offers the rural youth the opportunity and leverage to invest in gainful employment. A lack of culturally appropriate financing instruments was a major challenge to tapping into loans to invest in available agricultural business opportunities. Loan schemes made available through conventional service providers and other small and micro enterprises are usually tied with interest which makes them contradictory with the religious values of the community. State and non-state actors should work together to provide the youth with culturally appropriate financial services.

***Recommendation 7: Recognize local social capital practices and networks for youth livelihood transformation.*** Pastoral and agro-pastoral communities have expansive social and cultural resources such as social capital and networks that offer different services, such as mutual insurance, labor sharing, savings and credit to rural households, to facilitate a meaningful transformation of the youth in the agro-pastoral/pastoral areas. However, most social capital practices have very limited financial and technical capacities, affecting their effectiveness. Most organized groups were also unable to forge meaningful connections with state and non-state actors to mobilize essential resources. A local social capital system contributes better to the pursuit of sustainable community resilience when households possess bundles of other forms of household assets and capabilities among others – which depends on the survival of the livestock system, the ability to grow crops and access to potential markets (Endris et al., 2018). To this end, greater effort must be made by government and development partners (such as USAID) to recognize the role of social capital and improve grassroots social capital and community-based mutual support groups for rural youth livelihood transformation. Local government and non-state actors operating in the PAP areas should strengthen/establish youth-led interest groups, such as youth groups, women's groups etc to promote group-based collective action by the youth (e.g., formation of small and medium enterprises through group-based credit schemes).

**Recommendations 8: Promote co-learning and partnerships between formal and non-formal systems to address major sociocultural barriers to youth transformation.** Local government, customary institutions, and NGOs operating in the study area should work together in partnership to identify and address all forms of discrimination and its impact on the aspirations, employability, empowerment, and overall livelihood and welfare of male and female youth. The local government and NGOs should take the lead in creating the space for this type of partnership at the local community level.

**Recommendation 9: Invest in infrastructural development in PAP areas for youth and PAP areas' livelihood transformation.** Local and regional governments as well as NGOs operating in the study area should prioritize investments in infrastructure development and maintenance to ease difficulties facing youth. Greater focus is required to construct/maintain roads to facilitate access to input/output markets, rural electrification, and water resource development for household, livestock and irrigation-based agriculture development.

**Recommendation 10: Work with local people and their institutions to address key livelihood shocks.** Local and regional governments and their development partners should cooperate to manage risks and uncertainties, including climate-induced shocks and conflict, through climate change adaptation and resilience-building measures, such as the promotion of climate-smart agriculture technologies and best practices, strengthening early warning systems (monitoring, surveillance, forecast), disaster risk reduction and management, and managing conflict and promoting peacebuilding and co-existence. This has to be undertaken through continuous engagement, partnerships, and collaboration with local people, male and female youth, and their institutions.

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## APPENDICES

## Appendix I Matching quality analysis

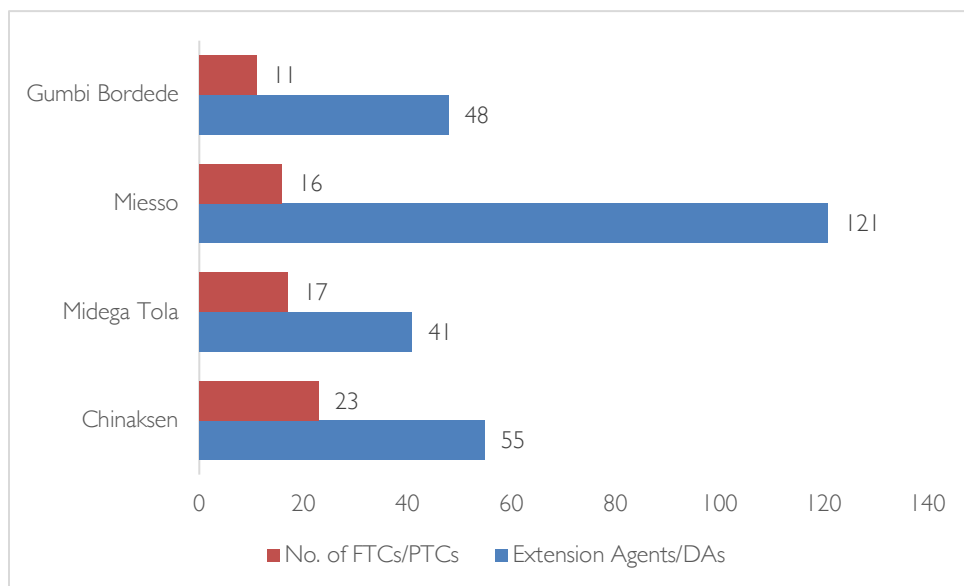
Appendix Table I T-test and standardized percentage bias results for matching quality analysis

Covariates	Income		Household dietary diversity		Food consumption score	
	T-test	Standardized percentage bias	T-test	Standardized percentage bias	T-test	Standardized percentage bias
Sex Household (Male)	0.9	7.0	0.5	3.5	0.7	5.3
Age of Household (Years)	-1.1	-10.9	-	-	-	-
Education of household (Years)	0.2	2.3	1.1	10.2	0.7	6.3
Family size (Number)	1.2	11.9	1.6	15.1	1.6	15.6
Landholding size (ha)	0.4	3.3	-0.7	-5.7	0.4	3.2
Land certificate (Yes)	0.8	7.8	0.2	1.9	1.0	8.7
Farm experience (years)	-1.10	-11.6	-1.6	-17.9	-1.7	-19.4
Livestock ownership (TLU)	-0.6	-4.7	0.1	0.8	0.4	3.7
Market Information (Yes)	0.5	4.4	-0.2	-1.5	1.3	13.1
Cooperatives (Yes)	-1.0	-11.2	-	-	-	-
Non/off-farm income	-1.5	-14.6	-	-	-	-
Credit Access (Yes)	0.4	4.2	-	-	-	-
Access to NGOs (Yes)			0.0	0.0	0.3	3.0
Membership in CBOs (Yes)			-1.8	-15.7	-1.2	-10.7
Access to mobile network (Yes)			-0.2	-1.5	-1.2	-11.1
On farm income (birr)			1.2	6.1	0.2	1.1
PSNP (Yes)			-1.2	-12.7	0.2	2.3

Appendix Table 2 Other quality tests for the PSM estimation

Outcome Variable	Matching method	Pseudo R <sup>2</sup>	LR chi <sup>2</sup>	p>chi <sup>2</sup>	Mean bias	Median bias
Income	Nearest Neighbour Matching	0.014	8.48	0.75	7.8	7.4
HDSD	Nearest Neighbour Matching	0.021	12.51	0.49	8.0	6.3
FCS	Nearest Neighbour Matching	0.018	10.64	0.56	7.6	5.9

## Appendix 2 Distribution of FTCs/FTCs and CBOs/customary institutions across the study areas



Appendix Figure 1 Distribution of FTCs/PTCs and Extension Agents by Woreda (Number)



Appendix Figure 2 Customary institutions and CBOs commonly found in the study area and their roles

Source: synthesized from OPaDCC (2021)

Appendix 3 Mapping of youth-identified organizations and programs in the study areas

Appendix Table 3 Youth-identified organizations and programs in the study areas

Organizations	Woredas			
	Midhega Tola	Chinaksen	Gumbi Bordede	Miesso
<b>Government/state actors</b>	<p>The local Bureau of Agriculture (BoA): Identified as a very important actor; agricultural extension support; Skill and capacity-building in agriculture through FTCs; training on production and marketing skills training</p> <p>Rural youth enterprise development office: support youth in enterprise development</p> <p>Productive Safety Net Program (PSNP): Livelihood and asset building; credit access under the household asset building program (HABP) without involving interest; Enterprise development in sheep and goat fattening</p> <p>Ministry of Agriculture (MoA) through Farmer's Training Centers (FTCs): Provide agricultural support; supports youth-focused programs and interventions in agriculture</p> <p>Bureau of water resource development: Support efforts to develop Water resources for agriculture</p>	<p>BoA: agricultural extension support; capacity-building in agriculture; training on production and marketing</p> <p>Rural youth enterprise development office /SMEs offices: assists the youth in enterprise development; credit</p>	<p>MoA through FTCs: Provide agricultural support; Youth-focused program and interventions development</p> <p>BoA: agricultural extension support; Skill and capacity-building training in agriculture through FTCs; production and market skills training – in bull fattening and milk trading, etc</p> <p>Rural land administration office: Facilitates land for enterprise development</p> <p>Women, children &amp; youth affairs office: facilitate youth enterprise development and effective inclusion</p> <p>Rural youth Enterprise development office: assists the youth in enterprise development</p> <p>PSNP: Livelihood and asset building; support under the household asset building program; Enterprise development in sheep and goat fattening</p>	<p>Women, children &amp; youth affairs office: facilitate youth enterprise development and effective inclusion</p> <p>BoA: agricultural extension support; capacity-building in agriculture; training on production and marketing</p>

<p><b>Non-state actors</b></p>	<p>Low land resilience program (LLRP): provides coaching; supervision; financial service facilitation; market linkages; skills training in NRM; financial assistance          CRS – HARERGIE catholic secretariat: support on-/off-farm &amp; enterprise development; entrepreneurship training; Rural women &amp; youth empowerment; train women &amp; youth on improved leadership &amp; negotiation)          HCS: facilitates product markets &amp; related value chains; supports youth in beekeeping; scholarship support /high school          Community welfare groups/mutual support</p>	<p>Community welfare groups/mutual support</p>	<p>LLRP: provides coaching; supervision; financial service facilitation; market linkages; skills training in NRM; financial assistance          Islamic relief: Supports youth employment opportunities in Agric; assists female youth in poultry farming          Community welfare groups/mutual support</p>	<p>Mercy Corps: support for youth &amp; women transitioning out of Pastoralism; commercial goat production &amp; marketing          Islamic relief: Supports youth employment opportunities in Agric; assists female youth in poultry farming          GROW: Support women in sheep and goat enterprise          IFAD: facilitates youth engagement in NRM, bull fattening, and beekeeping          FAO: support sheep &amp; goat fattening enterprises under PROACT          LLRP: provides coaching; supervision; financial service facilitation; market linkages; skills training in NRM; financial assistance          WALQO: credit support          Community welfare groups/mutual support</p>
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