



working paper

CREATING
EMPLOYMENT POTENTIAL IN
SMALL-RUMINANT VALUE CHAINS
IN THE ETHIOPIAN HIGHLANDS

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Table of contents

<i>Acknowledgements</i>	<i>v</i>
<i>Abstract</i>	<i>vi</i>
<i>List of acronyms</i>	<i>vii</i>
1. INTRODUCTION	1
2. EMPLOYMENT IN THE SMALL-RUMINANT SUBSECTOR IN ETHIOPIA: WHAT IS KNOWN AND WHAT IS NOT	3
3. DESCRIPTION OF CONTEXT, BACKGROUND, RESEARCH AREAS, AND METHODOLOGY	6
3.1 PROJECT SITES AND VALUE CHAINS	6
3.2 STUDY METHODOLOGY	9
3.3 GENERAL DESCRIPTION OF THE QUANTITATIVE SAMPLE	14
4. MAIN CHARACTERISTICS OF PRIMARY SHEEP AND GOAT PRODUCTION	18
4.1 SHEEP AND GOAT OWNERSHIP	18
4.2 ANALYSIS OF CURRENT FATTENING PRACTICES	20
4.3 INSTITUTIONAL SUPPORT ENVIRONMENT FOR PRODUCERS	24
5. ANALYSING PROFIT MARGINS ALONG THE SMALL-RUMINANT VALUE CHAIN	27
5.1 ANALYSIS OF PROFIT MARGINS IN PRIMARY SHEEP/GOAT PRODUCTION	27
5.2 VALUE CHAIN AND PROFIT ANALYSIS OF TRADERS AND PROCESSORS	31
5.3 VALUE CHAIN AND PROFIT ANALYSIS OF INPUT SUPPLIERS AND SERVICE PROVIDERS	34
5.4 MAPPING PROFIT MARGINS ACROSS THE VALUE CHAINS	35
6. EMPLOYMENT AND LABOUR INCOMES ALONG THE SMALL-RUMINANT VALUE CHAIN	37
6.1 PRIMARY PRODUCERS	37
6.2 TRADERS AND PROCESSORS	47
6.3 INPUT SUPPLIERS AND SERVICE PROVIDERS	50
6.4 EMPLOYMENT OUTCOMES ACROSS THE ANALYSED VALUE CHAIN SEGMENTS	51
6.5 QUALITY OF EMPLOYMENT IN ETHIOPIA'S SMALL-RUMINANT SUBSECTOR	54
7. CONCLUSIONS	56
7.1 SUMMARY OF KEY FINDINGS	56
7.2 IDENTIFICATION OF MAIN BOTTLENECKS FOR PROMOTION OF DECENT RURAL EMPLOYMENT	59
7.3 RECOMMENDATIONS FOR SRVC-JOBS PROJECT INTERVENTION MECHANISMS	60
7.4 POLICY RECOMMENDATIONS FOR THE PROMOTION OF DECENT EMPLOYMENT ALONG SRVCS	61
8. REFERENCES	63
9. ANNEX: ADDITIONAL STATISTICAL TABLES AND FIGURES	65

LIST OF TABLES

3.1	List of project-assisted <i>kebelles</i>	6
3.2	Breakdown of quantitative survey sample by region and respondent group	11
3.3	Breakdown of survey sample by respondent group and sampling method	12
3.4	Test selection based on types of independent and dependent variables	13
4.1	Small-ruminant herd sizes by gender of household head	20
4.2	Primary reasons for small-ruminant holding (weighted)	21
4.3	Application of fattening, by gender of household head	21
4.4	Perceived change of profit as a result of fattening, by <i>woreda</i>	23
4.5	Perceived change of profit as a result of fattening, by herd-size quintiles	24
4.6	Average length of fattening period and number of animals fattened, by <i>woreda</i>	24
4.7	Awareness and membership of groups, disaggregated by the gender of principal respondents and age cohort	25
4.8	Type of groups identified by principal respondents	26
4.9	Proportion of principal respondents who have received credit for SR-related activities, by age and gender	26
5.1	Small-ruminant revenue for fattened/unfattened animals, by household headship	28
5.2	Small-ruminant gross profits for fattened/unfattened animals, by household headship	29
5.3	Small-ruminant revenue for fattened and unfattened animals, by age cohort	29
5.4	Small-ruminant gross profits for fattened and unfattened animals, by age cohort	29
5.5	Small-ruminant revenue and gross profits per resident, by herd size quintiles	30
5.6	Number of sheep fattened by traders and length of fattening period, by <i>woreda</i>	32
5.7	Estimated GP margins based on average prices for sheep, by fattening status and time of sale (in ETB)	32
5.8	Estimated gross profits per trading business (total and per trade volume quintiles)	33
5.9	Estimated gross profits per trading business (total and per trade volume), by trader category	33
5.10	Feed types procured by input suppliers	34
5.11	Source of procured feed types	35
5.12	Mapping of estimated gross profit per animal sold, by VC actors and <i>woreda</i>	36
6.1	HH size and structure for mHHs and fHHs	41
6.2	FTE days spent by individuals over the past 12 months in SR production, by <i>woreda</i>	41
6.3	Estimated FTE days spent by HHRMs in SR production, by household headship, children, and gender	42

6.4	Estimated FTE days spent in SR activities by entire household and per animal, by <i>woreda</i>	44
6.5	Estimated FTE days spent in SR activities by entire household and per animal, by herd size quintiles	44
6.6	Estimated FTE days spent in SR activities by entire household and per animal, by fattening practice	45
6.7	Average annual cash, by gender of household head and on-/off-farm source	45
6.8	Estimated producer revenue and gross profit per unpaid FTE day, by <i>woreda</i>	45
6.9	Wage labour hiring for small-ruminant production, by <i>woreda</i>	46
6.10	List of small-ruminant-related activities for which wage workers were hired	46
6.11	Average number of SR workers hired per month (hiring HHs only), by <i>woreda</i>	47
6.12	Triangulated wage rates as reported by employers and workers, by <i>woreda</i>	47
6.13	List of activities for which wage workers were hired by traders	48
6.14	Estimated FTE days of labour hired by traders, by trader category	48
6.15	Wages paid as reported by trader employers, by trader category	48
6.16	List of activities undertaken by unpaid workers for traders	49
6.17	Estimated FTE days of unpaid workers for traders, by age and gender	49
6.18	Total FTE days created per trading business and per animal sold, by trader type	50
6.19	Estimate of FTE days created at feed-supplying households and per animal provided for	50
6.20	Mapping of estimated FTE days per animal, by VC actors and fattening engagement	52
6.21	Value chain comparison of gross profit per FTE invested in business (over the past 12 months)	53
9.1	Sample disaggregation by selection method and <i>woreda</i>	65
9.2	Breakdown of achieved sample of principal respondents by gender and <i>woreda</i>	65
9.3	Contrasting average and median age with respondent types	65
9.4	Sample frame of producers	66
9.5	Contrasting age cohorts and respondent types	67
9.6	Average and median age of producers' HHRMs	68
9.7	Producers' HHRMs (aged 15 and older, only) by marital status and gender	68
9.8	Average small-ruminant herd sizes by age cohort	68

LIST OF FIGURES

3.1	Maps of selected <i>woredas</i> (highlighted in red) in Amhara and Tigray regions	7
3.2	Schematic depiction of typical goat and sheep value chains	8
3.3	Breakdown of principal respondents by gender and <i>woreda</i>	14

3.4	Gender breakdowns of principal respondent groups	15
3.5	Distribution of principal respondent groups across age cohorts	15
3.6	Educational attainment across principal respondent groups	16
3.7	Gender and marital status of principal respondent groups	17
3.8	Educational attainment of producers' HHRMs (aged 15 and older, only)	17
3.9	Marital status of young producers' HHRMs	18
4.1	Small-ruminant ownership of all HHRMs (excluding children), by gender	19
4.2	Small-ruminant ownership of all HHRMs (excluding children), by age cohorts	19
4.3	Application of fattening as percentage of those aware of fatt. techniques, by age cohort of MLH	22
4.4	Five main reasons for producers not to engage in fattening (weighted)	23
4.5	Types of services provided by groups	26
5.1	Gross profits achieved per animal, by animal type (in Ethiopian Birr-ETB)	28
5.2	Top 10 constraints experienced by small-ruminant producers (weighted)	30
5.3	Categorization of traders by sales volume quintiles and point of sale	31
5.4	Top 10 marketing and other constraints experienced by traders (weighted)	33
6.1	Producers' HHRMs working in small-ruminant-related activities, by gender	37
6.2	Type of work in small-ruminant HH activities by producers' HHRMs, disaggregated by age cohort.	38
6.3	Household SR-related activities undertaken by HHRMs, disaggregated by gender	39
6.4	Household SR-related activities undertaken by HHRMs, disaggregated by age cohorts	40
6.5	Estimated FTE days spent by producers' HHRMs in small-ruminant production in past 12 months, by age and gender	42
6.6	Estimated FTE days spent by HHRMs in small-ruminant production in past 12 months, by SR-related activity	43
6.7	Gender and age of unpaid family workers for traders	48
9.1	Gender and marital status of principal respondent groups	67

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Abstract

Small-ruminant value chains have been analysed extensively in the past, particularly with a focus on technical aspects of production (such as breeds, feed, animal health, etc.). However, assessing the subsector's real role in poverty reduction requires an analysis that includes the extent of, and potential for, employment creation. For only through productive, gainful and (ultimately) decent employment can people in poverty earn the means to sustainably increase their and their families' well-being. Unfortunately, studies that link small-ruminant value chain analysis with employment assessment in a rigorous and quantitative manner are very rare. To fill this gap, this working paper presents a series of findings based on quantitative and qualitative primary data that were collected in 2014 for FAO's SRVC-Jobs project (Rural Poverty Reduction through Job Creation in Small-Ruminant Value Chains in the Ethiopian Highlands). Among these findings is that employment in the small-ruminant subsector follows distinct gender and age patterns, though often in unexpected ways. For example, young men are more heavily employed in the sector – albeit usually under harsh working conditions – than is commonly assumed on the basis of anecdotal evidence. Our data also points to the fact that certain value chain interventions, such as the introduction of market-oriented animal fattening, can potentially reduce poverty, increase employment and make an impact on people's lives. However, in order for that to happen, a number of challenges – both technical (e.g. lack of technical knowledge and veterinary services), socio-economic/cultural (e.g. gender discrimination and child labour) – must be addressed. The paper closes by making a number of recommendations on how these issues can be taken up in policy and project work.

List of acronyms

ACSI	Amhara Credit and Savings Institute
AGP	Agricultural Growth Programme
CIG	Common Interest Group
DA	Development agent (publicly employed extension service officer in place in every <i>kebelle</i>)
DECSI	Dedebit Credit and Savings Institute
DRE	Decent rural employment
fHH	Female-headed household
FTC	Farmers' training centre
FTE	Full-time equivalent
GoE	Government of Ethiopia
GTP	Growth and Transformation Plan
HAB	Household Asset Building Programme
HH	Household
HHRMs	Household roster members
ILRI	International Livestock Research Institute
LMP	Livestock Master Plan
RDPS	Rural Development Policy and Strategy
RM	Roster member
mHH	Male-headed household
MLH	Main livestock holder (principal respondent for producer questionnaires)
PCA	Policy Context Analysis (undertaken by the SRVC-Jobs project with a special focus on issues of decent rural employment)
PSNP	Productive Safety Net Programme
RuSACCO	Rural Savings and Credit Cooperative
SR	Small ruminants
SRVC	Small-ruminant value chain
SRVC-Jobs project	FAO project on Poverty Reduction through Job Creation along Small-Ruminant Value Chains in the Ethiopian Highlands
TVET	Technical vocational education and training
VC	Value chain

1. Introduction

The SRVC-Jobs project¹ seeks to contribute to poverty reduction through the promotion of decent employment for women and young people along small-ruminant value chains (SRVCs) in the Ethiopian Highlands. To that end, it has designed and implemented a methodology that combines employment and value chain promotion in order to provide sound evidence for better-informed policy and programme interventions in the subsector.

In December 2014,² the Ethiopian Ministry for Livestock Resources Development presented the latest Livestock Master Plan (LMP) developed by the International Livestock Research Institute (ILRI). The document, commissioned by the Government of Ethiopia (GoE), sets out the main targets and priorities for further development of the livestock sector. More specifically, in regard to the small-ruminant subsector, the LMP contemplates increasing the total number of sheep by half and the total number of goats by a third by the end of 2020. Similarly, the sheep and goat contributions to national red meat production are expected to rise by 42 percent and 43 percent respectively, while goat milk production is foreseen as doubling by the end of the period. While these are ambitious targets, even achieving them only in part will clearly create a tremendous opportunity for employment creation and income expansion in poor households. The plan represents a major channel for poverty reduction – in line with the prime objective of the SRVC-Jobs project.

To contribute to this important effort, the project team developed and implemented an integrated approach towards employment promotion. A key feature of the approach was that the design of interventions and policy recommendations be based on strong quantitative and qualitative evidence, combining an employment lens with value chain analysis in order to highlight and showcase the potential for **decent rural employment**³ throughout the subsector. Accordingly, an elaborate quantitative value chain survey, together with several qualitative assessments, were undertaken over a five-month period from May to September 2014.

This paper documents the main results of this analytical process. After a short review and summary of existing knowledge on employment in SRVCs in the Ethiopian highlands (Section 2), the wider context, project areas, and analytical methodology are presented (Section 3). Section 3.3 begins with the presentation of the

¹ Full title: 'Rural Poverty Reduction through Job Creation along Small-Ruminant Value Chains in the Ethiopian Highlands', project code: FMM/GLO/101/MUL.

² Ministry of Agriculture (MoA)/ILRI Livestock Master Plan Project Steering Committee Meeting, Addis Ababa, 5th December 2014. <http://clippings.ilri.org/2014/12/24/lmp-splash/> Accessed July 2015.

³ Decent rural employment refers to any activity, occupation, work, business or service performed by women and men, adults and the young, in rural areas that: (i) respects the core labour standards as defined in ILO Conventions (ii) provides an adequate living income; (iii) entails an adequate degree of employment security and stability; (iv) adopts minimum occupational safety and health (OSH) measures, which are adapted to address sector-specific risks and hazards; (v) avoids excessive working hours and allows sufficient time for rest and (vi) promotes access to adapted technical and vocational training. This definition explicitly acknowledges the great heterogeneity and complexity of rural contexts, and thus the need for a context-specific adjustment that nevertheless respects the four core labour standards. Cf. http://www.fao.org/fileadmin/user_upload/fao_ilo/pdf/DRE_Applied_Definition.pdf Accessed July 2015. Cf. <http://www.fao.org/assets/infographics/FAO-Infographic-Youth-Livestock-Africa-en.pdf> Accessed June 2016.

empirical results, focusing on the technical aspects of production and marketing in the value chain, with particular attention to the practice of fattening small ruminants and to the profit margins that can be achieved by various actors. Section 5 looks in more detail at relevant employment dimensions along the value chain, and particularly at the work of women and the young. Section 7 presents the wider institutional setting and policy environment, paving the ground for the concluding chapter which lays out a range of opportunities and bottlenecks towards decent employment promotion in the subsector, and presents a set of broad policy and programme recommendations.

2. Employment in the small-ruminant subsector in Ethiopia: what is known and what is not

The creation of employment along value chains, especially for women and young people, is a crucial element in rural development. It exemplifies the link between value chain development and the greater goals of socio-economic development through the creation of jobs and income, particularly for the most vulnerable members of society. Rural employment is of particular interest as rural dwellers account for a high proportion of the active population in developing countries. In Ethiopia, for example, as much as 80 percent of total employment is in agricultural activities, including livestock production (World Bank, 2015). But off-farm employment also plays a major role in rural areas. According to empirical estimates, off-farm contribution to average rural incomes is around 40 to 50 percent in developing countries (World Bank, 2007). In Ethiopia, it is estimated that at least 20 percent of rural income is derived from non-farm sources (Deininger *et al.*, 2003) and that income derived from off-farm activities can amount to as much as a third of total farm income (Woldehanna, 2000).

Hence, in order to understand the opportunities for poverty reduction and employment creation outside primary production, as well as the relations and interactions between different VC segments, the value chain approach is often used in rural development programmes. Possible market distortions, distribution patterns of factors and profits, gender aspects as well as bottlenecks and opportunities, are analysed through market and power relations between tiers of the value chain, but also within individual segments. This facilitates an understanding of the economic realities, challenges and opportunities facing all agents along the value chain, from input suppliers, to primary producers and finally to consumers.

Although value chain approaches have been adopted in a number of initiatives and projects (also focusing on the Ethiopian small-ruminant subsector), and while many of these have yielded useful results (Legese and Fadiga, 2014; Gizaw *et al.*, 2013; Jenkins and Miklyaev, 2014), none of these have focused specifically on employment creation. In the case of sheep and goats, it is often stated anecdotally that women and young people are often tasked with caring for them, but the exact nature of their work is typically not analysed, highlighting the lack of detailed information on the nature and extent of employment within different segments of the agricultural sector.

Moreover, although it is widely acknowledged that sustainable and durable reduction of poverty can only be achieved through an increase in gainful and productive employment (Islam, 2006; Lundström and Ronnås, 2006; Osmani, 2003; Osmani, 2005), analyses of livestock production frequently address such aspects as productivity, marketing or value chain development, without any reference to employment. Conversely, research or development projects targeting employment typically tend to focus on a specific element of a particular value chain, rather than embracing several segments and including a wider range of actors.

All this translates into a scarcity of employment information and data (notable exceptions include Omore *et al.*, 2004; McLeod and Sutherland, 2012), leading to a generalized lack of understanding as to the most promising avenues for creating employment,⁴ increasing income and improving working conditions, as well as to who benefits most from work across the value chains.

In order to obtain a representative picture of sheep and goat production systems as well as of the nature and extent of employment – wage labour, self-employment, or other – in the livestock value chain in Ethiopia, a secondary data assessment was undertaken as part of the SRVC-Jobs Project.⁵ This assessment was based on the Ethiopian Rural Socio-Economic Survey 2011/12 (ERSS), and to a lesser extent on Ethiopia's Livestock Sample Survey of 2012/13 (LSS) conducted in 290 rural and 43 small-town enumeration areas, providing information on 3 969 households (HHs), out of which 408 were from the Tigray Region and 855 from the Amhara Region.

Overall, despite the data constraints inherent in these sources, the assessment indicated that regarding small ruminants (SRs), productivity levels were low, and commercialized, market-oriented production was limited in Ethiopia in general, and in Tigray and Amhara in particular. According to the ERSS data, breeding emerged as the main purpose of small-ruminant husbandry, which appeared to confirm that SR production rarely constituted a market-oriented activity. Rather, keeping sheep and goats was predominantly a form of capital storage and not an income-generating pursuit. It also suggested that the small-ruminant subsector generally had low levels of technical productivity (i.e. animal health and fodder quality) and decisions to sell stock were usually motivated by immediate cash needs, rather than by the goal of maximizing profits or generating a steady income.

From these data sets, it emerged that animal ownership, and incomes derived therefrom, were heavily dominated by male producers. Only 18.4 percent of all owners of small ruminants were women. A gender analysis highlighted the fact that income inequality was widespread in the subsector, with women earning on average 6.7 percent less than men, but over 31 percent less in the poorest segment. Women in particular relied heavily on small-ruminant income, which represented on average 60 to 70 percent of their total income.

Also, the data suggested that young women and men faced significant barriers to entering small-ruminant value chains as direct producers. For instance, young people⁶ had very limited access to SR ownership, with only 9.93 percent of SR owners aged 25 or younger at national level. Young owners were even fewer in Amhara at 7.19 percent, and particularly in Tigray, at 3.1 percent. Although information on the incomes of younger SR holders was very scarce, especially in Tigray and Amhara, the picture that emerged there was that SR holders aged under 25 earned some 80 percent of their total income from small ruminants.

⁴ An important and prominent example is an ongoing research project on Small-Ruminant Value Chains in Ethiopia, which is being implemented by the CGIAR consortium (<http://livestockfish.cgiar.org/2011/12/31/ethiopia-ruminants/>).

⁵ SRVC-Project Output 2.2: Assessment of sheep and goat production systems in Ethiopian Highlands. Available upon request.

⁶ Throughout this document, youth and young people will be defined according to the Ethiopian Labour Proclamation No. 42/1993, under Article 89, which sets 14 years as the minimum age for young people to be allowed to work. This document applies both the UN standard and the African Union/Ethiopian government definition for youth. Accordingly, in this document youth are considered to be all those aged between 15 and 25 years old and those between 14 and 29 years old, respectively. Children (or, respectively, boys and/or girls) are defined in this document as individuals aged 14 or less.

Regarding employment, on the labour demand side, out of the total of 1 584 SR-owning households included in the whole ERSS sample, only 19 (1.2 percent) reported hiring any labour in the production process. Out of these, not a single one was situated in Tigray and only ten (3.6 percent of SR-owning households) were located in Amhara. From the supply side, very few household members reported having been employed (whether in or outside the livestock sector) in exchange for wages, salaries or in-kind payment during the 12 months prior to the survey. Only 442 (11.3 percent) of household heads reported working for wages – 48 (1.2 percent) and 87 (2.2 percent) in Tigray and Amhara respectively. This seemed to be unrealistically low, suggesting that systematic underreporting likely occurred on both the supply and demand sides. Unfortunately, the ERSS has no information on the amount of household labour nor on the labour intensity of jobs directly related to small-ruminant production.⁷

The limited amount of data available further strengthened growing calls for investment in the creation of employment data along livestock value chains (e.g. Pica-Ciamarra *et al*, 2014) and for the integration of employment-sensitive approaches in value chain analysis. In response, the SRVC-Jobs Project undertook a detailed survey to gather new evidence intended to verify (or invalidate) the figures above and to identify promising entry points for employment creation along small-ruminant value or supply chains in Ethiopia, with particular reference to opportunities for women and the young.

⁷ The ERSS questionnaire refers to any job, including casual/part-time labour, for a wage, salary, commission or any payment in kind, excluding temporary work, for anyone who is not a member of the household. No description of the job declared is included in the survey.

3. Description of context, background, research areas, and methodology

3.1 PROJECT SITES AND VALUE CHAIN

There are various small-ruminant production systems in Ethiopia. The SRVC-Jobs project focuses on the mixed, crop-livestock system, predominantly practiced in the country’s highland areas and on which about 84 percent of keepers of small ruminants rely. Consequently, the project identified the highland areas of the Tigray and Amhara regions for data collection and project implementation. Following close consultations with the federal and regional governments, as well as detailed scoping visits throughout the areas, four *woredas*⁸ were selected along government-defined ‘small-ruminant development corridors’.

In collaboration with each of the *woredas*’ governments, four *kebelles* were identified for project implementation and data collection. The *kebelles* selection process was designed to highlight meaningful contrasts within each *woreda* in order to capture a wider spectrum of agro-ecological, productive and marketing conditions. The full list of selected *woredas* and *kebelles* is shown in Table 3.1

A more detailed understanding of the relevant small-ruminant value chains was obtained through a rapid value chain assessment, which was carried out after the project’s *woredas* and *kebelles* had been selected.⁹ While both sheep and goats are produced in all participating *kebelles*, a clear focus on sheep production was discerned in all areas. Nevertheless, the basic value chains for sheep and goats (live animals) are virtually identical and are schematized in Figure 3.2.

Briefly, primary producers tend to sell to local traders at *kebelles* markets, who in turn take the animals to the main road, secondary markets or other collection points. There, they are taken over by regional traders, who then sell them directly to consumers or restaurants/hotels. In some cases, specialized urban fatteners have found a market niche by buying from local or secondary traders, adding value through fattening, and then reselling at a profit. It is also important to note that direct sales to consumers (who typically slaughter animals themselves) can occur at any stage of the VC.

Table 3.1 List of project-assisted *kebelles*

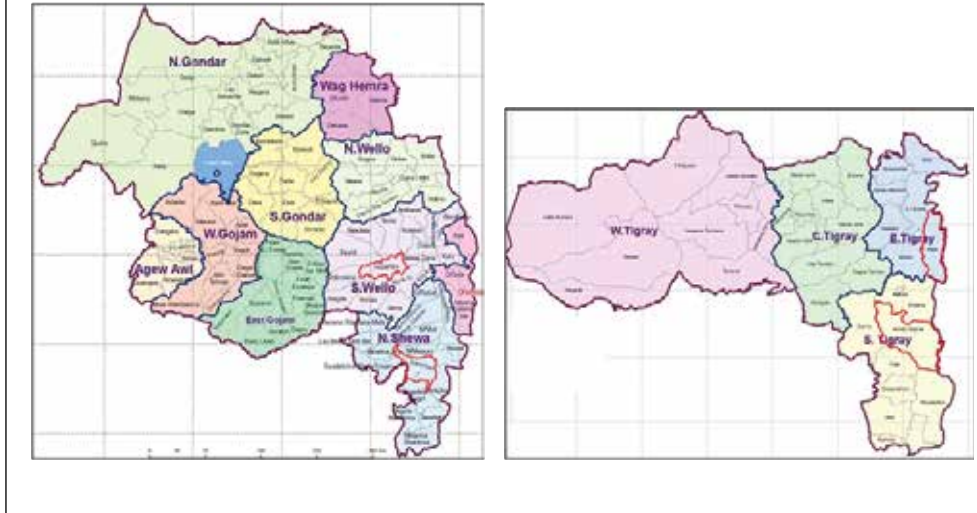
Amhara Region		Tigray Region	
Basona Werena <i>woreda</i>	Legambo <i>woreda</i>	Hintalo Wajirat <i>woreda</i>	Atsbi-Wemberta <i>woreda</i>
Angolela	Sengo-gebeya	Tsehafti	Hadenet
Goshebado	Chiro	Harequa	Felegeweni
Woshawushign	Temu	Freweni	Habes
Debele	Hote Ber	Adikeyh	Dibab Akoren

⁸ *Woredas* are the third-level administrative divisions in Ethiopia and correspond to districts. They are composed of *Kebeles*, which are neighbourhood associations and the smallest units of local government in Ethiopia.

⁹ SRVC-Project Output 2.1: Rapid market assessment of sheep and goat value chains in Ethiopian Highlands is available on request.

Figure 3.1

Maps of selected *woredas* (highlighted in red) in Amhara and Tigray regions

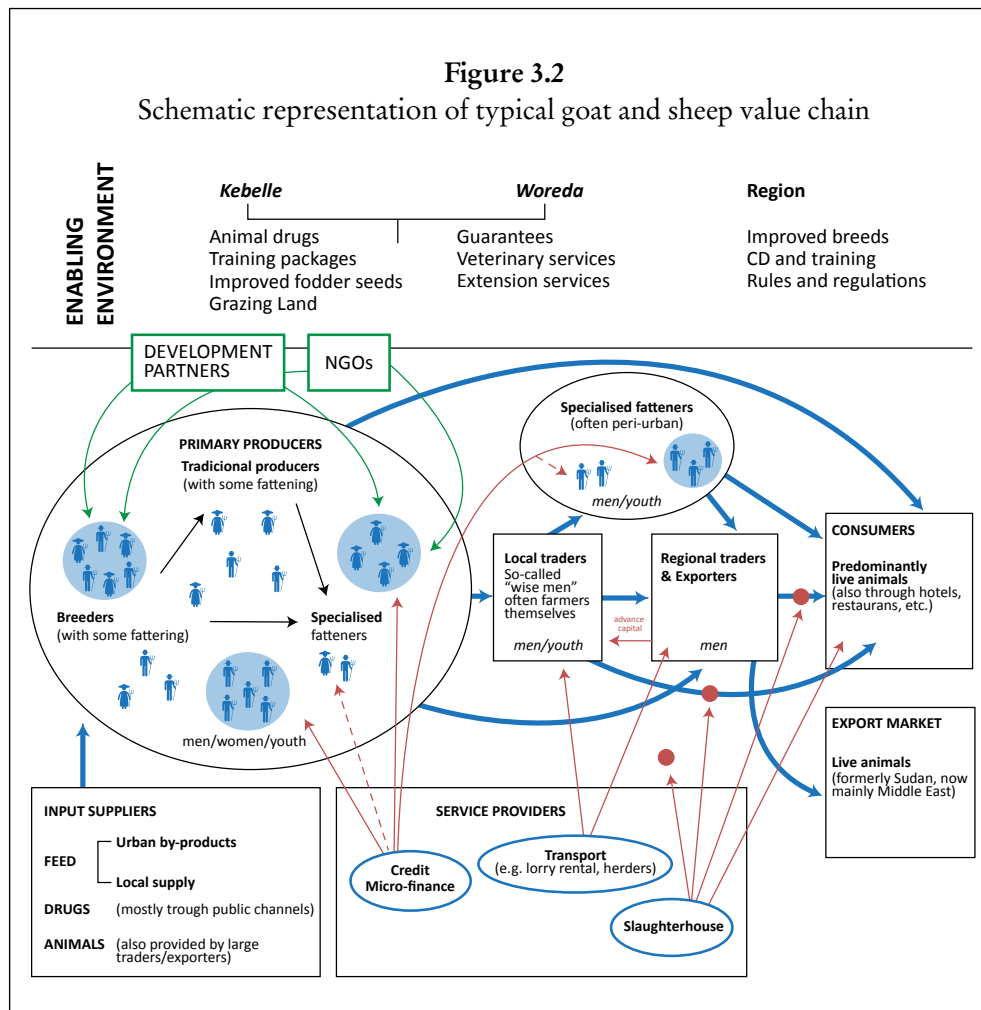


Commercial distribution of inputs is limited, since veterinary services are publicly provided at heavily subsidized prices, and feed is usually (but not always) locally produced on home farms and communal grazing land. Service providers do exist, but are limited mostly to semi-public micro-credit and savings institutions: (DECSI in Tigray, ACSI in Amhara, as well as Rural Savings and Credit Cooperatives (RuSACCOs) at *kebele* level). As regards transport, a few informal transport providers exist, typically in the form of lorry drivers earning a side-income by renting out their vehicles on empty return journeys.

Beyond this schematized standard VC, certain important nuances exist, as does some product differentiation, bearing in mind that the main traded product is live animals. There is a market for processed meat (via slaughterhouses) but it is severely underdeveloped and plays only a marginal role, especially in the domestic VC. In fact, a large slaughterhouse in Mekelle (Tigray’s capital) ceased operations for several months because it was unable to offer competitive prices to producers.

There are also considerable differences within the live animal market. Separate markets exist for fattened and unfattened animals, for example, with the former mostly in demand during festivities. Furthermore, the practice of animal fattening chiefly applies to sheep due to their more settled and docile nature. This makes them more amenable to being kept in confined spaces during fattening in order to reduce calorie expenditure. Those differences aside, it should be noted that mutton and goat meat are consumed more or less interchangeably, although tastes may differ with regard to individual breeds. For example, some sheep breeds such as the Awassi, mainly found in northern Ethiopia, are typically seen as superior. Also sought after are Woshera sheep from the Adet area, as well as Menz sheep from Debre Berhan, and Abergelle goats from central Tigray.¹⁰

¹⁰ It must be noted though that what constitutes a “breed” is not always well defined in the local context and sometimes the origin of the animals (e.g. “Atsbi sheep”) is more a determining factor, unrelated to any particular phenotypic trait. Yet a reputation of this sort can have a significant influence on the prices of these animals.



Generally, demand for small ruminants (live animals) is highly seasonal, mainly following religious festivities and rituals. Extensive fasting periods – Orthodox Ethiopian Christians may fast for up to 180 days per year¹¹ – have a strong downward effect on market prices. Conversely, outside fasting periods there are huge spikes in animal consumption and consequent price surges. During festivities such as Easter, Ethiopian New Year, Christmas and Timket (Epiphany), demand for particularly fat animals is especially high, representing an excellent opportunity for producers to adopt a market-oriented fattening cycle around these seasons. The variability of prices and profit margins is analysed further in Section 5.

In addition, the VC is also split between domestic and international markets. While the majority of traded animals are consumed domestically, a small number of specialized traders export large consignments of animals to the Arabian market on prenegotiated terms. Some trade to Sudan, both licensed and unlicensed, has also been reported. Exported animals are often of a specific quality. Legese *et al.* (2008) find that export demand mainly targets young, well-fed, male animals, whereas do-

¹¹ Ethiopian Orthodox Christians fast every Wednesday and Friday (except during the Pentecost period, i.e. the 55 days after Easter). In addition, there are two main seasons when fasting is required every day of the week. They are the 55 days leading up to Easter, and the 43 days before the Ethiopian Christmas (7 January). Ethiopian Orthodox Christian law stipulates that no animal product of any kind be consumed on fasting days. In total, Orthodox Ethiopians may fast for about 180 days each year, which has a significant effect on demand for animal products.

mestic demand appears to focus on female sheep and goats due to their higher meat content and fat composition. However, according to an FAO Ethiopia livestock brief (2004), the amount of exported sheep and goat meat (live animals + meat) is only about 1 percent of domestic consumption.

It must be noted, however, that most producers cannot tell which specific small-ruminant VC they are supplying. That is because – unless producers sell directly to slaughterhouses – the decision on which VC segment a particular animal goes to is usually taken by secondary traders. Primary producers normally cannot target any particular VC, and thus any differentiation between value chains is often meaningless to them.

On the basis of the above, and through close consultation with representatives of GoE at various levels, the SRVC-Jobs project decided to focus mainly on the domestic sheep VCs for both fattened and unfattened animals since they are the dominant small-ruminant VCs in the project-assisted *woredas*. These VCs are therefore the focus of the present analysis and report. Data collection, however, did not discriminate between different VCs so that whenever significant information was found outside the domestic sheep VCs it was reported too. Furthermore, the project team identified the promotion of value-enhancing activities, in this case sheep fattening, as a promising avenue for concrete support.

3.2 STUDY METHODOLOGY

Given the focus of the SRVC-Jobs project and the findings of the preliminary assessments (secondary data and rapid VC assessment), it was important to design the project's analytical methodology so as to understand concrete opportunities and bottlenecks for employment creation for women and young people in the VCs at large, with particular focus on sheep fattening.

For this purpose, the SRVC-Jobs project designed a custom-made, mixed methodology that combines labour market research with value chain analysis. This methodology follows a clear qualitative-quantitative-qualitative sequence, first conducting rapid qualitative assessments to create a basic understanding of the respective VCs and local context, followed by an extensive quantitative survey, and finally complementing the process with in-depth qualitative work to investigate concrete issues in greater detail.¹²

3.2.1 Rapid value chain assessment and scoping field research

Any research and analysis process seeking to shed light on employment issues in specific geographic areas and agricultural value chains needs to consider the wider context. Hence, this survey aimed to collect as much relevant background information in a short time, through rapid assessments and 'scoping' field visits intended to place the project team in a much better position to develop the adequate research tools and methods.

The assessment team thus agreed on a set of concrete objectives and on most promising areas to visit (based on deskwork and expert interviews) as well as on the respondent selection and interviewing processes to be undertaken during a ten-day field visit.

¹² This section is intended to provide a brief summary, but the complete methodology is described at greater length in a working paper to be released soon. A draft version is available on request from the authors.

3.2.2 Quantitative survey methodology

The main methodological component of the SRVC-Jobs analytical work was the implementation of a quantitative “employment and value chain analysis” survey. This involved the creation of four distinct questionnaires able to capture the key segments of the VC in question (see Section 3.1). Each questionnaire targeted groups of respondents relevant to specific value chains and employment, namely:

- primary producers
- traders and processors
- input suppliers/service providers
- wage workers

The questionnaires¹³ contained different modules on topics such as household organization, employment activities, small-ruminant production and marketing, and incomes and assets, as well as the institutional setting and environment. Each questionnaire was administered to a principal respondent, e.g. the individual business owner (traders, input suppliers, etc.), the wage worker, or – in the case of the producer questionnaire – an individual in the sampled household who was identified as the “main livestock holder” (MLH). Using experience from previous employment surveys, the questions were carefully formulated to avoid systematic biases, especially when discussing employment. Further, the questionnaires adopted an economic definition of the household (e.g. Randall, Coast, and Leone, 2011; and Cramer *et al*, 2014), in order to avoid well-known biases tending to exclude important household members (migrants, remitting husbands), but include non-members (such as domestic servants). This means that household members were not defined along residential criteria, but according to whether they made, or benefited from, an economic contribution (including domestic labour & sharing in assets) on a regular basis within the past 12 months. Every case thus included a range of individuals economically related to the principal respondent.¹⁴

In close collaboration with two public regional research institutes – Amhara Region Agricultural Research Institute (ARARI) and Tigray Agricultural Research Institute (TARI) – as well as their local subsidiaries, field researchers were provided with in-depth training on the survey’s tools and methods, and the questionnaires were successfully field-tested in April 2014. Subsequently, data were collected in the project-assisted *kebelles* over the period May-August 2014 in order to capture prices and perceptions of producers and value chain actors after the main sales peak around Ethiopian Easter (roughly 16-30 April). In total 1 112 cases were surveyed, as summarized by region and respondent group in Table 3.2.

The survey integrated random and purposive sampling in order to ensure the full inclusion of relevant value chain actors (many of whom would not have been captured by purely random samples), while at the same time preserving the element of randomness as much possible. For this reason, the project’s researchers first created and interviewed a random sample of 847 respondents (out of which 841 were primary producers), based on official and up-to-date *kebelle* population lists. A detailed breakdown of the sampling frames is provided in Table 9.4.

Each questionnaire featured a range of ‘snowballing’ questions in order to pur-

¹³ The questionnaires are available from the authors on request.

¹⁴ However, information on residency was also collected to allow the calculation of household sizes based on residency.

Table 3.2 Breakdown of quantitative survey sample by region and respondent group

Region		Input suppliers/ Service Providers				Total
		Producers	Traders/ Processors	Input suppliers/ Service Providers	Wage Workers	
Amhara	Female	91	0	6	1	98
	%	9.8%	0.0%	24.0%	2.0%	8.8%
	Male	355	74	9	31	469
	%	38.4%	64.9%	36.0%	63.3%	42.2%
Tigray	Female	84	1	1	1	87
	%	9.1%	0.9%	4.0%	2.0%	7.8%
	Male	394	39	9	16	458
	%	42.6%	34.2%	36.0%	32.7%	41.2%
Total	Count	924	114	25	49	1112
	Row %	100%	100%	100%	100%	100%

Table 3.3 Breakdown of survey sample by respondent group and sampling method

Selection method		Respondent group				Total
		Producers	Traders/ Processors	Input suppliers/ Service Providers	Wage Workers	
Randomized selection	Female	154	1	0	0	155
	%	16.67%	0.88%	0.00%	0.00%	13.94%
	Male	687	2	0	3	692
	%	74.35%	1.75%	0.00%	6.12%	62.23%
Purposive selection through snowballing or follow-up from previous/ other interview	Female	5	0	5	2	12
	%	0.54%	0.00%	20.00%	4.08%	1.08%
	Male	30	98	16	38	182
	%	3.25%	85.96%	64.00%	77.55%	16.37%
Other purposive selection	Female	16	0	2	0	18
	%	1.73%	0.00%	8.00%	0.00%	1.62%
	Male	32	13	2	6	53
	%	3.46%	11.40%	8.00%	12.24%	4.77%
Total	count	924	114	25	49	1112
	row %	100%	100%	100%	100%	100%

positively identify specific respondents, such as input suppliers or local traders, linked to the randomly selected producers. In total, 194 respondents were identified using this snowballing technique. Finally, another 71 respondents/key informants (e.g. large-scale producers, traders, or input suppliers) were selected based on purely purposive sampling. The full breakdown of respondent groups by sampling technique can be found in Table 3.3.

Note that not all producers were selected randomly. Reasons included the need to cover producers with particularly large herd sizes, as well as female household heads and producers aged 15-25. By default, and unless stated otherwise, in order to arrive at statistically valid conclusions the quantitative analysis of producers in this report only relates to the random part of the sample. Wherever the purposive part of the producer sample is drawn on (mostly to generate qualitative nuance), this is clearly highlighted. Purposive sampling was mainly relied on for other respondent types and for this reason a separation of purposive and random samples would not be sensible for traders/processors, input suppliers/service providers, or wage workers.

Table 3.4 Test selection based on types of independent and dependent variable

		Dependent Variable		
		Discrete: Nominal, ordinal with 2 levels	Discrete: Nominal, ordinal with more than 2 levels	Continuous
Discrete (binary and categorical) independent variable	Test 1	χ^2 dependency test	χ^2 dependency test	ANOVA Test
	Test 2	Logistic regression	Multinomial logistic regression	T-test

A number of statistical tests were applied in order to understand to what extent the sampling method may or may not have affected the main results and increased confidence in the results provided by these surveys. Test selection was based on the nature of the dependent variables to be analysed (ordinal, categorical, continuous, etc.) as well as the independent variable (selection method variable-random or purposive) as shown in Table 3.4. First, a χ^2 dependency test or an ANOVA test was applied to see whether the type of selection method had a significant impact on the dependent variable, and whether relevant differences between the samples were found. Second, T-tests and some additional confirmative logistic regressions were included to understand the direction of the difference. Through this method, it was possible to highlight that in a number of core variables such as gender, age, marital status, or household size (among others), the random and purposive parts of the sample were not statistically different, thus increasing confidence in the purposive element of the sample.

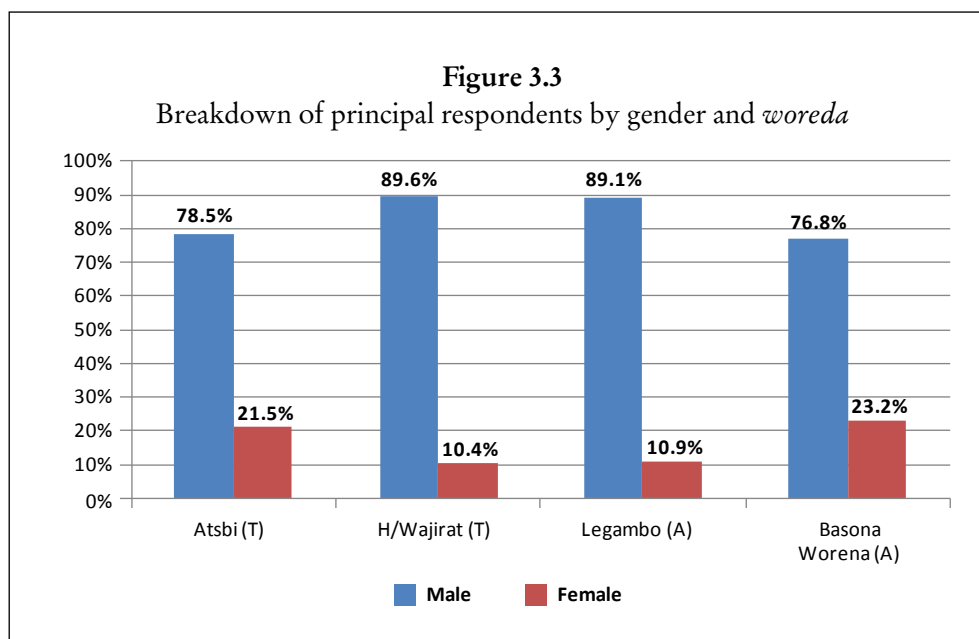
Importantly, the survey paid close attention to ensuring the high quality of data collection.¹⁵ Researchers were trained extensively in advanced interviewing techniques, including how to avoid biases, how to probe and how to create a conversational interview atmosphere. Also, their understanding and familiarity with topics such as (decent) employment and value chains was strengthened. They were instructed to always refer to a 12-month recall period in questions in order to account for possible issues of seasonality; to include probing and cross-checking questions across the questionnaire; and to avoid double-barrelled or double-negative questions throughout.

Finally, the survey was timed carefully in line with the annual SR seasonal markets to fall after the important Easter peak sale. This would allow interviewers to evenly capture the most relevant prices pre- and during peak sales across all sites and to prevent inadequate survey timing from skewing information on prices and other seasonal data.

3.2.3 Qualitative research on employment quality

Given that a wide range of employment-related aspects are not easily quantifiable (such as working conditions, child labour, etc.), it was important to complement the quantitative information with in-depth qualitative research in order to create a better understanding of the employment conditions and relations in the assisted communities. This research was undertaken by the project team over several weeks in June 2014. Main topics revolved around the main international labour standards (ILS), which were pre-identified as being most relevant to workers and

¹⁵ SRVC-Project Output 2.9: working paper to describe methodology. Section 4.3 describing the quantitative methodology in detail. Draft working paper available on request.



producers along the small-ruminant value chain, although interviews were structured openly enough to allow researchers to capture relevant information beyond these. The ILS elements selected for closer investigation were:

Core labour standards

- equality of opportunity and treatment (gender);
- child labour.¹⁶

Working conditions

- occupational safety and health (OSH);
- earnings and standards of living;
- working time.

Around these, a wide range of semi-structured key informant interviews (KIIs) and focus group discussions (FGDs) were conducted in order to create a much richer understanding of the underlying employment-related issues along the respective value chain. The results of this qualitative research¹⁷ greatly informed the analysis of the quantitative data, and the mixed-methods approach therefore yielded much deeper insights than would have been possible otherwise.

In the following sections, this report attempts to provide a wide body of descriptive evidence on the state of employment along SRVCs in Amhara and Tigray, with the aim of providing a sound evidence base on which to build constructive recommendations for policies and programmes to promote decent rural employment for young people and women in Ethiopia's small-ruminant subsector.

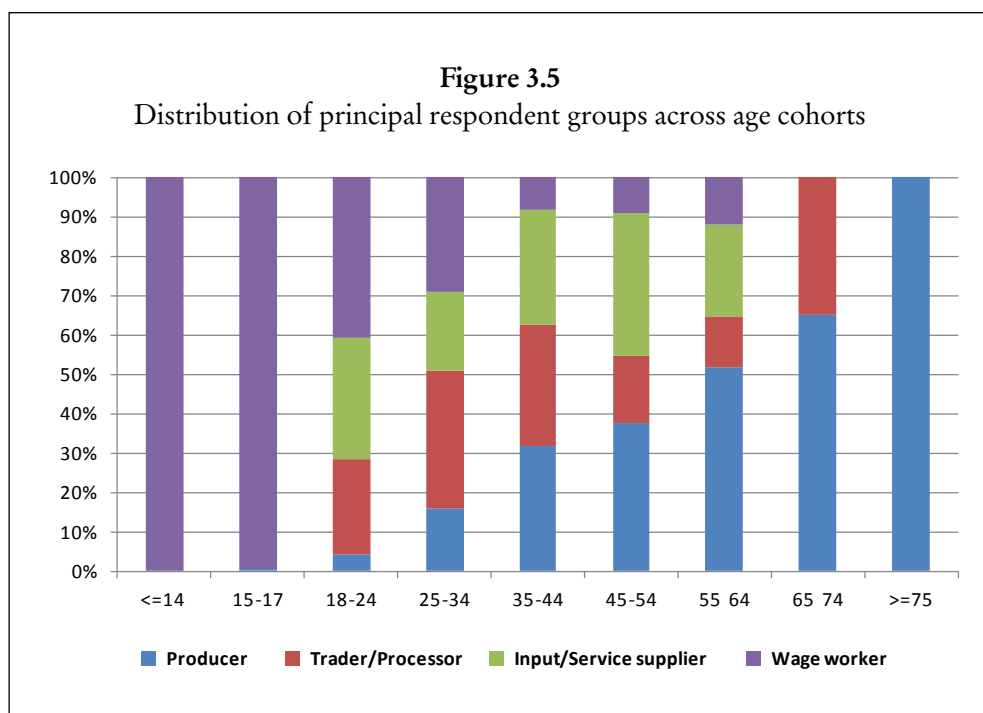
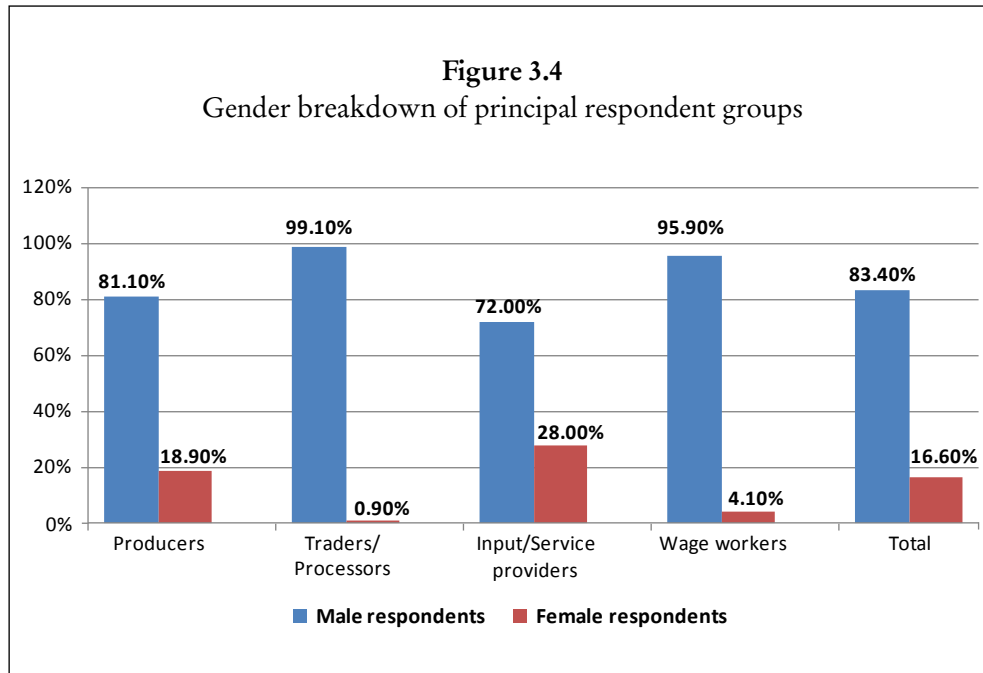
3.3 GENERAL DESCRIPTION OF THE QUANTITATIVE SAMPLE

This section begins the data analysis by creating a basic overview of the collected quantitative data. Figures 3.3 and 3.4 provide a breakdown of the sample of principal respondents, by gender and *woreda*.¹⁸ General male dominance of the small-rumi-

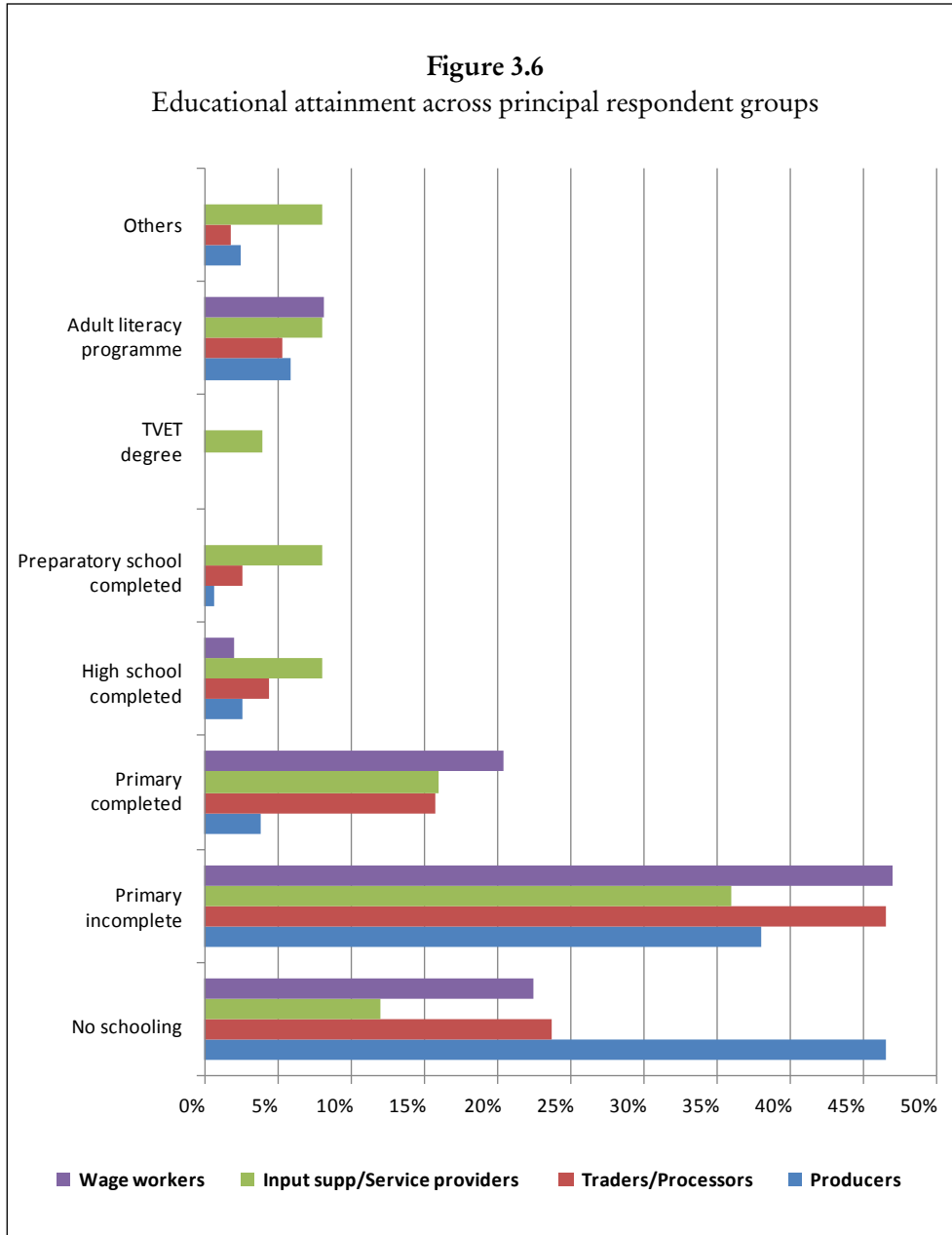
¹⁶ FAO, Labour in Agriculture Infographic, 2015. Cf. <http://bit.ly/1TfPFf1>

¹⁷ Unpublished FAO draft report: A Qualitative Assessment of Selected International Labour Standards. The case of the small-ruminant value chains in the Ethiopian highlands (2015). Available on request.

¹⁸ Further detail on the sample also provided in Tables 9.1- 9.7 in Annex 9.2.



nant subsector is clear, particularly in SR trade or SR-related wage work. Although the rapid assessment and the literature strongly confirm that work in SR production is predominantly undertaken by women and young people, it is very obvious that ownership of the animals and related business is strongly dominated by men (included in the survey as self-reported “main livestock holders”: see Section 3.2.2). The exceptions are female-headed households (fHHs), which in the present study make up 91 cases (i.e. 9.8 percent of principal producer respondents’ households) – 82 of which were captured by the random sample. The average household size was 5.54, while fHHs on average had only 3.91 members. This is an important indication of



the varying availability of labour in different HH types, and it will inform our analysis of the general discrepancy between work burden and ownership, particularly in SR primary production.

Breaking down the sample of principal respondents by age groups is revealing because it shows that some activities, in particular trading and wage work, are undertaken particularly by younger people (Figure 3.5). The gender distribution of activities broadly holds across the age cohorts. At the same time, these groups tend to be slightly better educated (Figure 3.6) and are slightly less likely to be married (Figure 3.7). However, it is striking that over 52 percent of female respondents, the vast majority of whom participated in the study as producers (MLHs), were single, divorced or widowed, whereas 91 percent of male respondents were married (Figure 3.7). This is a strong indication that female participation in, and ownership of SR production and business, is strongly linked to fHHs.

Figure 3.7
Gender breakdowns of principal respondent groups

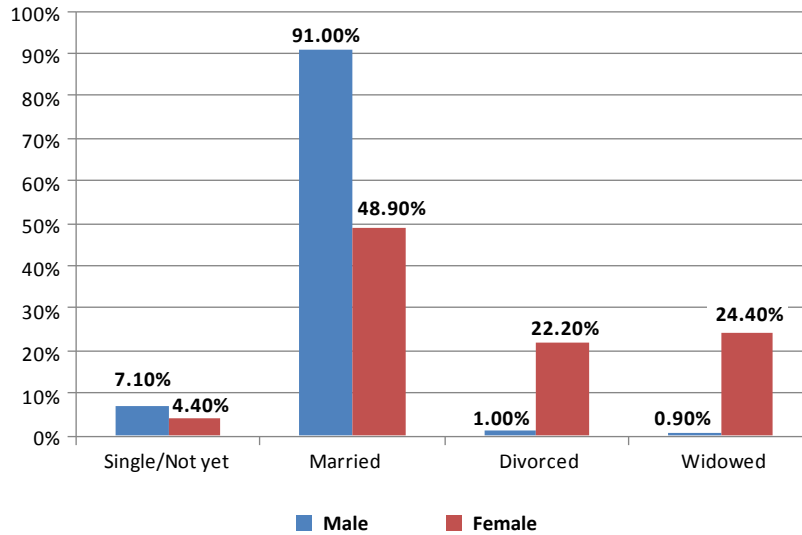
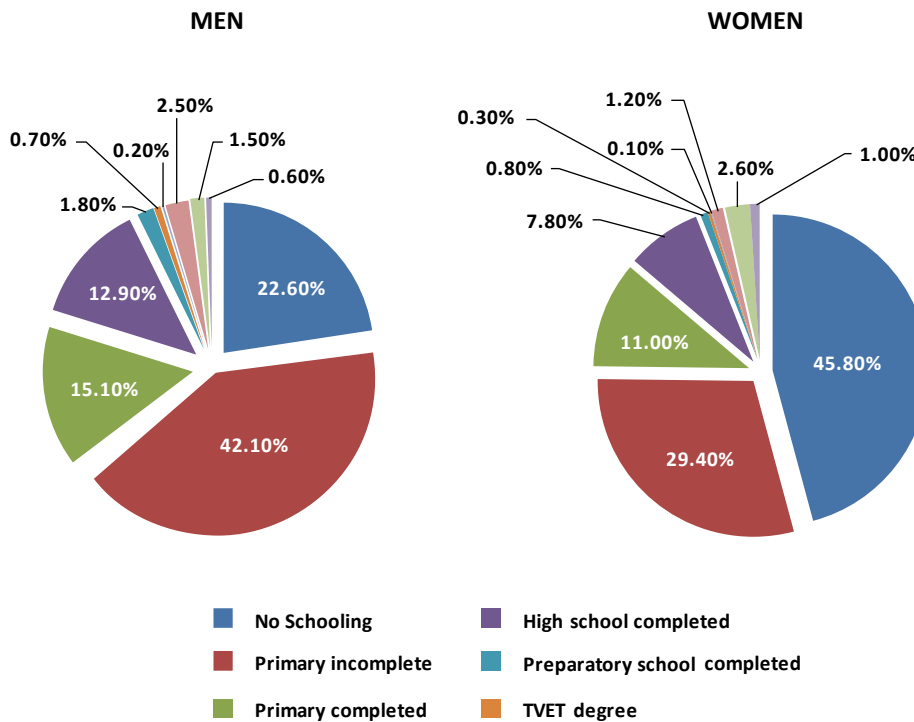
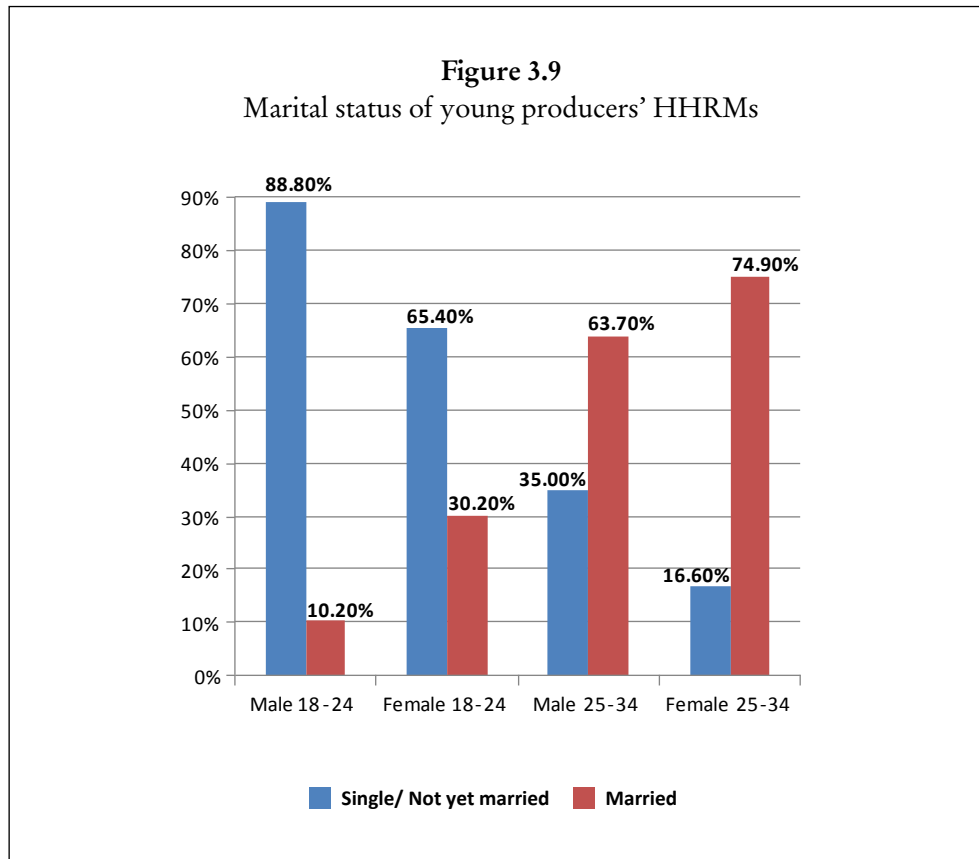


Figure 3.8
Gender breakdowns of principal respondent groups





The surveys also included a wealth of data on 5 314 household roster members (HHRMs)¹⁹ (5 187 from producer questionnaires and 127 from wage worker questionnaires), including detailed information on their employment activities. Although ownership of assets and businesses along the SRVC was heavily skewed towards men, these data will greatly inform the true extent of women's and young people's work in the subsector. Significant observations resulting from this information are the gender gap in educational attainment, but also the much higher share of women compared to men who are married in the age cohorts 18-24 and 25-35. A general overview of the sample of HHRMs is provided in Figures 3.8 and 3.9.

¹⁹ As discussed in section 3.2.2, the survey used an economic definition of the household in order, on the one hand, to avoid well-known biases due to conventional household definitions tending to exclude important household members (migrants, remitting husbands), and on the other to include non-members (such as domestic servants). Instead, we identified household members according to whether they made or benefited from an economic contribution on a regular basis within the previous 12 months. Information on these people was recorded in a 'household roster' module of the questionnaire, and accordingly we refer to them as household roster members (HHRMs) in order to distinguish them from conventional household definitions.

4. Main characteristics of primary sheep and goat production

In this section, we attempt a brief discussion of the technical aspects of the SR value chain in Tigray and Amhara. While this is not the core contribution of this paper, it is seen as a necessary aspect in order to contextualize the main discussion on employment in Section 6. That said, given that the SR value chain in Ethiopia has been described at length elsewhere (e.g. Legesse *et al.*, 2010; Kocho *et al.*, 2011; Beneberu *et al.*, 2013; Kidanu *et al.*, 2013; Legese and Fadiga, 2014). Here we focus on the most pertinent aspects – those representing required background information – and in particular those elements that directly relate to the socio-economic status of the interviewed respondents and households, such as animal ownership (Section 4.1), the practice of animal fattening (as a core aspect of the SRVC-Jobs project: Section 4.2).

We begin the analysis of the sample by assessing the production activities of those respondents identified as small-ruminant producers.²⁰ Firstly, besides production of small ruminants, over 98 percent of interviewed producer households also engaged in crop production. The most important staple crops were barley across the whole sample (88 percent), teff in H/Wajirat (82 percent), pulses (66 percent), and maize (61 percent, with a majority in Tigray). About 62 percent of households owned all of the cultivated land, and 30 percent stated that they owned only part of the land, with sharecropping (79 percent) being the predominant form of tenure in those cases. The majority of households also sold part of their produce. Another feature of these farm systems was that they were mainly rainfed, as only 17.4 percent of the land is irrigated in Amhara, and 38 percent in (significantly drier) Tigray.

4.1 SHEEP AND GOAT OWNERSHIP

The SRVC-Jobs study included 924 primary producer households. The sampling method stipulated that each sampled household's main livestock holder (MLH) would be interviewed as the person having the most detailed and accurate information. Only in 18.9 percent of the cases was the MLH female. However, when exploring the reported ownership within each household, the gender imbalance was much less pronounced (Figure 4.1). Furthermore, small-ruminant ownership appeared to be concentrated among older people, and generally joint ownership within a household was much more common than single ownership (Figure 4.2).²¹

Given that the SRVC-Jobs project focuses on highland agriculture (mixed cop-livestock production), small-ruminant ownership was significantly skewed towards sheep, with the exception of H/Wajirat, where goat rearing was practiced slightly more due to the area's lower altitude and topography. Gender inequalities

²⁰ The inclusion criteria for the producer survey was ownership of small ruminants, therefore all principal respondents owned small ruminants. In the sections below, these activities will be reviewed in more detail.

²¹ Ownership of small ruminants was very clearly defined in the questionnaire and enumerators were trained to probe this explicitly. In this survey, ownership was defined as the right to sell with full command over the income derived. Single ownership means that the decision to sell can be made independently by the owner, whereas joint ownership means that the decision to sell depends on agreement by all owners.

Figure 4.1
Small-ruminant ownership of all HHRMs (excluding children), by gender

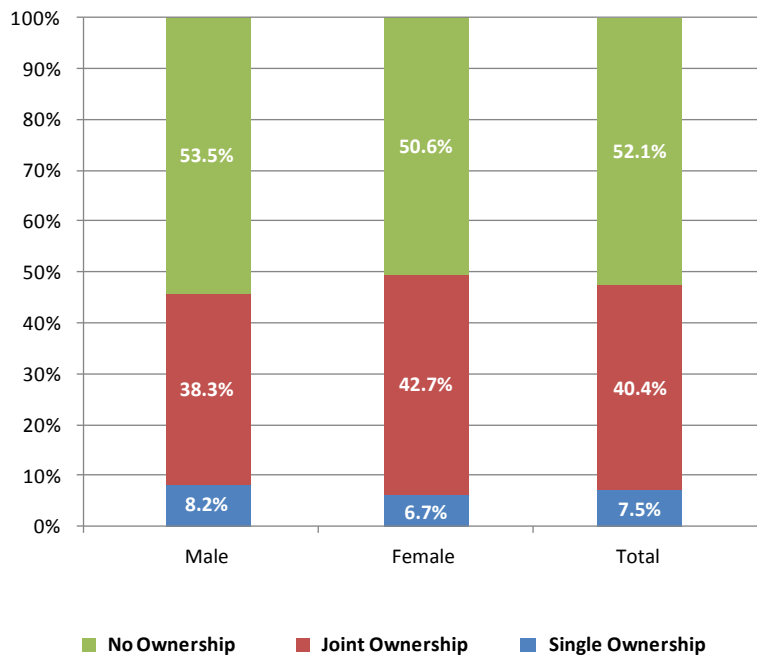


Figure 4.2
Small-ruminant ownership of all HHRMs (excluding children), by age cohorts

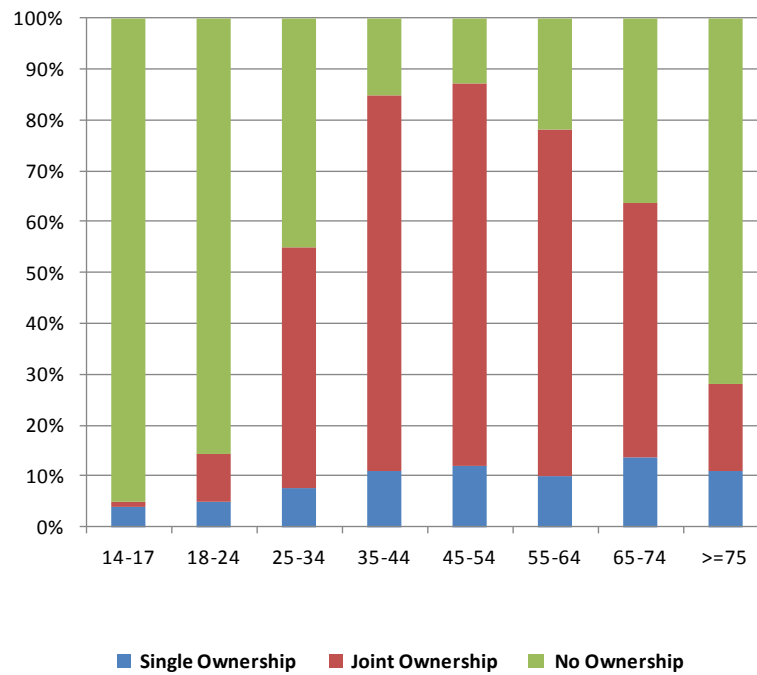


Table 4.1 Small-ruminant herd sizes by gender of household head

		Total number of SRs owned by HH		
		Mean	Median	Count
Gender of household head	Male	17.65	14	759
	Female	9.37	8	82

were quite evident when comparing average herd sizes between male- and female-headed households, with the latter only owning half as many small ruminants on average (Table 4.1). Inequalities across age groups seemed to be less pronounced, and younger MLHs appeared to own significant herds, although the number of young MLHs was significantly smaller. However, gender disparities were persistent across all age groups (as detailed in Table 9.8 in Annex 9).

Respondents were also asked to list the reasons for which they kept small ruminants, in order of priority. Of the respondents 74 percent gave “sale of live animals” as their primary reason. Only 6.73 percent named household consumption, making it clear that the subsector cannot be accurately described as a “subsistence” activity (Table 4.2).

However, despite the high percentage of respondents with reasonable levels of market-orientation, the actual level of commercialization appears to be lower. Only 57 percent of producers actually reported selling at least one animal in the previous 12 months. This indicates that “sale of animals”, the main purpose reported, is regularly undertaken in distress conditions, or to meet incidental cash expenses within the household (Gebremedhin, Hoekstra, and Jemaneh, 2007). Such needs may arise only occasionally so that animals are not sold on a regular basis, leading to excessive ageing and inefficient animal rearing/marketing cycles. There clearly appears to be a discrepancy between perceived market orientation, and actual levels of commercialization.²²

4.2 ANALYSIS OF CURRENT FATTENING PRACTICES

The SRVC-Jobs project preidentified small-ruminant fattening as a special area of interest given the project’s focus on labour-intensive and value-enhancing activities. It was thus held a promising avenue for investment towards greater and better employment for women and young people. Consequently, a number of specific questions were incorporated into the survey.

Overall, 61.7 percent of producer respondents reported that they knew about fattening, and out of these, about 35 percent had actually practiced the technique in the previous 12 months. This amounted to 21.8 percent of all producer households interviewed. Table 4.3 and Figure 4.3 show that fattening is currently dominated by (adult) men and MLHs aged 35 to 54. Only about 14 percent of producers who engage in fattening are female, and just 12.2 percent of fHHs do so. This is most likely because of women’s and young people’s lesser technical knowledge, as well as their

²² Another way of interpreting these results would look at the possibility of systematic under-reporting of animal sales. Given that publicly employed researchers were conducting the surveys, some respondents may have attempted to hide the actual level of animal sales due to a fear of taxation (even if no actual producer tax on livestock exists in Ethiopia), or perceived public exposure of wealth. It is well understood that survey respondents often tend to under-declare their income and wealth for these or similar reasons (Guénard and Mesplé-Somps, 2010). Field researchers confirm that respondents have directly mentioned such fears as a reason for not fully cooperating in interviews.

Table 4.2 Primary reasons for small-ruminant holding (weighted)*

		Frequency	Valid Percent	Cumulative Percent
Valid	Sale of live animals	804	74.17	74.17
	Economic security	113	10.42	84.59
	Household consumption	73	6.73	91.33
	Manure	47	4.34	95.66
	Capital storage	21	1.94	97.6
	Milk	12	1.11	98.71
	Wool	6	0.55	99.26
	Other purposes	5	0.46	99.72
	Animal products (meat, skins)	2	0.18	99.91
	Ritual slaughtering/offering	1	0.09	100
	Total	1 084	100	
Missing	Not applicable	569		
Total	1 653			

* The questionnaire asked respondents to list five reasons, in order of importance. During the analysis, these were weighted according to the following rule: 1st reason weight = 1; 2nd reason weight = 0.8; 3rd reason weight = 0.6; 4th reason weight = 0.4; 5th reason weight = 0.2.

Table 4.3 Application of fattening, by gender of household head

		Have you applied fattening to any sheep or goats?			
		yes	no	total	
Gender of household head	Male	Count	191	568	759
		% of all male headed households	25.2%	74.8%	100.0%
	Female	Count	10	72	82
		% of all female headed households	12.2%	87.8%	100.0%
Total	Count	201	640	841	
	% within all households	23.9%	76.1%	100.0%	

MLH: Only one producer aged under 18 years was recorded, and he did not practice fattening.

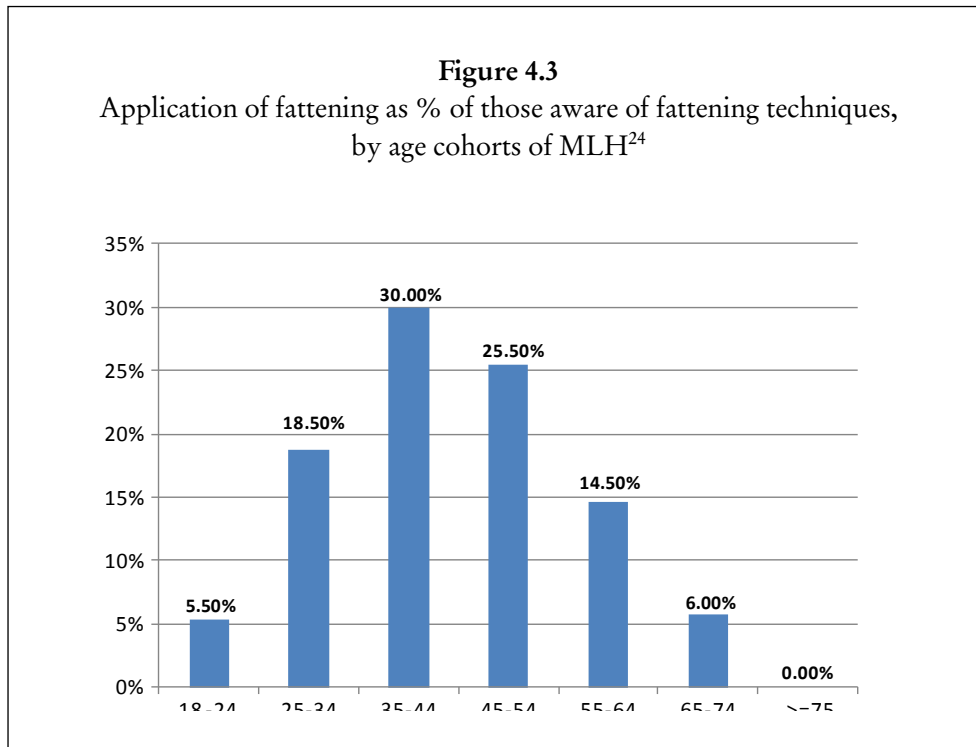
limited access to capital and land/storage, all of which are crucially needed to start a fattening business.²³ All small-ruminant producers were asked the reasons why they did not practice fattening.

The most frequent responses (Figure 4.4) were limited feed availability (28.4 percent), lack of technical knowledge (18.6 percent), lack of capital (13.2 percent), and lack of land/storage space (13.1 percent).²⁴ In fHHs, lack of capital was the second most important constraint (19.5 percent) after feed availability.

Respondents almost unanimously agreed that fattening would be a profitable exercise, and the overwhelming majority of households who did practice it increased their profits by between 10 and 75 percent (Table 4.4). Less than 3 percent suffered losses, and profits remained unchanged in less than 6 percent of cases. Most importantly, these results are consistent across all four *woredas*, despite differing agro-

²³ It is also important to note that many fHH and young people are likely to have more limited access to animal ownership in the first place. However, given the sampling procedure of the SRVC-Jobs survey, which dictated that respondents also be SR owners, this is not reflected in the results shown.

²⁴ Note that animal health was not considered a prohibitive constraint for commencing fattening.



ecological conditions, infrastructure, and market access. The analysis of profits will be revisited in greater depth in section 5.

These results were also fairly consistent across HHs with varying herd sizes (Table 4.5). Generally, the majority of HHs experienced profit increases of 25-50 percent, although 19 percent of HHs with the smallest herd sizes also mentioned that their profits had not changed as a result of fattening. So although there was a slight tendency for larger producers to profit more, it is not possible to infer from this that profitability of fattening is closely correlated with herd size, or that smaller producers have little chance of profiting from it. This suggests that the introduction/improvement of fattening practices may be an effective pro-poor intervention, as smaller producers are not particularly disadvantaged.

In terms of fattening practices, considerable differences exist. For example, it is advised that fattening periods should last no longer than 90 days (Yami, 2008), but many respondents exceeded this period, most notably in Legambo (Table 4.6). Due to high altitude and a cool climate, the animals' calorie expenditure was significantly higher in this *woreda*, and thus it took longer for them to reach ideal body weight. Nevertheless – and perhaps in an attempt to compensate for this comparative disadvantage – the average number of animals fattened was larger in this *woreda*.

Fattening techniques in general appeared to be suboptimal. Most respondents engaged in “traditional fattening”, i.e. a combination of standard grazing and varying degrees of feed supplementation. This technique has highly variable outcomes in weight gain and profitability (Yami, 2008). Only about 26 percent of fatteners did not allow their animals to roam freely in order to curb calorie expenditure and practiced “zero-grazing”, restricting animals to a confined space. Out of these, less than half (11.7 percent) said they used improved or treated fodder for fattening purposes. Among fatteners, all other households (i.e. about 75 percent) let their animals roam

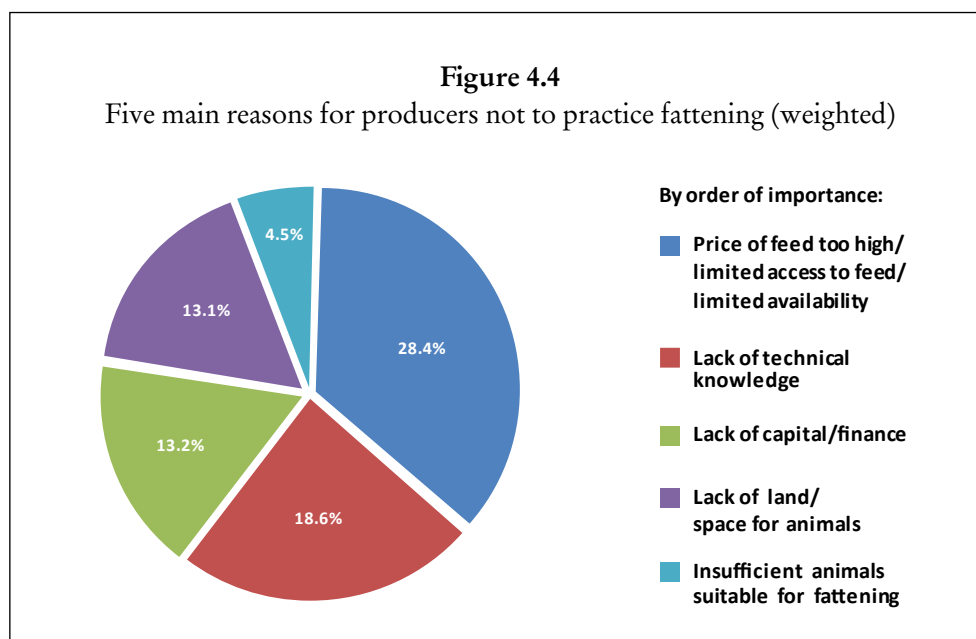


Table 4.4 Perceived change in profit as a result of fattening, by *woreda*

		Woreda				Total
		Atsbi	H/Wajirat	Legambo	Basona Worena	
		(T)	(T)	(A)	(A)	
In the past 12 months, how do you think your profits changed as a result of fattening?	Decreased	0.0%	0.0%	4.4%	1.8%	2.2%
	No change	2.1%	7.7%	8.8%	3.6%	5.4%
	<10%	0.0%	15.4%	2.9%	5.5%	3.8%
	10%≤x<25%	27.1%	7.7%	25.0%	20.0%	22.8%
	25%≤x<50%	52.1%	53.9%	36.8%	18.2%	36.4%
	50%≤x<75%	10.4%	7.7%	16.2%	29.1%	17.9%
	75%≤x<100%	8.3%	0.0%	5.9%	7.3%	6.5%
Doubled or more	0.0%	7.7%	0.0%	14.6%	4.9%	
Total		100.0%	100.0%	100.0%	100.0%	100.0%

and graze. Many of them did combine grazing at night with cut-and-carry feeding in the evenings, but they did not use any enhanced fodder. These techniques highlight a lack of technical knowledge and a potential area of support through the SRVC-Jobs and similar projects.

Fattening practices sometimes consisted in producers intensifying the feeding of animals pre-sale, but not in any measured, planned or otherwise outcome-oriented form. The SRVC-Jobs project was thus unable to identify any really market-oriented sheep-fattening activities in any substantial numbers.

The SRCV-Jobs survey also asked fattening households about the constraints they faced in their business. Clearly, availability and cost of feed was the dominant constraint, but animal-health-related issues were regarded as important too. Some other potential constraints were not regarded as a big problem by respondents. These included: infrastructure/road conditions; stiff competition; low supply of animals in general; low negotiating power; low quality of inputs/feed; low de-

Table 4.5 Perceived change of profit as a result of fattening, by herd size quintiles

		Quintiles based on SR herd size					
		1st	2nd	3rd	4th	5th	Total
In the past 12 months, how do you think your profits changed as a result of fattening?	Decreased	4.8%	2.9%		3.9%		2.2%
	No change	19.0%	8.6%	2.3%	2.0%	2.9%	5.4%
	<10%	9.5%	2.9%	2.3%	3.9%	2.9%	3.8%
	10%<=x<25%	23.8%	22.9%	27.9%	19.6%	20.6%	22.8%
	25%<=x<50%	23.8%	42.9%	37.2%	33.3%	41.2%	36.4%
	50%<=x<75%	14.3%	14.3%	20.9%	17.6%	20.6%	17.9%
	75%<=x<100%	4.8%	5.7%	4.7%	9.8%	5.9%	6.5%
Doubled or more			4.7%	9.8%	5.9%	4.9%	
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 4.6 Average length of fattening period and number of animals fattened, by *woreda*

	For how many days do you typically fatten your animals?		Since last Timket how many sheep you have fattened?		Since last Timket how many goats you have fattened?	
	Mean	Median	Mean	Median	Mean	Median
Atsbi (T)	88.02	90	5.09	4	6	6
H/Wajirat (T)	97.92	120	4.09	4	1.5	1.5
Legambo (A)	133.46	120	6.31	5	1.55	2
Basona Worena (A)	98.38	90	2.05	2	1.5	1
Total	109.18	105	4.67	4	1.72	1

mand for products/animals; lack of extension services; lack of youth engagement; low quality of breeds/ genetics; access to improved breeds.

This suggests that small-ruminant fattening in general is a profitable business proposition, and that the constraints faced are not structural or systemic but are more technical, such as access to feed, capital and technical knowledge.

4.3 INSTITUTIONAL SUPPORT ENVIRONMENT FOR PRODUCERS

An important element of the SRVC-Jobs project is its support to producer organization and collective action as a means of obtaining better prices and market access, particularly for disadvantaged groups such as women and young people. For this reason, the questionnaire also included a module asking respondents about their wider institutional support environment, including group activities, access to credit, and related constraints.

On average, about 58 percent of MLH were aware of local groups, cooperatives, unions or other organizations that offered support to people such as themselves. Out of these, about 84 percent were members of these groups, leading to a total membership of just under 50 percent of our sample. Such awareness was slightly higher for women (62.2 percent) than men (55.1 percent) while membership of at least one group mentioned by main respondents did not appear to have any gender bias. Overall, 87.2 percent of men and women who were aware of support groups were also members of those groups. (Table 4.7). Thus, in total about 51 percent of all survey respondents were members of groups of some form.

Table 4.7 Awareness and membership of groups, disaggregated by the gender of principal respondents and age cohorts

	Are you aware of any support groups, such as cooperatives, associations, savings groups, unions or similar which support people like you in this area?	If yes, are you a member of the group reported
Male	55%	84%
Female	62%	82%
15-17	0.0%	0.0%
18-24	60.0%	60.0%
25-34	50.3%	82.2%
35-44	63.8%	82.2%
45-54	57.2%	85.5%
55-64	58.9%	88.5%
65-74	61.7%	83.8%
>=75	57.1%	87.5%

That said, the majority of these groups were not dedicated to small-ruminant-related activities. Most of the groups mentioned were so-called *edir*, i.e. village-based savings groups set up to finance funeral expenses. Only 7.6 percent of the groups mentioned focused on small-ruminant production, and a further 2.2 percent specifically on small-ruminant fattening.²⁵ We can therefore conclude that group action with specific respect to small-ruminant production, and especially fattening, is not predominant. Most of the recorded groups focus on delivering financial services enabling savings and small loans (Figure 4.5).

Group membership numbers vary wildly. On average, groups were reported to have just under 200 members, but with a median of only 58, indicating huge unevenness in group sizes. This disparity is explained by the juxtaposition of large, mandatory state cooperatives in each *woreda* alongside an array various smaller, informal groups.

General access to credit is an important constraint for many producers, as highlighted in Section 5.1. It allows producers access to productive assets and helps them become more profitable. Among respondents, 25.4 percent reported having had access to credit for small-ruminant-related activities in the previous three years. Of these credits, 77 percent were issued by established micro-credit institutions such as ACSI and Dedebit. Others were granted by local savings groups or producer cooperatives. Informal forms of credit, e.g. from relatives or moneylenders, were rare, amounting to about 4 percent of all loans. Nearly 87 percent of the credits mentioned bore interest, while 11 percent were interest-free. Most common interest rates ranged between 15 percent and 18 percent *per annum*.

Collateral was required for 77 percent of the credits obtained, but in 55 percent of cases a letter of guarantee from the *kebele* or another group/cooperative sufficed. As a result, female-headed households did not appear to have significantly less access to credit as compared to male MLHs. However, young people did receive significantly less credit since, under Ethiopian law, credit is only extended to anyone aged 18 or above (see Table 4.9).

²⁵ Importantly, many of the other groups, such as the agricultural multi-purpose cooperatives, will also engage in small-ruminant activities. However, they are not primarily dedicated to these, and it is impossible to know the exact extent to which such activities are carried out.

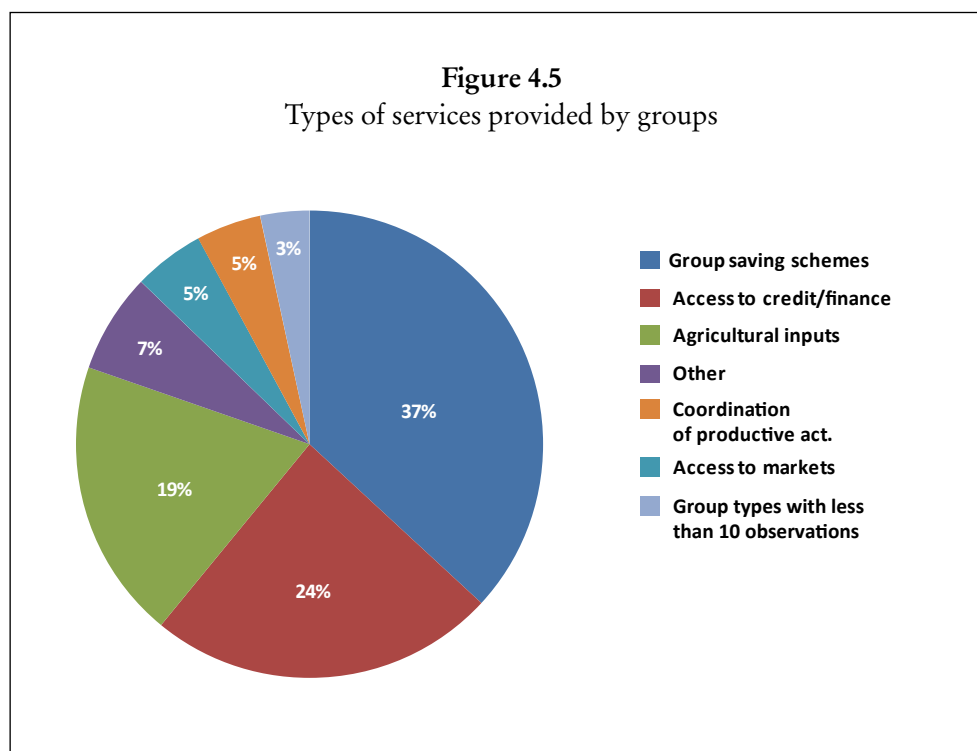
Table 4.8 Type of groups identified by principal respondents

	Valid Percent	Cumulative Percent
Funeral financing (<i>edir</i>)	33.3	33.3
Non-agricultural activities (off-farm business)	22.0	55.4
Crop production	17.4	72.8
General small-ruminant production (incl. breeding)	7.6	80.4
Others	5.2	85.6
Village savings group	5.0	90.6
Microfinance institution	4.1	94.6
Specialized small-ruminant fattening (no breeding)	2.2	96.9
Group types with less than ten observations	3.1	100.0
Total	100.0	

Table 4.9 Proportion of principal respondents who received credit for SR-related activities, by age and gender

	Received credit for SR-related activities	
	Male	Female
15-17	0.0%	0.0%
18-24	17.4%	0.0%*
25-34	19.8%	35.9%
35-44	27.4%	27.0%
45-54	24.2%	36.2%
55-64	25.5%	22.2%
65-74	20.3%	0.0%
>=75	20.0%	25.0%

* Note that the recorded number of female SR owners in this age cohort is less than 5. The survey results thus do not allow a representative statement as to whether young women are significantly excluded or disadvantaged in accessing credit.



5. Analysing profit margins along the small-ruminant value chain

Having described the value chain in general terms, this section goes on to analyse the profit margins achieved by various actors in the subsector. This is important, as it yields a direct indication of the potential earnings achievable, and directly informs our discussion of employment (Section 6), where we will calculate profit per full-time equivalent (FTE) workday so as to analyse how incomes per unit of labour are distributed in the subsector.

5.1 ANALYSIS OF PROFIT MARGINS IN PRIMARY SHEEP/GOAT PRODUCTION

Analysing primary producers' profit margins is not straightforward, mainly due to the strong reliance on recall data for prices, but also due to the complex purposes served by small-ruminant holdings. Making a direct comparison between input and output prices/volumes is difficult because most households do not run their small-ruminant businesses on a strict buy/sell rationale, but instead breed animals and sell them as and when cash needs arise – often incurring negative gross profits (i.e. selling animals for less than they paid to buy them). As a result, calculating concrete profit margins for specific animal types is difficult since the complex economic reality faced by small-ruminant producers does not readily translate into any profit rationale.

Nevertheless, an attempt was made to contrast animal input and output prices, where comparable. The results confirm that selling prices are consistently higher than buying prices.²⁶ Unfortunately, due to the low technical level of animal fattening as described in Section 4.2, the perception of what actually constitutes a fattened animal may differ, and the category may thus not always accurately portray the actual conditions of the animals sold. Also, it is important to highlight that many of the prices given are subject to considerable variability, as evidenced by strong divergences between mean and median figures.

Nevertheless, using this price data on a 'per household' basis, it was possible to calculate average gross profit margins (i.e. animal output–input prices). These are displayed in Figure 5.1, and they confirm the relative profitability of young fattened male animals. These comparisons also hold across geographical areas.

Analysing SR revenues and profits becomes much more meaningful when disaggregated by socio-economic indicators (Tables 5.1 and 5.2). First of all, distinguishing by gender of household heads, it becomes very clear that revenue and gross profits for fHHs are substantially lower, with figures for mHHs being generally around twice as high or more. For instance, estimated total HH revenue and GP per resident in mHHs is consistently higher than in fHHs. Indeed, this

²⁶ Prices were tested for any potential correlation with herd size, to check whether HHs with larger herds might have access to higher prices. This however is not the case, and price setting in the markets appears to be independent of the size of SR operation.

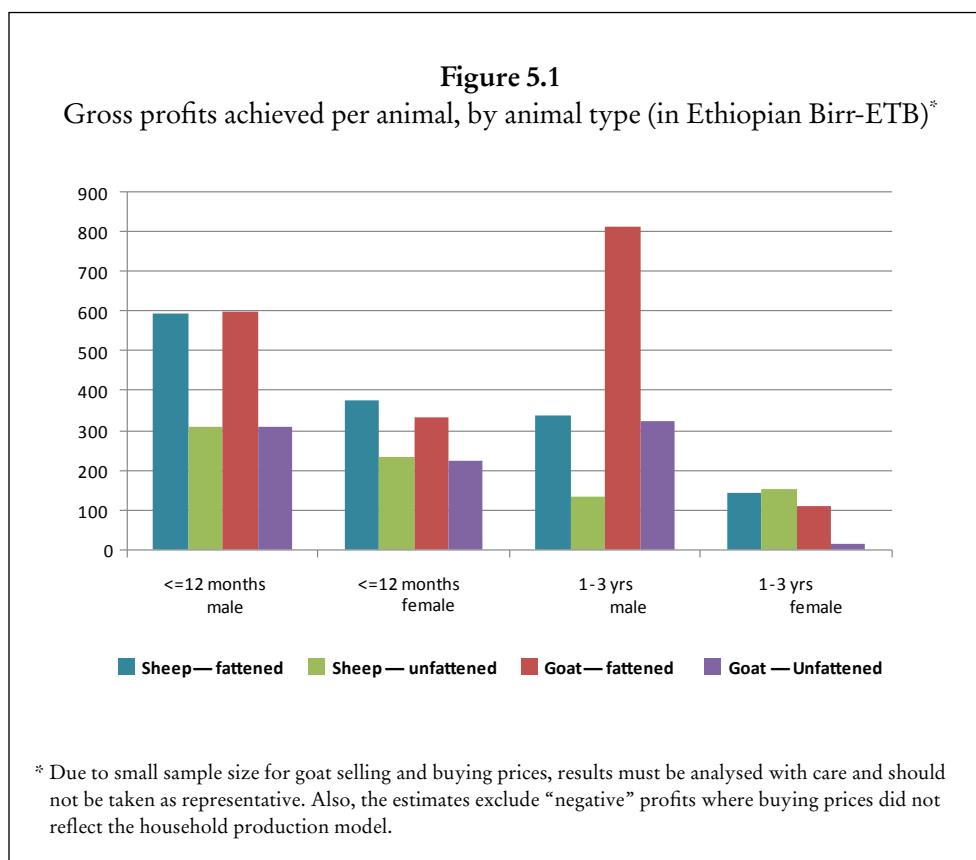


Table 5.1 Small-ruminant revenue for fattened/unfatted animals, by household headship (in ETB)

		Have you engaged in fattening?							
		yes				no			
		Estimated total revenue for HH		Estimated total HH revenue per resident		Estimated total revenue for HH		Estimated total HH revenue per resident	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Gender of household head	Male	7 753	3 650	1 553	738	3 495	2 100	608	360
	Female	3 171	1 825	808	434	1 508	900	387	217
	Total	7 524	3 550	1 516	702	3 311	1 915	588	350

discrepancy is exacerbated with the application of fattening techniques, showing very clearly that fHHs are much less able to profit, and thus highlighting a clear area for support.

Looking at the figures for revenue and GP per resident, they provide an indication of the very low incomes being generated from the SR subsector in general. Even based on the (for many HHs unrealistic) assumption that labour is free (i.e. the opportunity costs are zero), that all feed is produced on the home farm, and that all sold animals are bred on the homestead, a median annual revenue per resident of only ETB 350 (\approx USD 16.50) represents an extremely low per-capita income for SR-producing households. The figure makes it clear that no household can derive its livelihood solely from SR production. Yet, these figures also show that median per capita revenue can potentially be doubled by introducing fattening (although higher input costs need of course be factored in). These inequali-

ties are less pronounced – though still existent – for different age groups across the sample. Younger and elderly small-ruminant producers in particular tend to have lower revenues and gross profits (Tables 5.3 and 5.4). But it is also clear that households are able to increase their revenues and gross profits consistently by practicing animal fattening. Even clearer is that incomes rise with increasing herd size (Table 5.5).

Table 5.2 Small-ruminant gross profits for fattened/unfattened animals, by household headship

		Have you engaged in fattening?							
		yes				no			
		Estimated total GP for HH		Estimated total HH GP per resident		Estimated total GP for HH		Estimated total HH GP per resident	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Gender of household head	Male	4 178	1 700	837	313	1 495	769	259	132
	Female	832	951	170	162	610	345	150	77
	Total	4 053	1 639	812	301	1 417	750	250	125

Table 5.3 Small-ruminant revenue for fattened and unfattened animals, by age cohort

		Have you engaged in fattening?							
		yes				no			
		Estimated total revenue for HH		Estimated total revenue per resident		Estimated total revenue for HH		Estimated total revenue per resident	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Age cohort of the MLH	18-24	6 821	2 000	1 507	583	996	980	283	233
	25-34	7 585	5 750	1 900	1 105	3 549	1 540	772	300
	35-44	4 993	2 840	857	583	3 911	1 845	657	313
	45-54	12 225	3 700	2 033	775	3 027	2 110	521	420
	55-64	6 863	5 100	2 047	980	3 086	2 250	472	433
	65-74	2 967	3 375	717	521	1 914	1 050	399	175
	>=75	-	-	-	-	2 850	1 800	573	450

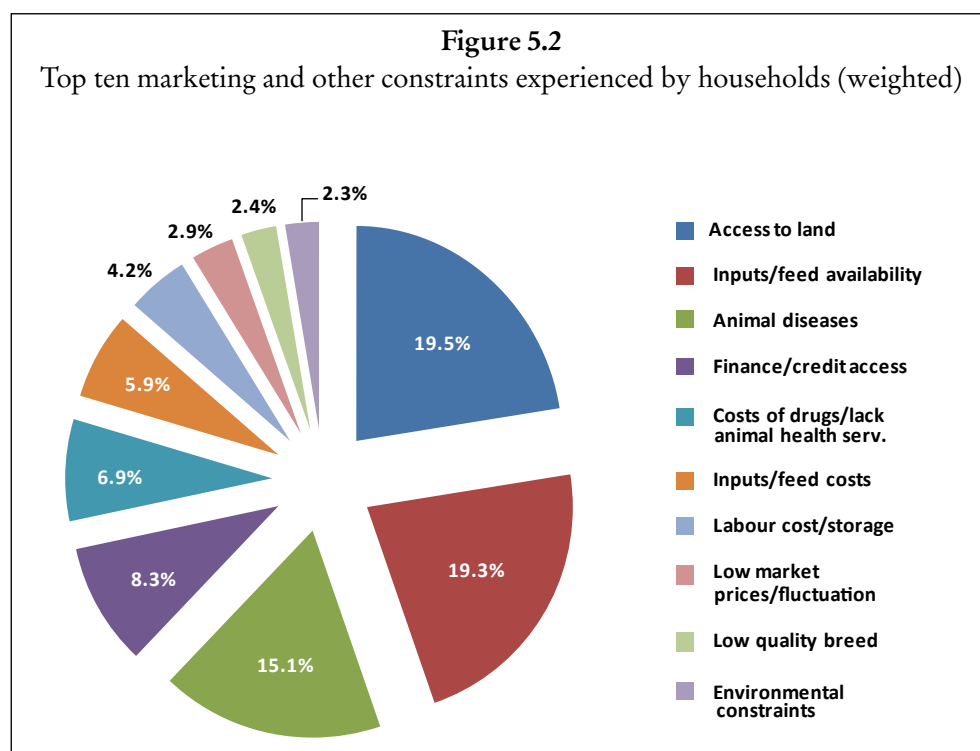
Table 5.4 Small-ruminant gross profits for fattened and unfattened animals, by age cohort

		Have you engaged in fattening?							
		yes				no			
		Estimated total GP for HH		Estimated total HH GP per resident		Estimated total GP for HH		Estimated total HH GP per resident	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
Age cohort of the MLH	18-24	2 322	941	491	195	360	356	106	70
	25-34	3 600	2 055	889	520	1 948	841	433	144
	35-44	2 185	1 355	364	258	1 510	650	252	106
	45-54	7 926	1 800	1 272	341	1 138	853	190	132
	55-64	4 187	2 729	1 334	329	1 488	792	209	139
	65-74	1 483	1 391	383	217	546	555	112	93
	>=75	-	-	-	-	1 071	1 020	198	209

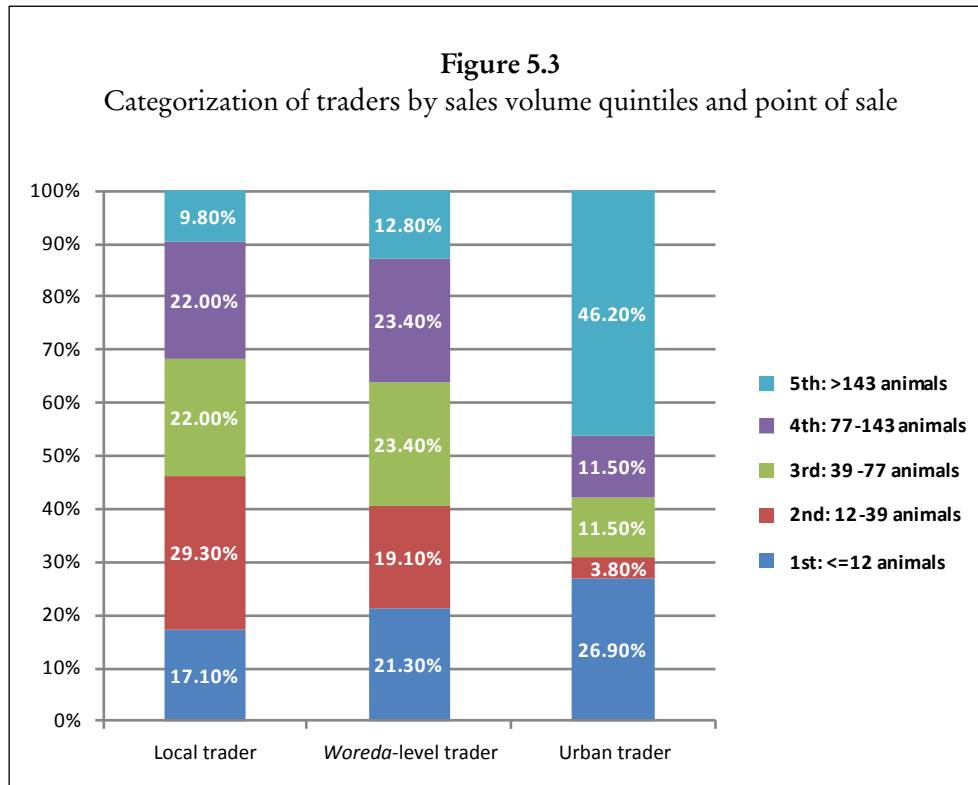
Table 5.5 Small-ruminant revenue and gross profits per resident, by herd size quintiles

Quintiles based on SR herd size		Have you engaged in fattening?							
		yes				no			
		Estimated total HH revenue per resident		Estimated total HH GP per resident		Estimated total HH revenue per resident		Estimated total HH GP per resident	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
	1st	834	675	328	329	458	388	227	184
	2nd	1 143	567	558	209	597	301	253	179
	3rd	1 818	992	1 125	288	470	270	188	63
	4th	1 771	775	720	330	503	305	179	90
	5th	1 734	996	1 144	472	930	475	395	202
	Total	1 516	702	812	301	588	350	250	125

Note: SR herd quintiles refer to the following SR herd sizes: 1st : 1-7 animals; 2nd: 8-11 animals; 3rd: 12-16 animals; 4th: 17-23 animals; 5th: >24 animals.



All households were asked for their opinion on what constraints had the biggest impact on their success and profits as small-ruminant producers (Figure 5.2). Major reported constraints were access to land (including communal land for grazing) and availability of feed. Animal disease was seen as an important issue, while access to credit/finance was also mentioned repeatedly. Interestingly, some challenges were only rarely mentioned, and thus did not seem to be perceived as major issues. They included: strong competition; low demand for products/animals; preferences/other priorities for livelihood activities; limiting government regulations; low negotiating power; lack of youth engagement; limiting gender roles/constraints (e.g. access to markets); infrastructure/road conditions; payment delays. These constraints may, however, eventually emerge with increasing sector growth and development.



5.2 VALUE CHAIN AND PROFIT ANALYSIS OF TRADERS AND PROCESSORS

So far, we have analysed the economics of small-ruminant producing households in considerable detail as the most substantial part of the SRVC-Jobs survey sample. However, a crucial element of the project was to incorporate a dedicated value chain analysis allowing a deeper understanding of the constraints and opportunities in the subsector as a whole. Thus, in Sections 5.2 and 5.3 we turn to the analysis of those value-chain actors who operate in segments up and downstream of primary production, with a focus on their profit margins.

Overall, a total of 114 traders/processors were interviewed. Out of these, the survey teams were able to find only one female, clearly highlighting the male dominance of livestock marketing activities. Compared to producers, traders tended to be younger. Educational attainment, as discussed in Section 3.3, was also generally higher among this group.

The traders captured in the sample differed significantly from one another in terms of sales volumes and operational areas.²⁷ Figure 5.3 shows a breakdown by type of business. Unsurprisingly, the largest traders in terms of annual sales volumes were classified as urban traders, with 46 percent of them falling into the largest quintile. However, 26.9 percent of the smallest quintile also operated at the urban level, indicating a high degree of inequality, but suggesting that urban markets can provide opportunities for traders who operate on a smaller, more occasional or specialized basis (e.g. specialized urban fatteners). Local and *woreda*-level traders displayed a more equal distribution in terms of sales volume.

²⁷ Trader types (local, *woreda*, and urban) were defined by the main point of sale for their animals. These were defined by local, *woreda*-level or urban markets, which generally are well-defined in the Ethiopian context.

Table 5.6 Number of sheep fattened by traders and length of fattening period, by *woreda*

	Number of sheep fattened		Length of fattening period (days)	
	Mean	Median	Mean	Median
Atsbi (T)	14	10	69	90
H/Wajirat (T)	8	6	88	150
Legambo (A)	14	8	78	75
Basona Worena (A)	11	6	115	105
Total	13	8	85	90

Nearly 50 percent of all traders also undertake fattening, with some regional differences. In Atsbi, 85 percent of traders engaged in fattening, as opposed to only 10 percent in H/Wajirat, while traders in Amhara were more evenly split. As with producers, there was a strong conviction among traders that fattening increased their profits. On average about 13 animals were fattened by traders per fattening period, which lasted an average of some 90 days (Table 5.6), with many traders exceeding the recommend duration (as found for producers in Section 4.2).

Buying and selling prices encountered by traders are complex. They depend on a myriad factors – none of them standardized – including animal size, gender, age, fattening status, breed, market season, to name just a few. Furthermore, calculating direct input and output prices per trader is virtually impossible due to the different dimensions and levels of intervening factors (e.g. animals frequently switch categories during the period between buying and selling). This in particular makes the calculation of profit margins challenging, even if relatively good price data were collected as part of the SRVC-Jobs survey.

Based on these data, Table 5.7 compares estimated profit margins that can be achieved depending on when, and in what condition, animals are sold. First, it shows the substantial markup in prices for fattened animals, regardless of the period of sale. Second, more mature (and presumably bigger) animals appeared to yield significantly higher prices than those aged less than 1 year. Third, animals sold during the Easter peak sale could expect to yield price increases of between about ETB 100 – 200, compared to the pre-Easter prices.

On the basis of these profit margins, it was possible to calculate average gross profit figures for traders. These figures indicate that traders on average made a profit of about ETB 200 per animal sold (averaged out over the whole stock). However, there were distinct discrepancies between traders of different categories and sizes (Tables 5.8 and 5.9), clearly highlighting the strong economies of scales applying in the subsector.

Table 5.7 Estimated GP margins based on average prices for sheep, by fattening status and time of sale (in ETB)

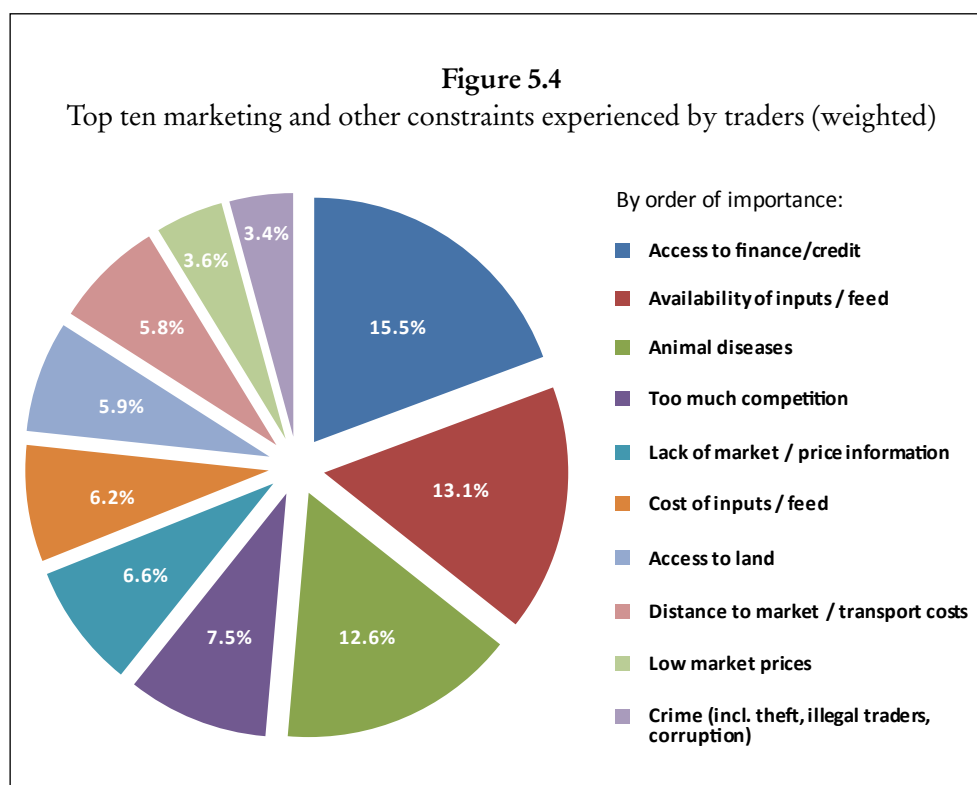
		Sheep			
		Estimated gross profit when selling before Easter		Estimated gross profit when selling during Easter	
Age of animal		non-fat	fat	non-fat	fat
<=12 months	mean	58	-	127	-
	median	50	-	125	-
1-3 years	mean	49	361	146	553
	median	50	350	100	455
>3 years	mean	56	733	176	977
	median	45	720	150	820

Table 5.8 Estimated gross profits per trading business (total and per trade volume quintiles)

Trader quintiles by annual sales volume	Estimated total gross profit per household (based on median margins)		Estimated average total gross profit per household and animal sold (based on median margins)	
	Mean	Median	Mean	Median
1st (<=12 animals)	1 118	563	98	97
2nd (12 < X <=39 animals)	3 146	2 675	146	122
3rd (39 < X <=77 animals)	10 982	8 000	191	163
4th (77 < X <=143 animals)	16 483	12 950	167	146
5th (>143 animals)	101 604	67 163	217	225
Total	25 992	7250	197	158

Table 5.9 Estimated gross profits per trading business (total and per trade volume), by trader category

Trader category by point of sale	Estimated total gross profit per household (based on median margins)		Estimated total gross profit per household and number of animals sold (based on median margins)	
	Mean	Median	Mean	Median
Local trader	11 533	6 150	152	130
Woreda-level trader	24 041	5 285	197	159
Urban trader	52 317	19 680	276	236



5.3 VALUE CHAIN AND PROFIT ANALYSIS OF INPUT SUPPLIERS AND SERVICE PROVIDERS

Given the crucial nature of inputs and feed for fattening operations, the SRVC-Jobs survey included a dedicated module for value-chain actors who operate upstream of producers and traders: input suppliers and service providers. The research teams made a concerted effort to capture farmers and entrepreneurs who supplied inputs to small-ruminant producers on a commercial basis. These include not only feed production, but also transport services, animal health services, financial services, and provision of breeds.

However, through the data collection phase it became clear that these types of actors are still somewhat elusive. Animal health services and financial services are almost exclusively institutionalized, the former as public services and subsidised goods, the latter via formally governed micro-credit providers such as ACSI, DEDEBIT, but also local RuSACCOs and farmer cooperatives. Transport providers are highly mobile and thus not easily captured, and the provision of breeds does not usually take the form of private business. Consequently, most of the input suppliers included in the sample were primarily involved in feed production and trade, although the sector is hardly developed due to the predominance of communal grazing or self-produced feed. As a result, it was only possible to include 25 input suppliers across the four *woredas*, of whom seven were women.

Most of the produce was sold directly to individual farmers, rather than cooperatives, traders or other actors. Customers of feed suppliers on average had herd sizes of about 15-16 small ruminants. Based on data from the producer questionnaire, we estimated that those producers who bought feed, on average bought about 8.5 kg of agro-industrial by-products, and 5.5 kg of concentrates per animal per month. On this basis, we calculated that feed suppliers provided these products to an average of almost 3 200 animals per year, leading to estimated average profits for each feed suppliers of between ETB 5-6 per animal per year. It is, however, important to highlight the great differences among the sample, which includes large-scale specialized traders of agro-industrial feed products, but also very small-scale operators making feed from by-products of local beer brewing (*atella*). Due to the small sample size, it was not possible to disaggregate these data further, and thus the figures provided here can only serve as a very rough indication. More research is clearly needed.

Table 5.10 Feed types procured by input suppliers

	Frequency	Percent
Agro-industrial by-products (incl. <i>atella</i> , brans, oil-seed cakes)	17	56.67%
Crop residue (wheat, teff, barley, pulses, maize, stover, etc.)	7	23.33%
Concentrates, ready-mixed feed	3	10%
Hay	2	6.67%
Forage/fodder seeds	1	3.33%
Total	30	100%

Table 5.11 Source of procured feed types

	Source of feed	
	self-produced	bought
Crop residue (wheat, teff, barley, pulses, maize, stover, etc.)	33.3%	66.6%
Agro-industrial by-products (incl. <i>atella</i> , brans, oil-seed cakes)	41.2%	58.8%
Hay	100.0%	
Forage/fodder seeds	100.0%	
Concentrates, Ready-mixed feed		100.0%

5.4 MAPPING PROFIT MARGINS ACROSS THE VALUE CHAIN

Using the above information, profit margins can be approximated across the value chain. Table 5.12 displays these, disaggregated by *woredas*, value chain actors, gender of household head, and fattening status. Nevertheless, it must be stressed that these estimates are purely indicative, not least because of the significantly reduced sample size for some of the variables. Still, some general conclusions can be drawn.

First, average gross profit margins per animal seem to be consistently higher for producers than for traders. This is an important finding, as it partly dispels the notion that non-producers tend to make higher profits than producers – at least in the case of the small-ruminant value chain. Of course, due to much larger volumes, the overall household income of traders may often be much larger, while their returns per unit of labour are likely to be much higher too.

Second, female-headed households can benefit from small-ruminant production, but they cannot make a sufficient profit from fattening practices. This may be due to a lack of technical knowledge or resources, but also to insufficient labour availability/productivity in such households. Enabling them to reap higher benefits from fattening may be a promising area for intervention.

Third, there are considerable differences between studied areas. Particularly in Basona Worena, markets and profits appear to be heavily geared towards traders and against producers. Due to the presence of a large market town in the *woreda*, the higher trader margins are probably not surprising. Yet the lower profits for producers are not immediately explainable and should be investigated further.

Fourth, local traders are not able to benefit from fattening compared to traders at *woreda* level or those operating in urban areas. This is probably less surprising, given that the greatest demand for fattened animals is least likely to be found at village level, and fattened animals will be most in demand in urban and peri-urban areas.

In summary, we can state that small ruminants, and in particular small-ruminant fattening, are potentially profitable business sectors, but the benefits are not equally distributed. Enabling certain disadvantaged producers to benefit from this profitable value chain segment is likely to be an effective way of achieving poverty reduction, particularly if interventions are targeted at women, female-headed households and young people, provided that their access to animal ownership can be increased in the first place.

For a better understanding of the distribution of such benefits, it is important to look at the quantity and quality of employment created along the value chain. This will be analysed in greater depth in the following section.

Table 5.12 Mapping of estimated gross profit per animal sold, by VC actors and woreda

VC actor	Category	Fattening engagement	Estimated gross profit per animal sold, in ETB						TOTAL			
			Atsbi (T)		H/Wajirat (T)		Legambo (A)		Basona Worena (A)		mean	median
			mean	median	mean	median	mean	median	mean	median	mean	median
Feed suppliers												
	mHHs	Non-fat	263.0	219.4	322.3	260.9	449.6	350.0	126.1*	130.8*	317.2	247.6
		Fat	478.2	314.6	513.7	421.5	421.3	352.7	184.4*	122.5*	436.3	350.0
	fHHs	Non-fat	275.5*	309.6*	304.4*	301.8*	285.7†	285.7†	285.7†		288.5	309.6
		Fat	284.6†	284.6†			288.7†	288.7†			286.6†	284.6†
	Total		346.1	267.6	358.2	305.0	428.4	350.2	153.8	122.5	359.3	283.5
	Local	Non-fat	217.3†	217.3†	105.9†	116†	190.1	207.9			169.4	130.0
		Fat	154.7†	176.8†			131.2	128.1			134.7	133.6
	Woreda	Non-fat	154.0†	156.8†	110.7	97.3	31.25†	31.25†	208.9*	191.0*	152.0	140.9
		Fat	210.8	176.7	128.7†	128.7†	31.25†	268.2†	440.4†	478.2†	256.6	186.3
	Urban	Non-fat			62.8†	62.8†	400.8†	400.8†	189.6*	95.2*	214.3	137.8
		Fat							350.2*	285.3*	350.2*	285.3*
	Total		192.3	176.7	111.3	108.0	173.4	145.0	274.5	224.3	196.7	157.7

* Based on only ten observations or less

† Based on only five observations or less

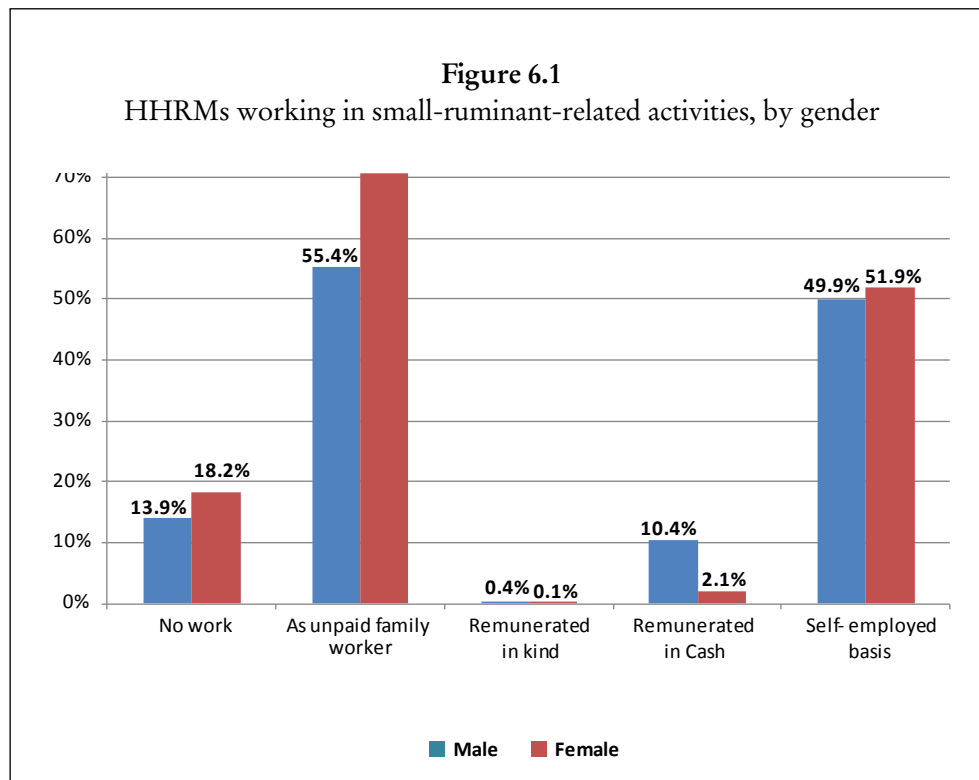
6. Employment and labour incomes along the small-ruminant value chain

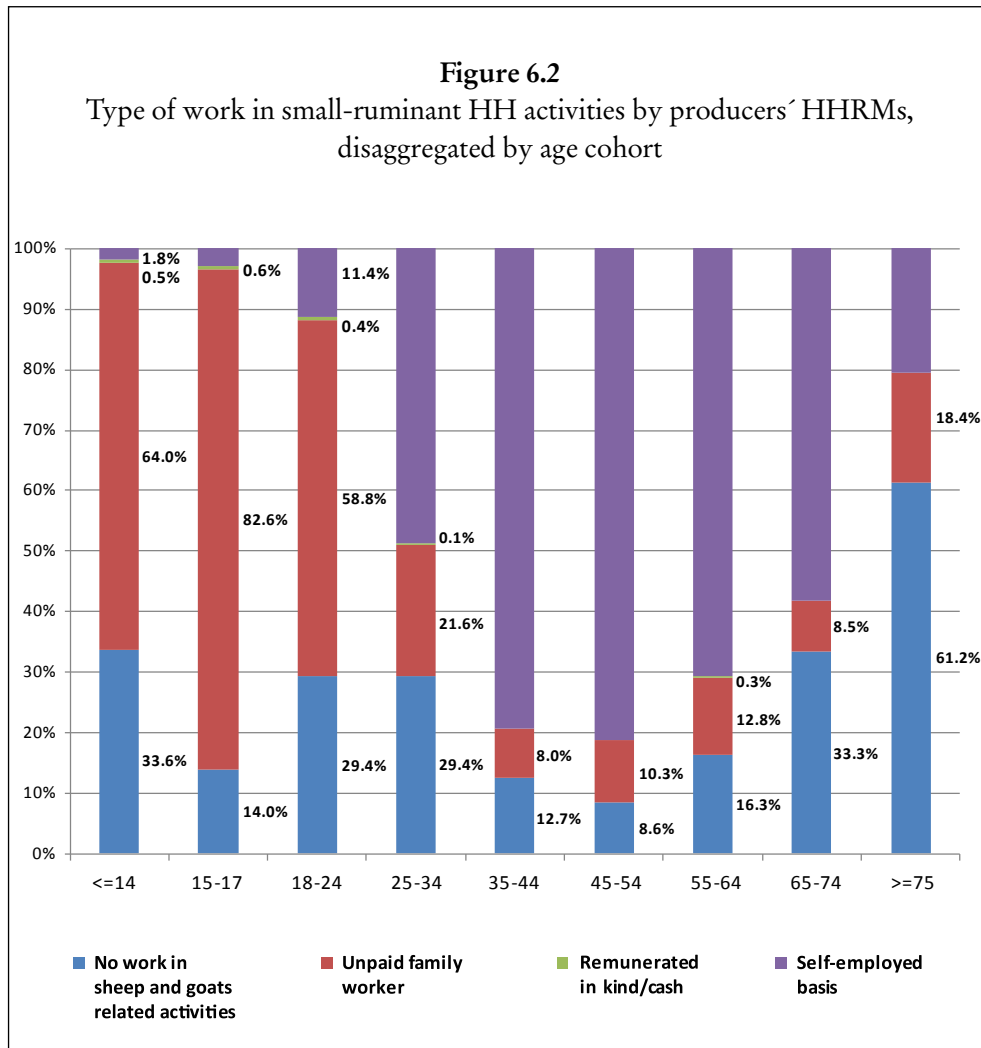
Introducing the dimension of employment in a livestock value-chain analysis was the key element in the SRVC-Jobs project. The quantitative and qualitative assessments detailed above were undertaken to identify where opportunities and bottlenecks exist for the creation of decent rural employment. This section presents the main findings in that regard, starting again with primary producers, and then going on to describe employment among traders and input suppliers.

6.1 PRIMARY PRODUCERS

There is a wide range of – mostly anecdotal – evidence that small-ruminant production is very labour-intensive. Furthermore, small ruminants are commonly held to be the animals of “the poor” in Ethiopia, and to be principally managed by women, young people and children, who provide the greater part of the labour in the sub-sector (e.g. Hoeve and Koppen, 2005; Charbonnier and Laveissiere, 2015).

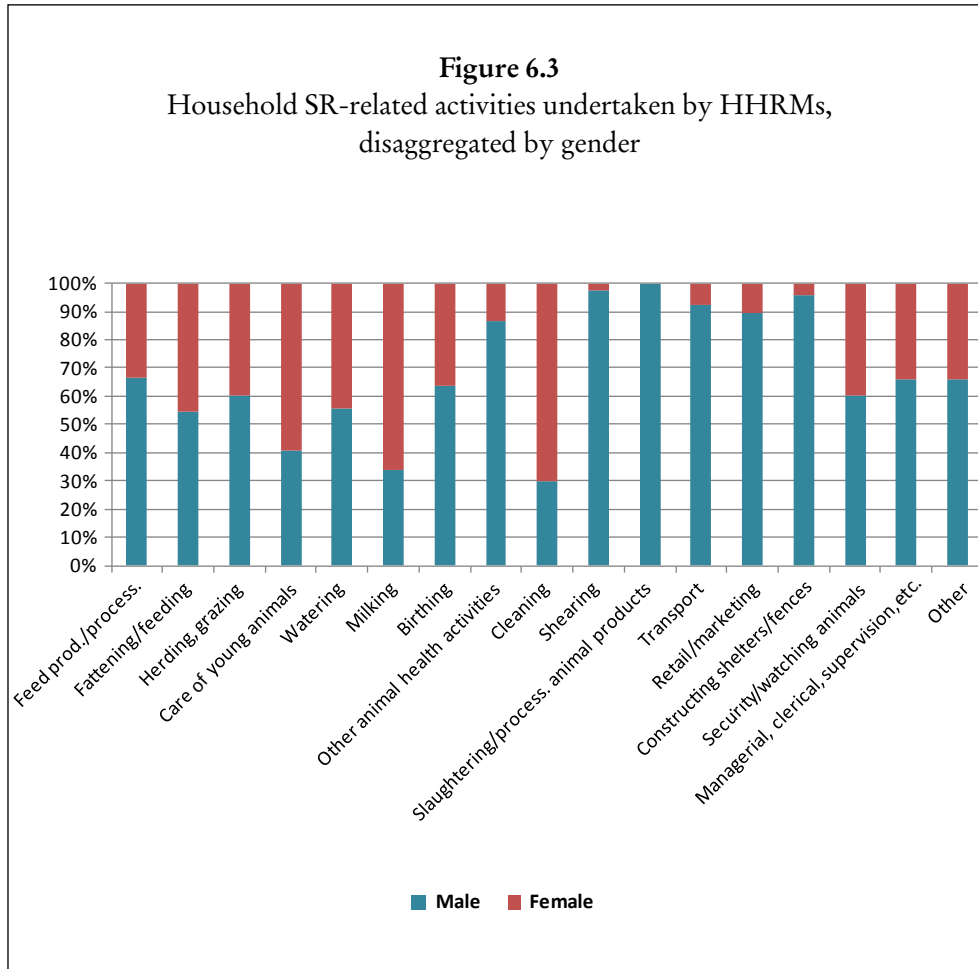
However, our data show that men are also heavily involved, and indeed usually spend more time on small-ruminant management than women. For instance, slaughtering, shearing and transport are activities dominated by men. Women,





on the other hand, are usually responsible for cleaning, milking and taking care of young animals. In fact, women and girls are to be found more often than men working in SR activities as unpaid family workers or (slightly more often) on a self-employed basis. Overall, these patterns appear to be consistent across different HH categories and herd sizes.

Contrasting age and work within the household produces some very interesting results (Figure 6.2). First of all, the high occurrence of children working in the subsector as unpaid family workers is striking. Among all RMs aged 14 or less, 58.4 percent looked after their households' small ruminants on an unpaid basis in the previous 12 months. The corresponding figure in the 15-17 age group is even higher – 76.55 percent. The occurrence of wage labour (paid in cash or in kind) is extremely rare across the sample. Finally, only 12 percent of the workers who are self-employed in the subsector, i.e. who own their own herds, are aged 15-24, although they make up over 25 percent of the total sample of HHRMs. Ownership of small ruminants and related businesses are clearly concentrated among 25-54 year olds, regardless of household headship.

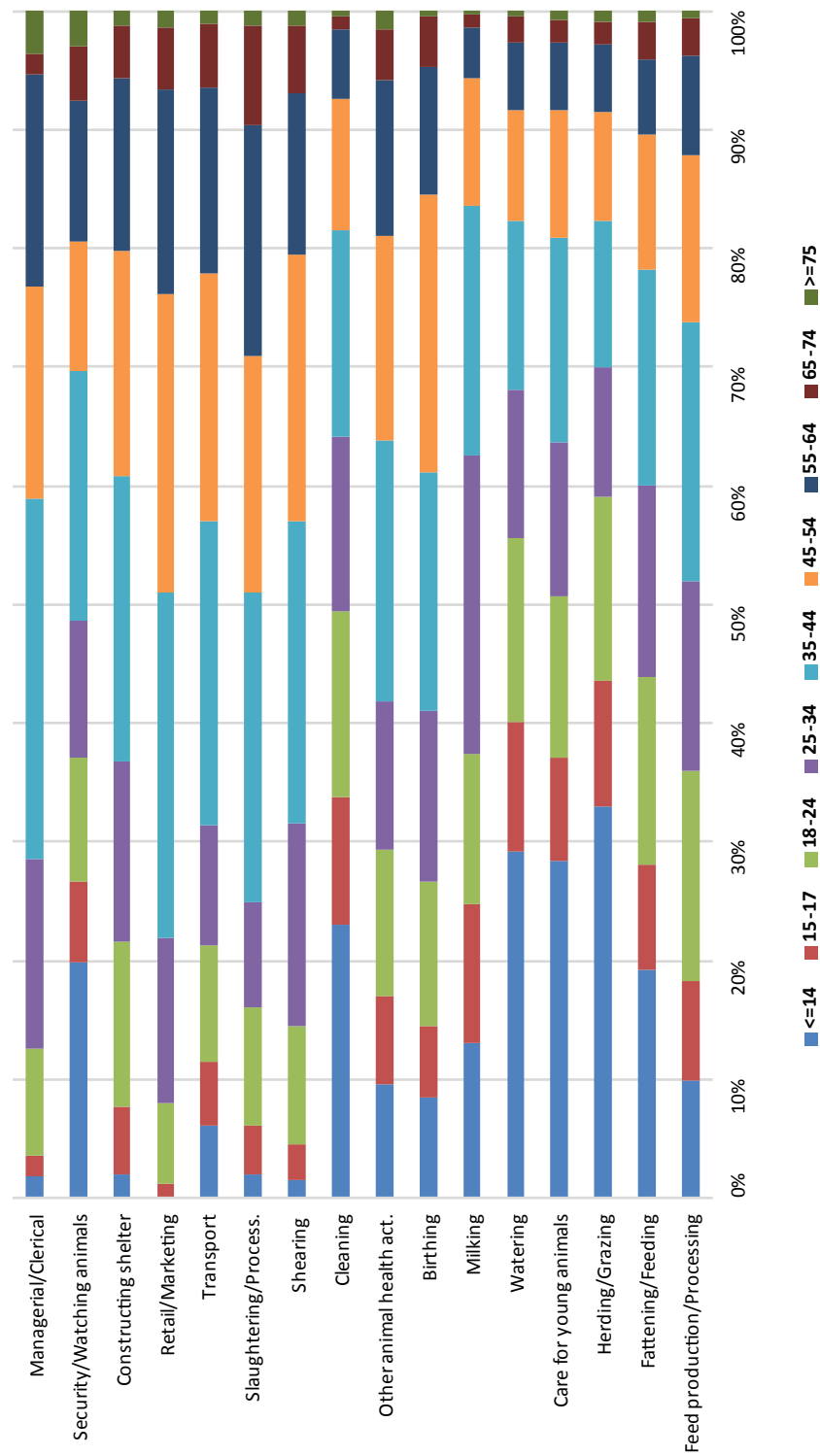


Different activities in small-ruminant production follow fairly stringent age and gender patterns (Figures 6.3 and 6.4). For example, feed production/collection, feeding, and herding are some of the most time-consuming activities in the production cycle, and are mostly undertaken by children and young people aged up to 25.²⁸ Specific activities are exclusively, or almost entirely, undertaken by men, e.g. slaughtering, retailing/marketing, shearing, transporting, castrating, and constructing animal shelters. Although women tend to focus on milking and cleaning stables, there appear to be few activities that are exclusive to women.

At the same time, it must be stressed that in fHHs these gender patterns are less pronounced due to the reduced availability of male labour. Given the considerably smaller size of fHHs, and the lower number of working-age HHRMs (see Table 6.1), otherwise male-dominated activities such as transport, marketing or herding are much more often undertaken by women in female-headed households. For example, while across the whole sample marketing is undertaken by men in 95 percent of cases, in fHHs it is carried out by women in two cases out of three. This shows that fHHs face particular constraints in allocating labour to SR production. Not only do women have to cope with reduced availability of labour in the fHHs, but they may also be obliged to flout culturally accepted gender norms.

²⁸ Gender patterns as highlighted in Figure 6.3 are broadly consistent across age groups.

Figure 6.4
Household SR-related activities undertaken by HHRMs,
disaggregated by age cohorts



In order to identify any gender differences, the SRVC-Jobs questionnaire went into some detail regarding the actual time spent on individual activities in small-ruminant production. The resulting information made it possible to estimate approximate full-time equivalent (FTE) workdays (1 FTE = 8 hours), highlighting the respective work burdens within the subsector. A surprising, but consistent finding was that men generally spend more time in small-ruminant activities than women. This contrasts sharply with common preconceptions, but the data are very consistent. Young men and boys in particular appear to work longer hours in the subsector.

First of all, a striking finding was that males of all ages tend to spend much more time in the production process than females in the same age group (Figure 6.5). On average, men spent 107 FTE days *per annum* in small-ruminant-related activities, whereas women only spent 78 (Table 6.2). Part of the explanation may lie in the time-consuming nature of activities undertaken mostly by men, such as herding and animal security (Figure 6.6). Certainly, this stands in marked contrast to the dominant stereotype – usually unsupported by data – of women doing most of the work in small-ruminant production.

Secondly, the amount of time spent by children – particularly boys – in small-ruminant production was remarkable. Data clearly pointed to an average work burden of between 70 and 113 FTE days for children under the age of 14. This is likely to interfere with schooling (attendance and performance), especially for boys, who spend more FTE days in small-ruminant production than girls (Figure 6.5). This, again, is due to the particularly time-consuming nature of male-dominated activities such as herding.

Table 6.1 HH size and structure for mHHs and fHHs

Gender of household head	Number of household members	Number of working-age household members	% of working-age HH members as a share of HH size
	Mean	Mean	Mean
Male	5.72	3.37	.61%
Female	3.91	2.38	.63%
Total	5.54	3.27	.61%

Table 6.2 FTE days spent by individuals over the past 12 months in SR production, by *woreda*

Woreda code	Male		Female	
	Estimated total unpaid FTE days per individual in SR activities in past 12 months		Estimated total unpaid FTE days per individual in SR activities in past 12 months	
	Mean	Median	Mean	Median
Atsbi (T)	91.9	65.5	83.5	60.0
H/Wajirat (T)	106.7	83.9	56.7	30.0
Legambo (A)	136.8	116.6	104.6	85.7
Basona Worena (A)	96.1	72.3	70.5	37.5
Total	107.8	82.7	78.1	55.1

The situation is exacerbated in the case of fHHs. Because of the differences between mHHs and fHHs (as shown in Table 6.1), members of the latter generally have considerably higher work burdens – about 20 percent higher for males, and about 66 percent for females (Table 6.3). This effect is, again, particularly felt by children: boys in fHHs spent on average 147 FTE days in small-ruminant production, and girls 110 FTE days. Whereas in mHHs children and adults worked roughly the same time in SR production, in fHHs children had to work even longer hours than adults. On average, sampled households spent about 450 FTE days *per annum* in small-ruminant activities. This amounted to an average of just over 40 FTE days per animal, and 30 FTE days in the median. In terms of labour expenditure, it was,

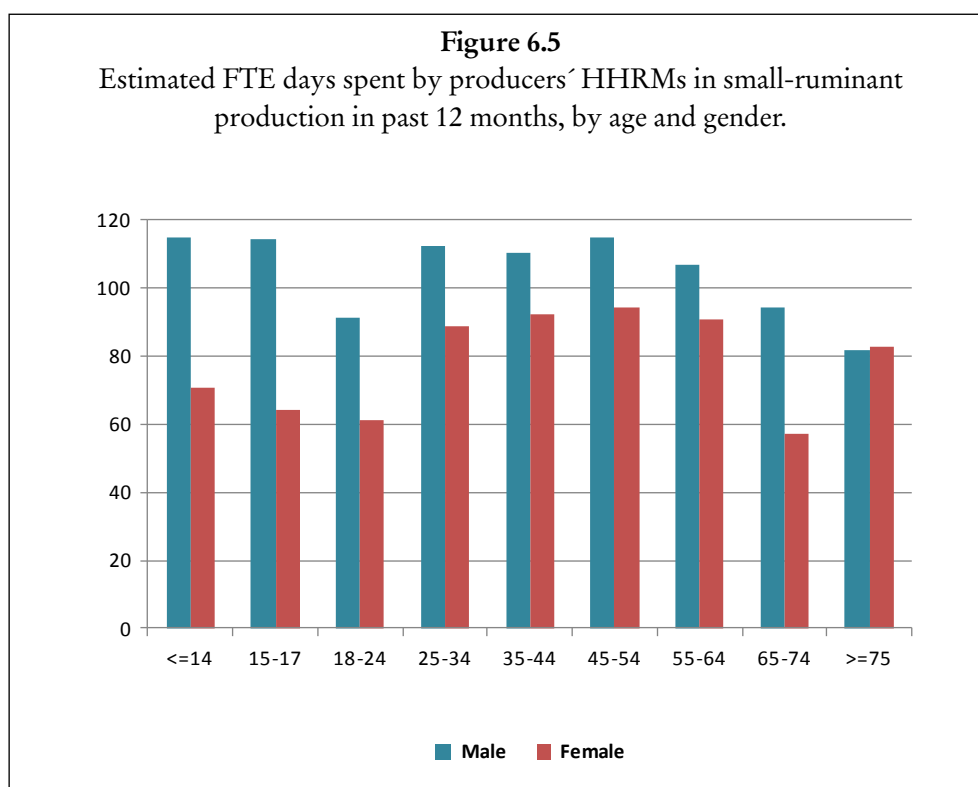
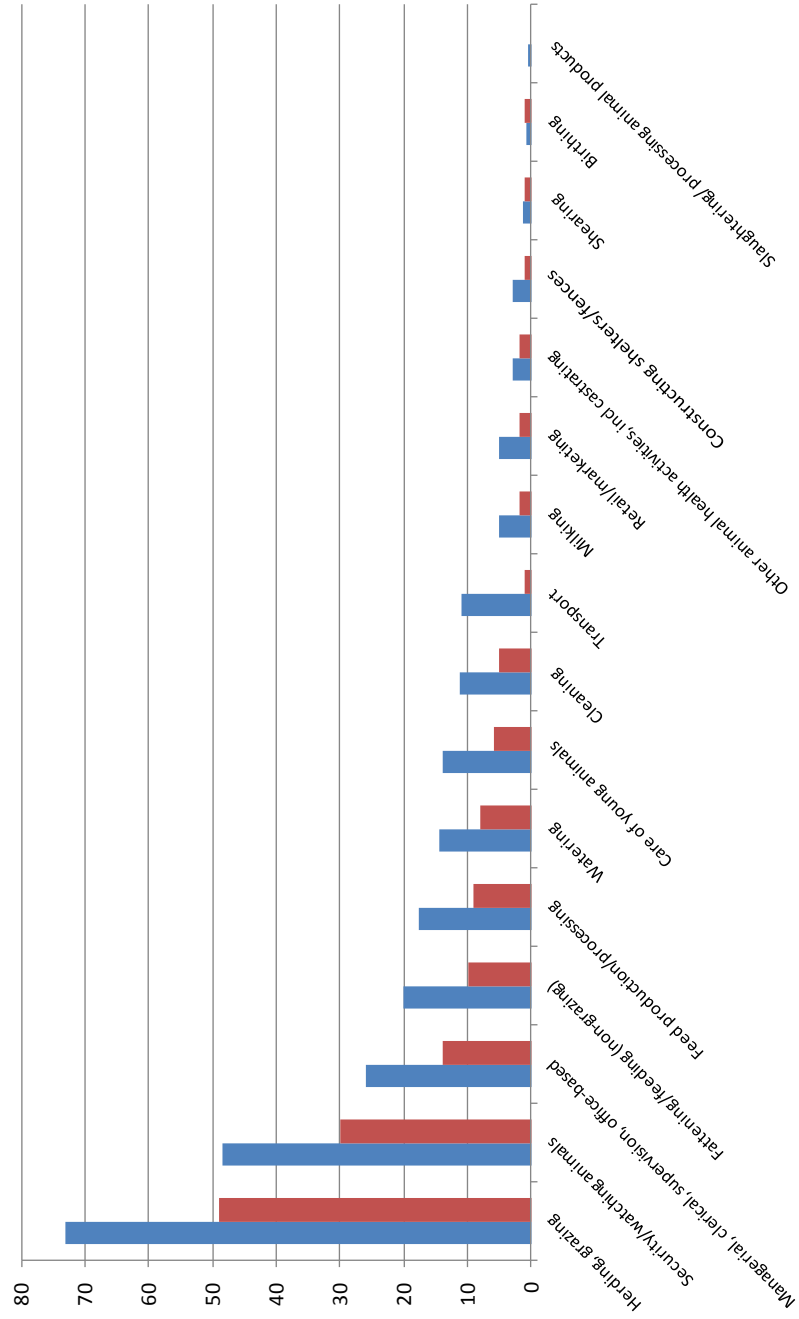


Table 6.3 Estimated FTE days spent by HHRMs in SR production, by household headship, children, and gender

			Estimated total unpaid FTE days per individual in SR activities in past 12 months					
			Male		Female		Total	
			Mean	Median	Mean	Median	Mean	Median
Male-headed households	Child (<= 14):	No	104.8	80.4	76.4	52.5	92.1	69.0
		Yes	110.1	90.0	67.7	48.0	91.0	63.8
Female-headed households	Child (<= 14):	No	115.3	75.3	125.1	104.5	121.5	102.5
		Yes	147.1	121.4	110.3	100.7	130.7	112.5

Figure 6.6
 Estimated FTE days spent by HHRMs in small-ruminant production
 in past 12 months, by SR related activity



however, very clear that smaller producers are at a great disadvantage: as shown in Table 6.5, larger producers spend much less labour time per unit of output/animal than smaller producers, suggesting that labour costs are much higher for smaller producers, or, to put it another way, that return per labour unit is much lower. This also highlights the workload within fHHs, which, due to their smaller herd sizes, spend much more time per animal in SR-related activities. Although average total effort at household level in fHHs was virtually the same as in mHHs, the amount of labour per animal was much higher (70 FTE days, compared to just 38 FTE days per animal). Their labour productivity and their returns were obviously much lower.

Virtually all of the activities summarized in this section so far are undertaken on an unpaid basis. Out of all the workers included in the household rosters, only 60 (less than 1.4 percent) said they received any direct remuneration. And since none was provided in most cases, estimating income was far from straightforward. The best approximation was to estimate return to labour by contrasting the FTE days with the average profits achieved. The resulting figures, shown in Table 6.8, confirm the generally low levels of productivity per labour unit. It is clear that employment in SR production in its current form is not very remunerative, and the low levels of return to FTE day go a long way to explaining the poverty in the areas surveyed.

Table 6.4 Estimated FTE days spent in SR activities by entire household and per animal, by *woreda*

	Estimated total 8hr unpaid FTE days in SR activities for the whole household in past 12 months		Estimated total 8hr unpaid FTE days in SR activities for the whole household PER ANIMAL in past 12 months	
	Mean	Median	Mean	Median
Atsbi (T)	445.4	411.6	37.5	25.7
H/Wajirat (T)	444.5	416.3	36.3	23.4
Legambo (A)	505.3	479.1	58.2	45.8
Basona Worena (A)	377.6	370.6	40.0	28.9
Total	447.8	421.6	43.1	30.4

Table 6.5 Estimated FTE days spent in SR activities by entire household and per animal, by herd size quintiles

		Estimated total 8hr unpaid FTE days in SR activities for the whole household in past 12 months		Estimated total 8hr unpaid FTE days in SR activities for the whole household PER ANIMAL in past 12 months	
		Mean	Median	Mean	Median
Quintiles based on SR herd size	1th	395.4	382.4	88.2	78.1
	2th	450.3	420.2	48.8	45.6
	3th	432.6	414.4	32.0	28.8
	4th	437.7	414.5	23.1	21.2
	5th	531.4	507.1	15.9	14.3

SR herd quintiles refer to the following SR herd sizes: 1st: 1-7 animals; 2nd: 8-11 animals; 3rd: 12-16 animals; 4th: 17-23 animals; 5th: >24 animals.

Finally, it is useful to compare labour input between production with, and without, fattening practices. Table 6.6 shows that as the absolute number of FTE days increases, the relative number per animal goes down, indicating higher levels of labour productivity as a result of fattening.

Table 6.7 highlights average annual income from different income sources for mHHs and fHHs, showing that crop production together with small-ruminant and other livestock management remain the most important sources of income in the observed contexts. Off-farm income is important to many households, especially fHHs. Nevertheless, the role of wage income is quite low and therefore any off-farm activities are heavily reliant on access to ownership or assets. Because most work is carried out as unpaid family labour, in particular by children, and due to the relative lack of alternative economic opportunities, as highlighted during the qualitative research, many households probably have labour costs close to zero. That means that keeping small ruminants is often likely to be perceived by many respondents as a low-cost, low-risk occupation.

Table 6.6 Estimated FTE days spent in SR activities by entire household and per animal, by fattening practice

Have you applied fattening to any sheep or goats?	Estimated total 8hr unpaid FTE days in SR activities for the whole household in past 12 months		Estimated total 8hr unpaid FTE days in SR activities for the whole household PER ANIMAL in past 12 months	
	Mean	Median	Mean	Median
No	441.1	411.7	43.6	30.8
Yes	470.7	456.6	38.3	28.6

Table 6.7 Average annual cash income, by gender of household head and on-/off-farm source (ETB)

Gender of household head	Total annual cash income		Annual cash income by source				Ratio of off-farm income
			On-farm income		Off-farm income		
	Mean	Median	Mean	Median	Mean	Median	Mean
Male	12 212	9 000	7 682	5 150	4 566	2 012	36
Female	7 435	4 580	3 395	1 799	4 141	1 538	49
Total	11 746	8 550	7 264	4 704	4 525	2 000	37

Table 6.8 Estimated producer revenue and gross profit per unpaid FTE day, by *woreda* (ETB)

	FTE days	Estimated revenue	Estimated gross profit	Estimated revenue per FTE	Estimated gross profit per FTE
Atsbi (T)	445.40	5 113	2 575	11.48	5.78
H/Wajirat (T)	444.50	3 344	1 334	7.52	3.00
Legambo (A)	505.30	1 076	2 361	9.13	4.67
Basona Worena (A)	377.60	1 076	325	2.85	0.86
Total	447.80	4 006	1 940	8.94	4.33

Table 6.9 Wage labour hiring for small-ruminant production, by *woreda*

	Have you ever hired wage labour, used help for SR act.?		Total
	Yes	No	
Atsbi (T)	32.4%	67.6%	100.0%
H/Wajirat (T)	12.1%	87.9%	100.0%
Legambo (A)	12.7%	87.3%	100.0%
Basona Worena (A)	14.0%	86.0%	100.0%
Total	18.1%	81.9%	100.0%

Table 6.10 List of small-ruminant-related activities for which wage workers were hired

	Frequency	Valid Percent	Cumulative Percent
Feed production/processing	82	46.6%	46.6%
General animal care, including some or several of the below	30	17.0%	63.6%
Other animal health activities, incl. castrating	18	10.2%	73.9%
Herding, grazing	15	8.5%	82.4%
Constructing shelters or fences	9	5.1%	87.5%
Transport	8	4.5%	92.0%
Retail/marketing	3	1.7%	93.8%
Care of young animals	4	2.3%	96.0%
Watering	3	1.7%	97.7%
Security/watching animals	1	0.6%	98.3%
Fattening/feeding (non-grazing)	2	1.1%	99.4%
Shearing	1	0.6%	100.0%
Total	176		

Just over 18 percent of households reported hiring external wage labour for their small-ruminant activities in the previous 12 months (Table 6.9). This was very noticeable in Atsbi *woreda*. In nearly a third of these instances (32.4 percent), wage workers were hired for the production/processing of feed; while 17 percent were hired for general animal care (they were often domestic workers whose duties extended to animal care) (Table 6.10). The vast majority of hired workers were men. Over the whole sample, only 20 women figured as wage workers, compared to 668 men. Hiring labour was partly seasonal, with most workers employed during the main harvest season (Sept-Nov), most likely due to having to reconcile harvesting and animal care (Table 6.11).

About 50 percent of workers were paid on a daily basis, 25 percent on a monthly/annual basis, 12 percent on a rotational/labour-sharing basis, and others through various forms of payment, including task/piece rates. Wage-rate data collected from producers and wage workers were collated in order to arrive at better estimates of wages. Sufficient data were only available to estimate daily and monthly wages, but even here the degree of certainty was low. Generally, the average estimates appeared to be too high compared with direct observations made in the field, so that only the lower median values should be used. The collected data on wage levels (shown in Table 6.12) should be treated with caution.

Finally, it should be noted that while hiring wage labour is generally not uncommon in the studied areas, the small-ruminant subsector appears to use partic-

Table 6.11 Average number of SR workers hired per month (hiring HHs only), by *woreda*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Atsbi (T)	0.23	0.10	0.20	0.20	0.15	0.04	0.06	0.11	1.85	0.70	0.44	0.31
H/Wajirat (T)	0.78	0.22	0.44	0.30	0.59	0.44	0.15	0.15	0.59	0.37	0.22	0.30
Legambo (A)	0.14	0.11	0.11	0.14	0.29	0.32	0.21	0.29	0.61	1.71	1.29	0.18
Basona Worena (A)	0.48	0.43	0.39	0.57	0.43	0.39	0.39	0.39	0.39	3.78	1.57	0.39
Total	0.35	0.17	0.26	0.26	0.30	0.22	0.15	0.19	1.16	1.31	0.73	0.30

Table 6.12 Triangulated wage rates as reported by employers and workers, by *woreda*

	Monthly salary rate (in ETB)		Daily wage rate (in ETB)	
	Mean	Median	Mean	Median
Atsbi (T)	180	200	66	70
H/Wajirat (T)	184	100	42	50
Legambo (A)	255	83	56	30
Basona Worena (A)	512	125	36	40
Total	374	100	57	60

ularly low numbers of wage workers. For example, over 53 percent of interviewed households stated they employed wage workers for tasks other than small-ruminant production. These included crop production, cattle herding, off-farm businesses, construction and security.

6.2 TRADERS AND PROCESSORS

Unlike most other value chain assessments, the SRVC-Jobs survey made a resolute effort to capture employment data beyond primary production and along other value chain segments, particularly trading.

Among interviewed traders, 88 percent stated that other people helped them in their businesses, mostly on an unpaid basis, but of these 39 percent also reported paying for labour. Hired labour was almost exclusively male, and out of 160 workers hired by the traders interviewed, only 3 were female. On average, 66 percent of wage workers were aged 29 or younger. The biggest single group of workers (33 percent) was hired for transport, followed by feed production/processing, animal care and security (Table 6.13).

On average, traders hired wage workers for nearly 175 FTE days in the previous 12 months (60 FTE in the median), and paid an average of about ETB 470 per month or ETB 55 per day (Tables 6.14 and 6.15). Given that these are the rates given by employers, they are likely to be overestimated and thus should be treated with caution.

In line with the above findings, the majority of workers in the sample of 114 traders were unpaid, contributing family workers. In this sample, a total 257 unpaid workers were employed, with a very equal gender distribution. Of these, 31.5 percent were children aged 14 or less, while 30.4 percent were aged 15-24 (Figure 6.7).

As in the case of producer households, tasks performed by unpaid family workers for traders mainly consisted in looking after animals, in particular herding, watering, and cleaning. However, 13 percent were also tasked with animal fattening, and a further 10 percent with feed production/processing (Table 6.16).

Table 6.13 List of activities for which wage workers were hired by traders

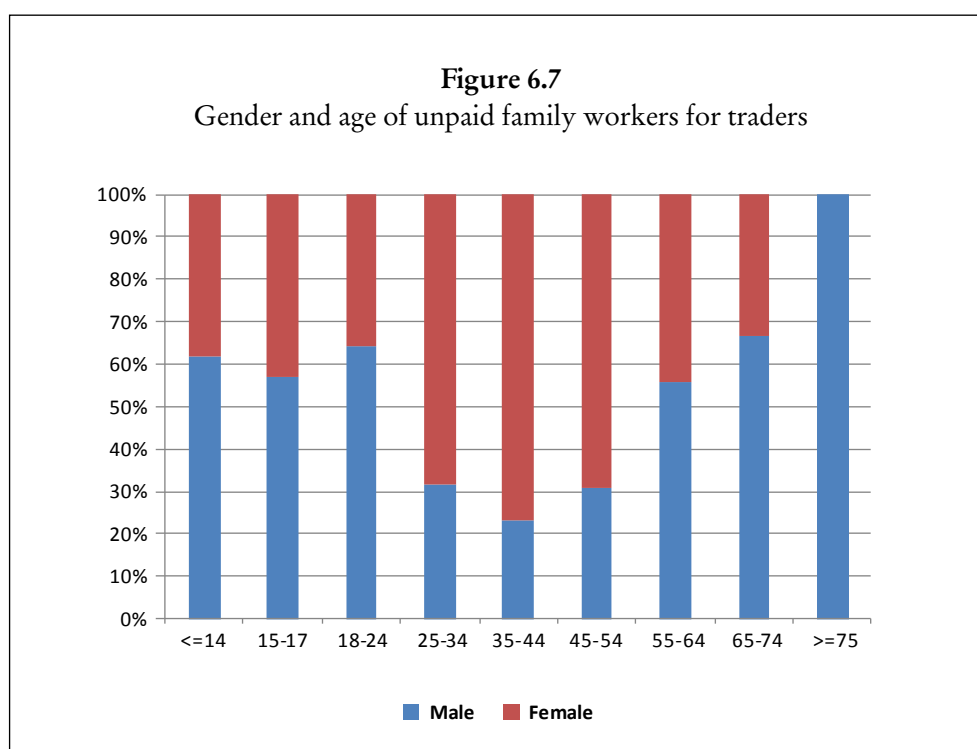
	Percent
Transport	32.8
Feed production/processing	18.8
General animal care (incl. some or several of the below)	14.1
Security/watching animals	9.4
Other	9.4
Fattening/feeding (non-grazing)	7.8
Herding, grazing	4.7
Care of young animals	1.6
Watering	1.6
Total	100.0

Table 6.14 Estimated FTE days of labour hired by traders, by trader category

Trader category by point of sale	Estimated FTE days hired by trader	
	Mean	Mean
Local trader	178	236
Woreda-level trader	171	26
Urban trader	173	60
Total	173	60

Table 6.15 Wages paid as reported by trader employers, by trader category

Trader category by point of sale	Most recent monthly salary rate (cash)		Most recent daily salary rate (cash)	
	Mean	Median	Mean	Median
Local trader	632.42	1 000.00	42.50	42.50
Woreda-level trader	333.33	375.00	68.23	60.00
Urban trader	437.50	425.00	38.80	42.50
Total	476.42	400.00	54.40	50.00



On average, unpaid workers spent nearly 100 FTE (72 FTE days in the median) in this work, with a generally higher burden of work for males, as well as for children at over 100 FTE *per annum* (Table 6.17).

Looking at employment in terms of traders' categories and dimensions, there was a clear inverse relationship between the number of FTE days worked per animal and the size of the trading business. Generally, it seems that urban traders are the least employment-intensive, despite making the largest profits (as shown above). Over the whole sample of traders, it can be said that typically about 4 FTE days in the median (15 FTE days on average) are created per animal sold at the trading stage (Table 6.18).

Table 6.16 List of activities undertaken by unpaid workers for traders

	Valid Percent	Cumulative Percent
Herding, grazing	23.8	23.8
Watering	18.0	41.7
Cleaning (incl. mucking out stable)	15.4	57.1
Fattening	13.3	70.4
Feed production/processing	10.1	80.5
Transports	4.9	85.5
Retail/Marketing	4.4	89.9
Care of young animals	2.9	92.8
Other animal health activities, incl. castrating	1.8	94.6
Security/watching animals	1.8	96.3
Shearing	1.1	97.5
Milking	0.9	98.4
Others	0.9	99.2
Constructing shelters/fences	0.4	99.6
Birthing	0.3	99.9
Slaughtering/processing animal products (incl. skins, hides, food)	0.1	100.0
Total	100.0	

Table 6.17 Estimated FTE days of unpaid workers for traders, by age and gender

		Male		Female		Total	
		Estimated total FTE days per individual in SR activities in past 12 months		Estimated total FTE days per individual in SR activities in past 12 months		Estimated total FTE days per individual in SR activities in past 12 months	
		Mean	Median	Mean	Median	Mean	Median
Age cohort	<=14	123.38	139.75	90.94	60.00	110.96	106.25
	15-17	122.23	95.93	84.37	50.53	106.00	90.68
	18-24	88.98	57.31	86.43	67.16	88.06	61.06
	25-34	82.64	12.75	116.47	117.00	106.06	105.00
	35-44	66.12	12.75	87.31	43.50	82.36	42.25
	45-54	16.34	13.06	73.71	60.00	56.06	36.25
	55-64	92.34	32.81	101.09	58.63	96.23	52.00
	65-74	242.50	242.50	23.25	23.25	169.42	120.00
>=75	21.19	21.19	-	-	21.19	21.19	
Total		103.70	75.00	93.05	64.50	98.48	72.00

6.3 INPUT SUPPLIERS AND SERVICE PROVIDERS

Employment data from the input supplier questionnaires were unfortunately very scarce, mostly due to the limited sample for this category. Overall, out of a group of 25 respondents, 21 reported receiving help from others, and out of those, 19 (76 percent) also hired some workers for their business. On average, they hired 80 workers in total, 70 of whom were aged 29 or younger, but only three of whom were women. In addition, they used 54 unpaid family workers, of whom 51 percent were women, and over 38 percent aged 14 or younger.

However, the great majority of those employed did not appear to be related to the feed supply business. Instead most of them – 80 percent – were hired to help households with general agricultural tasks. Only 11 were retained to deal with feed production, and most of them worked to produce feed for the household farm rather than for the feed business. As a result, employment created in this value chain segment can only be roughly estimated.

Based on the numbers in Section 5.3, and taking into account all employment within feed-supplying households, it appears that the feed-supplying segment of the value chain generates an average of 1.5 FTE days per animal supplied with forage – and that about 60 percent of these days are paid. Again, it must be stressed that, due to the small number of observations, this can only be a very rough estimate.

Table 6.18 Total FTE days created per trading business and per animal sold, by trader type

Trader type	Estimated total FTE (paid & unpaid)		Estimated total FTE per animal sold	
	Mean	Median	Mean	Median
Trader category by point of sale				
Local trader	328.7	252.0	13.8	5.4
Woreda-level trader	301.3	173.1	13.4	4.0
Urban trader	251.6	145.8	22.8	1.1
Trader quintiles by annual sales volume				
1st (<=12 animals)	334.8	261.3	75.7	50.4
2nd (12 < X <=39 animals)	188.0	157.2	8.5	7.7
3rd (39 < X <=77 animals)	352.9	354.6	6.5	5.4
4th (77 < X <=143 animals)	314.7	224.9	3.1	2.7
5th (>143 animals)	297.7	240.0	1.0	0.5
Total	300.1	215.8	15.7	3.7

Table 6.19 Estimate of FTE days created in feed-supplying households and per animal provided for

	Estimated total FTE days generated at HH		Estimated FTE days per animal provided for	
	Mean	Median	Mean	Median
Atsbi (T)	471	397	0.65	0.48
H/Wajirat (T)	209	209	-	-
Legambo (A)	1 024	477	1.25	0.22
Basona Worena (A)	416	279	2.23	0.77
Total	509	431	1.50	0.73

6.4 EMPLOYMENT OUTCOMES ACROSS THE ANALYSED VALUE CHAIN SEGMENTS

Based on the above sections, we were able to consolidate some of the findings regarding employment along the analysed value chain segments. But before going any further it is important to underline that the SRVC-Jobs survey was not in a position to conduct a complete assessment of SRVCs in Amhara and Tigray, and that several important value chains had to be left unexplored (e.g. slaughterhouses, restaurants and direct consumer processing/retail). Nevertheless, given the importance of the value chain segments analysed and the fact that they are relatively short, the project team is confident that it was able to capture the key elements with regard to overall employment impact.

Furthermore, it must be understood that the present analysis is purely descriptive of the situation at a given point in time. This means that any observations are solely based on the status quo observed and cannot be used as the basis for extrapolations. For example, as discussed in Section 6.1, it was found that producers with smaller herd sizes expend much more labour per animal than larger producers. This is most likely due to a particularly low level of labour productivity which coincides with very low income levels. But it would be highly erroneous to conclude that support to the smallest producers would automatically have the largest impact in terms of employment creation (certainly not in terms of decent employment), because any such support would likely incur shifts in productivity as well as an indeterminate reallocation of household labour. To be able to make such projections, more powerful econometric techniques than those within the scope of this paper will be needed.²⁹ Nevertheless, the present descriptive analysis is instructive as to the current status quo and – in conjunction with the qualitative research undertaken – can help one form a number of hypotheses on various aspects such as: how are employment and labour productivity roughly distributed along the value chain; who benefits most and who is most disadvantaged; and where any excess labour tied up in the subsector can be released to serve more useful purposes such as off-farm employment and schooling.

That said, an estimate of the employment effects across the observed VC segments can be attempted. For this, Table 6.20 maps the estimated FTE days spent per animal.³⁰ A main observation is that – as discussed above – hired labour is almost negligible in the case of producers and non-fattening traders. Fattening traders and input suppliers employ relatively more hired labour per output, but their overall contribution to employment along the whole value chain is rather small.

Interestingly, at the producer stage fattening does not appear to have a large effect on labour costs. But given the different average size of fattening and non-fattening concerns, the different levels of labour productivity as discussed in Section 6.1 must also be taken into account. Finally, on this basis a very rough and contrived estimate for FTE per animal over all three stages of the VC can be given at 58.9 FTE per animal. If we value each FTE at about ETB 20-25 (\approx US\$ 1.00-1.20) on average – not an unrealistic assumption in the rural Ethiopian context

²⁹ The SRVC-Jobs project aims to conduct simulation and modelling analyses in order to be able to answer these questions. Please contact the authors for more information.

³⁰ For feed suppliers, 'per animal' relates to the estimated total number of animals for which the business supplied feed in 12 months. For traders and producers, it relates to the number of animals sold within 12 months.

Table 6.20 Mapping of estimated FTE days per animal, by VC actors and fattening engagement

VC actor	Category	Fattening engagement	Estimated FTE days per animal in past 12 months		
			Hired workers* mean	Unpaid / family workers mean	All workers mean
Feed suppliers			0.9	0.6	1.5
Producers		non-fat	3.0	38.3	39.1
		fat	2.6	43.6	43.2
		Total producers	2.8	41.7	41.7
Traders	local	non-fat	0.1	8.3	8.3
		fat	16.3	15.9	19.5
	<i>woreda</i>	non-fat	2.1	4	4.1
		fat	2.6	21.5	22.7
	urban	non-fat	0.8	2.9	2.9
		fat	48.3	8.1	46.7
		Total traders	13.6	0.42	15.7
	Estimated total fte per animal				58.9

* only including those households who hired labour

– this would coincide with a total value of between about ETB 1200 -1500 per animal, which in turn is very close to end-consumer prices for live animals. Obviously, the monetary gain per FTE is distributed highly unevenly along the VC.

The unevenness of this income distribution becomes clear when we calculate average gross profit over the number of FTE days invested in the SR concern over the past 12 months. Table 6.21 shows the respective results. Most immediately, we see how producers across the board make vastly lower profits per labour unit than other VC actors. As already discussed in Section 6.1, on average, producers can expect to make only about ETB 4.2 (\approx US\$ 0.20) per FTE spent on producing SRs. Furthermore, particularly disadvantaged HHs, such as those with the smallest herds and fHHs, on average make only ETB 2.4 and ETB 1.4 per labour unit respectively. As seen before, these HHs are also unable to benefit significantly from fattening, with hardly any increase in their GP per FTE ratio. This is a sobering finding, raising questions about desirability of SR production for these types of households. Of course, it is important to highlight that such HHs rely more on off-farm income sources to compensate low farm revenues. That said, the fact that they nevertheless choose to engage in SR production underlines the dire conditions typically faced by such HHs. In turn, it is remarkable how larger producers can earn significantly higher profits per FTE, again clearly showing the economies of scale they achieve given their ability to employ fewer workers per animal sold (see also Table 6.5).

Looking further along the value chain, what stand out are the much larger profits per FTE collected by traders. In Section 5, we analysed profits per output/animal and found that that average income per animal is higher for most producers as compared to traders. However, when introducing an employment perspective, it becomes clear that the return per labour unit (FTE) is enormously higher for traders of all categories – and particularly for urban traders who, on average, earn almost 120 times as much per FTE as the average producer. As for local traders,

they often manage to earn about 11 times as much per FTE as producers, while input suppliers also are able to gross greater profits per FTE than producers. It is important, however, to bear in mind that the latter datum is based on a very small subsample of input suppliers.

How do these findings affect potential poverty-reduction interventions in the SR subsector? Clearly, investing in supporting small-scale and disadvantaged SR producers, by helping them start fattening businesses for example, would be unlikely to create much new decent employment in such HHs. The right type of intervention (e.g. increasing herd sizes and improving fattening techniques), would, however, be likely to quickly increase labour productivity, thus in fact releasing unproductive labour not only into more desirable forms of employment, but also into better schooling for the many children employed in the subsector. This in turn would enable the remaining, more efficient producers to reap higher benefits from their work, while household incomes could be enhanced through increased off-farm incomes, as long as such opportunities exist and are seized. That said, such questions can only be answered satisfactorily by employing more advanced statistical methods that also take into account the full diversity of household models and sizes, and the concrete availability of off-farm employment opportunities.

Table 6.21 Value chain comparison of gross profit per FTE invested in business (over the past 12 months)

	Category	Fattening engagement	Gross profit per FTE (in ETB)
Input suppliers average	-	-	36.5
	mHH	non-fattening	3.3
		fattening	8.6
		mHH avg	5.5
	fHH	non-fattening	1.4
		fattening	1.5
		fHH avg	1.4
Producers		1st	2.4
		2st	2.9
	Herd size quintiles*	3st	4.0
		4st	4.8
		5st	5.4
		<i>Producers average</i>	
Traders	local	non fattening	28.2
		fattening	28.8
		total avg	28.6
	woreda	non fattening	75.4
		fattening	92.2
		total avg	85.7
	urban	non fattening	109.9
		fattening	302.0
		total avg	201.7
	<i>Traders average</i>		88.6

* SR herd size quintiles refer to the following SR herd sizes: 1st : 1-7 animals; 2nd: 8-11 animals; 3rd: 12-16 animals; 4th: 17-23 animals; 5th: >24 animals.

6.5 QUALITY OF EMPLOYMENT IN ETHIOPIA'S SMALL-RUMINANT SUBSECTOR

In the above sections, this document has extensively highlighted the various quantitative dimensions of employment, leaving little space for exploring the quality of employment. The following paragraphs address this issue.

Most importantly, we must look at the overall incomes earned by actors along the small-ruminant value chains, and in particular primary producers. As described in the previous section, average revenues and profits per resident are extremely low. On average, households were able to make about ETB 700 per resident *per annum* with fattening, and ETB 350 per resident without. These figures do not factor in feed or labour costs, however, and thus show what very little income per capita is derived from small ruminants by most households, and particularly in fHHs. Only those households with larger herds are able to generate incomes that better reward their labour.

Looking beyond monetary remuneration, however, employment conditions are also characterized by a wide range of qualitative factors, which typically cannot be readily captured in the course of quantitative surveys. That was why the SRVC-Jobs project also undertook a separate qualitative assessment of the working conditions in the small-ruminant subsector in the *woredas* investigated. The survey focused on a few selected elements of the International Labour Standards (ILS) that are most applicable to the Ethiopian small-ruminant subsector. Included were two core labour standards, namely equality of opportunity and treatment (gender) and child labour, as well as three other general aspects of working conditions, namely occupational safety and health (OSH), earnings and standards of living, and working time. The results of this assessment are documented in a separate case study,³¹ but its main findings are summarized below.

Firstly, there are marked gender disparities in access to work along the value chain, in particular marketing activities, in which women rarely participate. This was found to be a major constraint, especially for fHHs, and their lower incomes from small ruminants may be one direct outcome. Furthermore, women tend to work longer hours than men, as they combine income-generating activities with housework and looking after children. The lack of adequate childcare facilities often impedes or makes it more difficult for women to fully participate in the labour market.

However, improvements in gender equality and women's empowerment, in particular with regard to command over income, are noticeable. During qualitative discussions, the increasing acceptance of women as SR owners was noted by both male and female respondents. Income from SR production was specifically mentioned as being controllable by women, mostly for the purpose of meeting household expenses. Also, discussions as well as visits to livestock markets revealed that – although still a relatively uncommon occurrence – women increasingly act as sellers. There still is vast room for improvement, and gender disparities continue to be rife: yet some slow progress is at least noticeable.

Second, both the qualitative assessment, but even more so the quantitative data confirmed that child labour is widespread along the whole value chain. The above sections highlighted the vast amount of labour children are required to invest

³¹ Draft version available from authors on request.

in small-ruminant production, often surpassing work done by adults. This was echoed by the qualitative assessment, which found a prevalence of long working hours for children, hazardous work and age-inappropriate tasks. However, the assessment team was repeatedly assured that significant improvements in school attendance are changing the extent of children's involvement in agricultural activities. In this regard, there appears to be a slight disconnect between quantitative and qualitative findings, as focus group discussants and qualitative interview participants tended to portray a much more positive picture of child labour than is reflected in the data. Therefore, it can be expected that interview partners had a vested interest in downplaying the extent of child labour in their communities, something which is much more difficult to conceal in the course of a larger-scale survey. That aside, there was general agreement that many children face considerable risks, especially in relation to losing animals while herding, which can lead to physical punishment or even expulsion from the household.

Third, (excluding the specific problem of children just mentioned), the qualitative assessment did not find significant occupational safety and health risks in the small-ruminant value chains. OSH hazards across the value chain appear to be relatively minor, mostly related to the working environment and climatic conditions (exposure to dust, rain, heat and cold depending on the season and geographic area), but not to greater risks of injury or similar hazards. Commonly, the work was described as sometimes uncomfortable, but not particularly difficult or dangerous. Men, women and children are accustomed to caring for animals and generally perceive the work with sheep and goats as easy and safe. In part this is due to the low technical requirements for SR production as well as the relatively small size of the animals.

Fourth, the qualitative assessment confirmed the notion of low earnings and poor living standards. While sheep and goats are crucial sources of income used to satisfy immediate cash needs, earnings are generally low and may vary between seasons. Overall, sheep and goat production is considered a low-status activity that does not yield much job satisfaction or reward. An unexpected finding from the qualitative research was the exploitative labour conditions that some young herders may face. As mentioned above, children and young people are often held fully accountable if they lose animals and thus face severe economic risks, or corporal punishment and resulting psychological stress. Clearly, the extreme economic vulnerability and the importance of animal holdings for the economic survival of the household contribute to such practices. An in-depth understanding of the conditions and root causes that may give rise to these methods is essential in designing adequate responses towards their reduction.

Fifth, as also confirmed by the quantitative data, the qualitative assessment discovered excessive working hours and lack of adequate rest, both for adults and children. While sheep and goat production does not involve extensive working hours on their own account, the need for animal care considerably adds to a household's overall work burden. As discussed above, this evidently leads to child labour in many cases, given that adults appear to concentrate on other livelihood activities, leaving comparatively 'lighter' SR work to children.

In summary, severe challenges concerning the quality of employment are persistent. In particular, these relate to low incomes and heavy work burdens, especially for children and members of female-headed households.

7. Conclusions

In this report, we presented the main findings from quantitative and qualitative primary research undertaken as part of the SRVC-Jobs project to better understand employment outcomes and potential along the small-ruminant value chain in Amhara and Tigray. The surveys, conducted just after the Easter peak market in 2014, produced large amounts of information both on technical aspects of SR production and marketing, as well as on the quantity and quality of employment created along the VC.

On the basis of this large store of information, the project team sought to provide an indication of the potential of the small-ruminant subsector, and specifically of sheep-fattening operations, for employment creation, particularly for women and young people. Although this report is essentially descriptive, and a fuller account cannot be provided until more advanced econometric simulation and modelling has been completed, some indications have already emerged. This concluding section therefore aims to present a summary of the main findings, as well as to derive from these some preliminary recommendations for project and policy interventions.

7.1 SUMMARY OF KEY FINDINGS

I - Incorporating an employment perspective into survey designs is vital in order to understand the potential of SRVCs for poverty reduction

The main contribution of the present survey was the introduction of an employment perspective into VC analysis. This technique had not been attempted across the sector before, and it undoubtedly yielded a number of original findings on the extent of work patterns and burdens, about which there had previously been little more than anecdotal information. During a consultative workshop in July 2015 held in Addis Ababa, at which preliminary findings were first presented, high-level stakeholders from research, donors and government organizations engaged in the subsector clearly expressed their interest in this new approach and the findings it yielded. Without an employment perspective, it would not have been possible, for instance, to reveal the full extent of child labour in the subsector, to quantify the work burden on women and young people – particularly those living in female-headed households – or to attempt an effective comparison of profits per labour unit expended along the value chain. Indeed, only through this integrated approach will it be possible to move beyond purely technical, but often ill-targeted interventions, towards designing mechanisms that can achieve tangible poverty reduction and improved employment opportunities for those most in need.

II - SR ownership and trade is heavily dominated by men

We found very clearly that the majority of (randomly selected) SR owners are men typically aged between 25 and 65 years (Figures 3.4 and 4.2). Although joint ownership (usually between spouses) has been reported as the most common ownership form, it was nevertheless stated clearly that the ultimate decision over

the use of animals, particularly marketing, is in the hands of men. Female-headed households have especially unfavourable access to SRs, as evidenced by their herd sizes, which average just over 50 percent of those of mHHs.

Furthermore, men hold an almost complete monopoly on trade in a market where women are generally not welcome, particularly as sellers. With only one exception, all interviewed SR traders were male. In qualitative interviews, women repeatedly mentioned their difficulties in getting fair prices for their animals, often having to seek male company when going to market. It is thus abundantly clear that control of prices and income is overwhelmingly male.

III - Production of SRs, and in particular fattening, leaves room for technical improvement

The technical sections of the questionnaires and interviews yielded a wealth of detail on the technical factors of SR production, including such aspects as veterinary care, feed utilisation, breed availability, and fattening techniques. Although not discussed in detail in this report,³² the survey found a technical level that was not unreasonable, but left considerable room for improvement. For example, while veterinary services were generally available at very low cost, animal health outcomes were often suboptimal and many producers and traders mentioned animal health as one of their most important constraints. Similarly, feeding inputs were heavily reliant on traditional fodder, with little usage of augmented feed types, treated fodder, or concentrates. Also noteworthy is the fact that commercial production and marketing of feed products is marginal, if not almost entirely absent.

Most importantly, fattening practises were found to be particularly wanting. Average fattening periods vastly exceeded the recommended number of days, and use of the right feed mix was rare. Technical level was so low that it was difficult to speak of the existence of fattening or conditioning in a professional sense. What usually took place would be better described as producers sometimes intensifying the feeding of animals before sale, but not in any measured, planned or otherwise results-oriented form. The SRVC-Jobs project was thus unable to identify any truly market-oriented sheep-fattening activities in numbers large enough to generate statistically valid data. Improving fattening practices through targeted programmes (aimed especially at young people and women producers) could be a particularly promising area of intervention.

IV - Uneven labour productivity, economies of scale, and heavy work burden on children

Although generally not characterized as very difficult or heavy work, many households have to devote large amounts of labour to their SR holdings. Herding and animal security in particular are very time-consuming activities that are usually undertaken by males and especially young men and children. As a result, we found that across all household types, boys (aged 14 years or less) regularly spent more time in SR production than adult HH members. Overall, HHs on average spent around 450 FTE days *per annum* on SR production. However, this appeared subject to considerable economies of scale. HHs with larger herds spent only about 16 FTE

³² A fuller account of the project's findings on technical aspects of small-ruminant production is available on request.

days per animal, whereas smaller producers (such as fHHs) spent 88 FTE days per animal on average. Since adult labour power is scarcer in female-headed households in the first place, the extra work burden in such families disproportionately falls on children. Although fattening does tend to be more labour-intensive, this is typically offset by the fact that fattening HHs have larger herd sizes, and thus tend to expend less FTE days per animal than non-fattening HHs.

Similar patterns exist for other VC actors such as traders, but due to the generally lower labour intensity of their activities, they tend to a) create much less employment in absolute terms, and b) face lower work burdens overall compared to producers.

V - Incomes for small-ruminant producers are very low, especially for female-headed households

Generally, incomes and profits are very low for SR producers. However, as mentioned above, it is particularly difficult for smaller producers such as fHH to get a decent return on labour invested. As a result, although the SR market benefits from strong performance and growing demand, and although producers earn more per animal (in absolute terms) than other value-chain actors, their return per FTE day is extremely low. On average, a producing household can expect to make only about ETB 4.2 (\approx US\$ 0.20) per FTE spent in producing SRs. Furthermore, households that are particularly disadvantaged – those with the smallest herd sizes and fHHs – on average make only ETB 2.4 and ETB 1.4 per labour unit, respectively. Obviously, they tend to have other sources of income in order to make ends meet, but their continued engagement in the subsector despite the low returns is a strong indication that they have no alternatives.

Traders and other VC actors in turn benefit from vastly higher gross profits per FTE, ranging from a factor of 11 (local traders) to a factor of 120 (urban traders). On that basis, and although absolute profits are higher for producers, it appears fair to say that SRVCs tend to be relatively skewed against producers, taking into account the amount of labour they invest in production.

VI - Total employment creation along SRVCs in Amhara and Tigray

Estimating the total employment effects of investment in SRVCs is difficult, and this survey can only provide a partial answer since not all VC segments could be observed. Furthermore, obtaining a definitive answer on the basis of our data requires more advanced econometric modelling and simulation work than could be carried out here. That said, on the basis of this purely descriptive, static picture, it can be estimated that the SRVCs in Amhara and Tigray create at least around 60 FTE days of employment per animal. Unfortunately, this number is most likely based on very low levels of labour productivity, and includes many undesirable forms of employment, such as child labour. Conversely, however, it can be hypothesized that any investment in the subsector is likely to a) increase labour productivity and thus returns per labour unit, and b) release unproductive labour that can then be directed to more development-oriented activities, such as productive employment (potentially off-farm) and schooling.

VII - Issues with regard to the quality of employment

Qualitative research has revealed that a number of issues must be addressed before SRVCs can offer any chance of decent employment – chief among which the scarce financial returns, largely as a result of low labour productivity. But there are also serious issues regarding gender discrimination, child labour, and long working hours. Of particular concern is women's lack of access to SR markets and income, while another issue concerns young boys and men employed as herders. Not only are they often exposed to harsh weather conditions: even more grievous is the likelihood of corporal punishment, or even expulsion from the household, if any animals go missing. As a result, many of the (often underage) herders flee their homes and frequently end up as street children in cities. Trying to reduce these and other negative aspects, above all the high incidence of child labour, should therefore be one of the main priorities of any poverty-reduction initiative in the subsector.

VIII - Insufficient institutional environment for the promotion of decent rural employment

Both a rapid assessment and a detailed policy context analysis have revealed that, although the general network of support to producers is fairly close-knit, much improvement is needed before institutional support and policies are geared towards the coherent promotion of decent rural employment. Although there are a number of policies in place that should, in theory, be concerned with employment, their implementation mechanisms are often unclear and lack concrete action plans and funding. Furthermore, there is often little coordination between policies and initiatives so that most support is limited to interventions focusing on technical productivity. That said, there appears to be very fertile ground in Ethiopia's institutional landscape for improvement on this aspect. Political vision and rhetoric dominantly feature employment creation (particularly for young people and women), agriculture-led industrialization, and as a part of this, the livestock sector. It therefore appears that a general framework for more effective policies and institutions on decent rural employment is available, and that the main issue may lie in increased mainstreaming, financing and implementation.

7.2 IDENTIFICATION OF MAIN BOTTLENECKS FOR PROMOTION OF DECENT RURAL EMPLOYMENT

Based on the findings outlined above, we can identify the following 11 main bottlenecks blocking increased promotion of decent rural employment in Ethiopia, with a particular focus on the livestock sector and employment for young people and women:

1. Lack of technical expertise with regard to animal fattening/conditioning;
2. Strong work burden placed on children in SR production;
3. Ownership concentrated among men, with limited access to young people and women;
4. Very limited access to SR marketing for female producers;
5. Particularly disadvantaged situation for all those living in female-headed households;
6. Strong economies of scale with regard to labour productivity, and thus inherent disadvantage for smaller producers;

7. Very low income per labour unit for producers, and comparatively much higher income for traders;
8. Existence of several other (not income-related) decent work deficits;
9. Availability of feed, in particular improved fodder and commercial production of feed;
10. Quality of animal health services;
11. Lack of institutional coordination, policy coherence, and effective implementation of government strategies.

7.3 RECOMMENDATIONS FOR SRVC-JOBS PROJECT INTERVENTION MECHANISMS

Given the above findings and identified bottlenecks, it is possible to derive a number of recommendations for intervention under the SRVC-Jobs project in order to optimize its impact on poverty reduction by promoting decent rural employment for young people and women along SRVCs in the Ethiopian highlands. The following recommendations are based not only on the quantitative and qualitative empirical findings yielded by the project activities, but also on an extensive consultative process with a wide range of beneficiaries, industry experts, project partners, research organizations and government stakeholders at all levels. Most importantly, all of them were convened to a consultative workshop held by the SRVC-Jobs project in Addis Ababa in July 2015, when extensive feedback both on the empirical results as well as the project approach was received.

First of all, any initiative that focuses on animal fattening must go hand in hand **with extensive technical training of beneficiaries**. The current level of local expertise in animal fattening/conditioning is extremely low, and it is important to extensively train all project participants in all aspects needed to successfully establish a fattening business.

Second, adequate **access to appropriate feed sources** must be secured, either through local production or commercial avenues.

Third, in this regard, it is important to put particular focus on promoting **zero-grazing techniques** where they can be appropriately introduced. The reason for this is that this will greatly reduce the time spent on herding, and thus will greatly free children to attend school and generally reduce children's work burden in the subsector. If grazing is unavoidable, mechanisms should be put in place to group as many herds as possible in order to increase the number of animals per individual herder, thus allowing families to take turns herding. Most importantly, it is crucial to reduce the burden of work on children, and also to **prevent children from engaging in hazardous work**. For instance, if projects include capacity-building activities, awareness-raising initiatives at the community and household level can be integrated. Sensitizing communities about child labour can also reduce the stigma associated with losing animals.

Fourth, young people and women must be supported to increase their ownership of SRs, ideally in the form of access to **appropriate credits for the purpose of establishing fattening businesses**. These credits should be large enough for them to constitute herds of at least 7 animals so as to take advantage of at least some economies of scale. A particular challenge in this regard are youths and girls aged 14-18, who are prohibited from accessing credit by Ethiopian law. For this reason, promotion of their employment changes/potential is likely to be mostly limited to

wage work, which in turn is very limited and of low quality in the SR subsector.

Fifth, a specific focus should be put on **technically assisting female-headed households**, in order to counteract their disadvantaged position. This can be done in the form of preferential access to training and credits, but also through forming dedicated mixed-gender groups. Therefore:

Sixth, mixed-gender producer groups should be created and fostered, with a special focus of encouraging female producers (particularly those living in fHHs) to become active members. The main purpose of the groups should be to engage in group marketing, which in turn will allow women to overcome, through collective action, some of the culturally entrenched barriers towards marketing.

Seventh, in the medium term not only group marketing, but also **group-based production and group-managed fattening businesses** should be promoted in order to enable producers with small herds achieve economies of scale.

Finally, eighth, the project should focus on providing further, **coherent policy advice to private and public stakeholders at all levels** in order to mainstream the issues of decent rural employment, to promote a more stringent implementation of policies and strategies related to decent rural employment, and to press for country-wide upscaling of initiatives and investment leading to better employment in Ethiopia's SRVCs.

7.4 POLICY RECOMMENDATIONS FOR THE PROMOTION OF DECENT EMPLOYMENT ALONG SRVCs

Sustainable progress towards poverty reduction through the promotion of decent rural employment cannot be achieved on the basis of development projects alone. Accordingly, the SRVC-Jobs project was designed as a 'pilot project' working in close collaboration with the Ethiopian government as well as non-governmental stakeholders, from federal to *kebele* level, in order to identify and advise how the Ethiopian public and private sectors can best improve employment outcomes for young people and women along SRVCs. On the basis of the evidence gathered and lessons learned in the project, a number of recommendations can be made on how policies can further guide the remarkable progress already made in Ethiopia and to steer the rural economy and livestock sector towards the creation of decent employment (loosely ordered by priority and/or potential for direct impact):

1. **Increase** labour productivity of producers by promoting larger herd sizes, group-managed production, and truly market-oriented production of livestock.
2. **Improve** marketing for producers in order to allow them to retain a greater share of VC profit.
3. **Promote** access to livestock markets for women and reduce gender-based discrimination.
4. **Protect** children and family workers through targeted policies, strategies and programmes that reduce child labour and gender discrimination while respecting the identity of communities.
5. **Promote** policies, such as zero-grazing and group-management, that reduce the work burden of children, and that minimize the hazards of their work.
6. **Promote** the establishment of a commercial feed and breed sector/market.

7. **Improve** veterinary services in order to upgrade quality of services.
8. **Achieve** better mainstreaming/promotion of decent rural employment across government initiatives and strategies (such as the LMP).
9. **Ensure** that implementation of such initiatives and strategies is adequately coordinated across government agencies.

Further advancement on the above points would have tremendous positive impact on the lives of poor people working in the small-ruminant subsector in rural Ethiopia. Given the SRVCs' huge economic potential, and continuously increasing demand projections for animal products, it will be the Ethiopian government's responsibility to ensure that such growth improves the access of the poorest members of society to productive, gainful, and safe employment, and helps them achieve greater prosperity.

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9 Annex: additional statistical tables and figures

Table 9.1 Sample disaggregation by selection method and *woreda*

Woreda code	Selection Methods				Total
	Randomize	% of random	Purposive	% of purposive	
Atsbi (T)	225	26.8%	8	9.6%	233
H/Wajirat (T)	231	27.5%	14	16.9%	245
Legambo (A)	221	26.3%	1	1.2%	222
Basona Worena (A)	164	19.5%	60	72.3%	224
Total	841	100.0%	83	100.0%	924
Pearson	chi2(3)=118.5815				Pr=0.000

Table 9.2 Breakdown of achieved sample of principal respondents by gender and *woreda*

Woreda			Gender		
			Male	Female	Total
Atsbi (T)	Count		216	59	275
	% within Woreda		78.5%	21.5%	100.0%
H/Wajirat (T)	Count		242	28	270
	% within Woreda		89.6%	10.4%	100.0%
Legambo (A)	Count		244	30	274
	% within Woreda		89.1%	10.9%	100.0%
Basona Worena (A)	Count		225	68	293
	% within Woreda		76.8%	23.2%	100.0%
Total	Count		927	185	1112
	% within Woreda		83.4%	16.6%	100.0%

Table 9.3 Contrasting average and median age with respondent types

resp_type		Gender			
		Male		Female	
		Age		Age	
		Mean	Median	Mean	Median
Producer		46.12	45	41.58	40
Trader / processor		35.76	35	32.00*	32*
Input supplier / service provider		40.00	43	27.71	25
Wage worker		26.72	23	16.50*	17*

* Less than 3 observations

Table 9.4 Sample frame of producers

Region	Woreda	Kebelle	Total Population	Producers			
				Sample from randomisation	Share of random sample of total population	Sample from randomization and other purposive sampling	Share of random and purposive samples
Tigray	Atsbi	Hadnet	2017	56	2.78%	60	2.97%
		Felegeweyni	656	54	8.23%	55	8.38%
		Habes	989	56	5.66%	56	5.66%
		Dibab	1550	59	3.81%	62	4.00%
		Alkoren					
	Total Woreda	5212	225	4.32%	233	4.47%	
		Tsehafti	-	58	-	63	-
	H/Wajirat	Adikeyh	1741	59	3.39%	60	3.45%
		Haroko	-	55	-	63	-
		Freweyni	1357	59	4.35%	59	4.35%
Total Woreda		3098	231	7.46%	245	7.91%	
Total Region		8310	456	5.49%	478	5.75%	
Amhara	Legambo	Temu	1510	59	3.91%	59	3.91%
		Chiro	1175	61	5.19%	62	5.28%
		Segno	1220	57	4.67%	57	4.67%
		Hote-ber	1125	44	3.91%	44	3.91%
		Total Woreda	5030	221	4.39%	222	4.41%
	Goshebedo	768	41	5.34%	56	7.29%	
	Angolela	728	42	5.77%	56	7.69%	
Debele	Weshaweshign	754	33	4.38%	52	6.90%	
	Debele	716	48	6.70%	60	8.38%	
	Total Woreda	2966	164	5.53%	224	7.55%	
Total Region		7996	385	4.81%	446	5.58%	
Total		16306	841	5.16%	924	5.67%	

Table 9.5 Contrasting age cohorts and respondent types

		resp_type				Total	
		Producer	Trader / processor	Input supplier / service provider	Wage worker		
Age cohorts	<=14	Count	0	0	0	2	2
		% within resp_type	0.0%	0.0%	0.0%	4.1%	0.2%
	15-17	Count	1	0	0	11	12
		% within resp_type	0.1%	0.0%	0.0%	22.4%	1.1%
	18-24	Count	25	18	5	13	61
		% within resp_type	2.7%	15.9%	20.0%	26.5%	5.5%
	25-34	Count	145	39	5	14	203
		% within resp_type	15.8%	34.5%	20.0%	28.6%	18.4%
	35-44	Count	282	34	7	4	327
		% within resp_type	30.7%	30.1%	28.0%	8.2%	29.6%
	45-54	Count	229	13	6	3	251
		% within resp_type	24.9%	11.5%	24.0%	6.1%	22.7%
	55-64	Count	163	5	2	2	172
		% within resp_type	17.7%	4.4%	8.0%	4.1%	15.6%
	65-74	Count	60	4	0	0	64
		% within resp_type	6.5%	3.5%	0.0%	0.0%	5.8%
	>=75	Count	14	0	0	0	14
		% within resp_type	1.5%	0.0%	0.0%	0.0%	1.3%
Total	Count	919	113	25	49	1106	
	% within resp_type	100.0%	100.0%	100.0%	100.0%	100.0%	

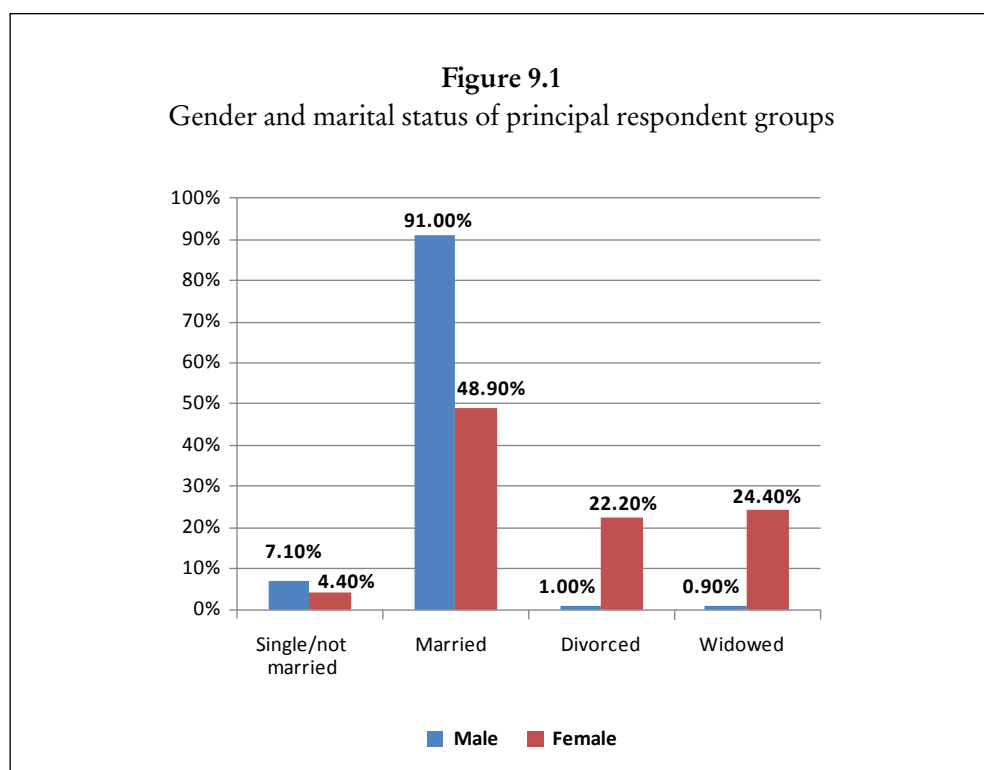


Table 9.6 Average and median age of producers' HHRMs.

		Gender			
		Male		Female	
		Mean	Median	Mean	Median
Region	Amhara	29.06	22	28.55	20
	Tigray	27.59	18	23.69	18

Table 9.7 Producers' HHRMs (aged 15 and older, only) by marital status and gender

		Gender			Total
		Male	Female		
Marital status	Single/not yet married	Count	1 852	1 513	3 365
		% within Gender	58.1%	47.5%	105.6%
	Married	Count	1 022	927	1 949
		% within Gender	32.1%	29.1%	61.2%
	Polygamous	Count	3	3	6
		% within Gender	0.1%	0.1%	0.2%
	Cohabiting	Count	0	4	4
		% within Gender	0.0%	0.1%	0.1%
	Divorced	Count	25	90	115
		% within Gender	0.8%	2.8%	3.6%
	Widowed	Count	18	124	142
		% within Gender	0.6%	3.9%	4.5%
	Total	Count	2 920	2 661	5 581
		% within Gender	100.0%	100.0%	100.0%

Table 9.8 Average small-ruminant herd sizes by age cohort

		Total number of SRs owned by HH					
		Gender of MLH					
		Male		Female			
		Mean	Median	Count	Mean	Median	Count
Age cohort of the MLH	<=14	-	-	0	-	-	0
	15-17	-	-	0	9	9	1
	18-24	14.7	15.0	21.0	23.0	23.0	1.0
	25-34	17.6	12.5	96.0	11.3	10.0	36.0
	35-44	17.3	15.0	201.0	10.1	9.0	55.0
	45-54	20.5	16.0	166.0	12.6	11.0	41.0
	55-64	18.8	15.0	132.0	9.7	8.0	16.0
	65-74	15.7	10.0	56.0	6.0	6.0	1.0
	>=75	15.0	13.5	10.0	4.0	4.0	3.0

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Small-ruminant value chains have been analysed extensively in the past, particularly with a focus on technical aspects of production (such as breeds, feed, animal health, etc.). However, assessing the subsector's real role in poverty reduction requires an analysis that includes the extent of, and potential for, employment creation. For only through productive, gainful and (ultimately) decent employment can people in poverty earn the means to sustainably increase their and their families' well-being. Unfortunately, studies that link small-ruminant value chain analysis with employment assessment in a rigorous and quantitative manner are very rare. This working paper fills the gap and presents a series of findings based on quantitative and qualitative primary data collected in 2014 for FAO's SRVC-Jobs project (Rural poverty reduction through job creation in small-ruminant value chains in the Ethiopian Highlands). Data points to the fact that certain value chain interventions, such as the introduction of market-oriented animal fattening, can potentially reduce poverty, increase employment and make an impact on people's lives. However, in order for that to happen, a number of challenges – both technical (e.g. lack of technical knowledge and veterinary services), socio-economic/cultural (e.g. gender discrimination and child labour) – must be addressed.