ISSN 2521-7240

Food and Agriculture Organization of the United Nations

15

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National poverty profile

FAO AGRICULTURAL DEVELOPMENT ECONOMICS TECHNICAL STUDY

15

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Food and Agriculture Organization of the United Nations
Rome, 2021

Required citation:

Covarrubias, K.A., de la O Campos, A.P. & Cordonnier, V. 2021. *Enhancing the inclusiveness of agro-commodity procurement zones in Ethiopia – National poverty profile.* FAO Agricultural Development Economics Technical Study No. 15. Rome, FAO. https://doi.org/10.4060/cb7980en

ISSN 2521-7240 [Print]

ISSN 2521-7259 [Online]

ISBN 978-92-5-135488-9

Cover photo: ©FAO/Arete/Ismail Taxta

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Preface

As many other African countries, Ethiopia has identified agro-industrialization as a main driver in the inclusive structural transformation of its economy and the modernization of its agricultural sector (Kaspersen and Rankin, 2021). The agro-industrial development model adopted in Ethiopia has been structured around Integrated Agro-Industrial Parks, industrial sites developed by the Government of Ethiopia to provide private companies with the conditions necessary to benefit from economies of scale and from the positive externalities generated when sharing infrastructure, logistics, transport, and laboratory facilities with other companies (Kaspersen and Rankin, 2021). The supply of agricultural commodities to these parks is of strategic importance to reduce rural poverty in the country. This supply is meant to be provided through a network of Regional Transformation Centres involved in the primary processing of such commodities, aggregating the agricultural produce of thousands of farmers (mostly smallholders) located within a 100-km radius surrounding the parks. These are called Agro-Commodity Procurement Zones (ACPZs) (Kaspersen and Rankin, 2021).

In this context, as a part of the Hand-in-Hand Initiative (HIHI) of the Food and Agriculture Organization of the United Nations (FAO), and in partnership with the Government of Ethiopia, a technical cooperation programme has been established to provide "Implementation support to the development of Ethiopia's Agro-Commodity Procurement Zones". The programme seeks to support the Government in accelerating agricultural transformation in two ACPZs linked to the Bulbula and Yirgalem agro-parks, and to provide guidance on improving the inclusivity and sustainability of the investment.

For inclusive processes to take place and lead to poverty reduction and sustainability outcomes, specific actions are required to inform and assess the design of agricultural investments. To meet these objectives, the aforementioned programme is tasked with undertaking an "inclusivity assessment" based on poverty, exclusion, livelihoods and agrarian conditions. This would serve to help formulate recommendations on the targeting, design and implementation of policies and programmes supporting poor, vulnerable, small-scale producers, who should also benefit from investments generated in the ACPZ context. Inclusivity, in the context of the programme, is considered along two dimensions: (1) economic inclusion of poor (including the poorest) people and of marginalized communities, while enhancing their food security; and (2) social sustainability with respect to promoting equity and supporting gender equality, specifically in terms of strengthening local institutions and generating opportunities for women and youth.

This report provides a quantitative profile of Ethiopian rural households across different dimensions of inclusivity, forming an initial input towards the inclusivity assessment described above. It provides an initial characterization of poor and food-insecure people in the country based on the most recent nationally representative living standards survey, the Ethiopian Socioeconomic Survey 2018/19, and gives indications of key characteristics that may identify the poorest and most vulnerable groups, analysed through the lens of the key features of the ACPZ investment. In this respect, the profile complements existing poverty analyses undertaken for Ethiopia, including the World Bank's poverty assessment report (World Bank, 2020), providing an analysis of poverty that is relevant to the investments in ACPZs and agriculture more broadly. Specific emphasis is placed on agricultural production regimes, especially those related to ACPZ priority commodities. These commodities are another focus of this report, in particular concerning their relevance in terms of food and nutrition security. Finally, as this poverty profile seeks to inform questions concerning the

inclusiveness of investments in ACPZs, attention is given to specific population groups of interest, including rural women and youth.

The contents of this report can be used as follows. First, they form a key quantitative input for a "territorial diagnosis" to be conducted in the ACPZs targeted by the technical cooperation programme. Second, the outcomes of the diagnosis, together with this report, can subsequently inform the planning and design of a territorial-level quantitative baseline poverty survey, focusing on households in the ACPZ areas of Bulbula and Yirgalem agro-parks. The survey should measure changes over time as ACPZ development continues, including with the support of the HIHI. In this respect, a follow-up survey to assess the ACPZ's impacts on poverty reduction, using rigorous evaluation techniques, is envisaged to take place in three to five years' time. Finally, this first profile of poverty, food security and livelihoods provides a methodological approach for future analyses conducted by FAO in the context of other countries supported by the HIHI, with the aim at better informing – as well as ensuring that – inclusive processes are generated by the investments supported by the HIHI.

Acknowledgements

This report was prepared in the context of Technical Cooperation Programme TCP/ETH/3802 providing *Implementation support to the development of Ethiopia's Agro-Commodity Procurement Zones*, as part of the Hand-in-Hand Initiative in Ethiopia, and as a first project-specific application of the poverty profiles as proposed by the FAO guide *Rural poverty analysis – From measuring poverty to profiling and targeting the poor in rural areas*, developed by the Technical Network on Poverty Analysis (THINK-PA). We are grateful to Leopoldo Tornarolli and Lorenzo Moncada from the FAO Agrifood Economics Division (ESA) for their feedback on the early draft of this report and to Andrea Cattaneo (ESA) for his peer review of the near-final version.

We also wish recognize the valuable inputs of colleagues of FAO and the Hand-in-Hand Initiative Ethiopia Task Force who provided feedback on the report and contributed to contextualizing results, and who enabled synergies with other project activities to be defined. These colleagues are, in particular: Liila Bagby (Inclusive Rural Transformation and Gender Equality Division, ESP), Adriano Campolino (ESP), Line Kaspersen (FAO Investment Centre, CFI), Maya Hage Ali (FAO representation in Ethiopia, FAOET), Sidy Niang (FAOET), Pie Njinginya (FAOET), Pamela Pozarny (CFI), Marlo Rankin (Markets and Trade Division, EST), Francisco Sarmento (Plant Production and Protection Division, NSP), and Kostas Stamoulis (Governance Unit, DDCG).

Last but certainly not least, we are also grateful to Marco V. Sánchez, ESA Deputy Director, Cristian Morales Opazo (ESA) and the ESA Editorial Board for the review, processing and overall support of this report, to Sarah Pasetto (ESA) for copy-editing the document and to Daniela Verona (ESA) for design and publishing coordination.

Abbreviations and acronyms

ACPZ	Agro-Commodity Procurement Zone
ESS	Ethiopian Socio-economic Survey
ETB	Ethiopian birr
FAO	Food and Agriculture Organization of the United Nations
FCS	food consumption score
FIES	food insecurity experience scale
ha	hectare
HDDS	Household Dietary Diversity Score
IAIP	Integrated Agro-Industrial Park
PSNP	Productive Safety Net Programme
SACCO	savings and credit cooperative
SNNPR	Southern Nations, Nationalities and Peoples Region
TLU	tropical livestock unit

Executive summary

The acceleration of agricultural transformation is a major priority of the Government of Ethiopia. The country has experienced rapid economic growth over the past 15 years, but has not seen that growth translate to the expected structural transformation. The expansion of the manufacturing and services sectors is still nascent, while the agricultural sector faces multiple bottlenecks, preventing it from becoming a modern, highly productive source of employment and incomes. The development of Integrated Agro-Industrial Parks (IAIPs) to stimulate agroindustry forms part of the current strategy to modernize agriculture and drive structural transformation. The investments – both domestic and international – directed towards the Agro-Commodity Procurement Zones (ACPZs), which are tasked with carrying out aggregation within the IAIPs, bring potential not only to accelerate such transformations, but also to make these changes sustainable and inclusive, particularly for millions of poor smallholder farmers.

Identifying the pathways through which ACPZ investments can be sustainable and inclusive requires assessments of the poverty, livelihoods and food security situation of the populations likely to be affected by the IAIPs. By analysing the national trends among rural households along those dimensions, this technical study – the first in-depth analysis of rural areas in Ethiopia using the 2018/19 Ethiopian Socio-economic Survey – provides key observations to guide those assessments.

In addition to presenting an overview of rural household poverty, livelihoods and food security, attention is given to the specific subpopulations more likely to experience vulnerability, offering insights on the heterogeneity underlying the livelihood of the average rural household. The analysis is divided into four parts: (1) rural poverty trends; (2) rural food insecurity trends; (3) an overview of rural household access to resources in terms of livelihoods assets; and (4) an overview of rural household livelihood strategies, with emphasis on crop and livestock commodities of relevance to the IAIPs. The findings of these analytical sections are discussed in the context of the ACPZ investments, identifying topics meriting further investigation and offering an initial framework to guide livelihoods pathways.

The main findings from the descriptive analysis shed light on a series of noteworthy characteristics of rural households and the environment in which they operate.

- Poverty and food insecurity are both highly prevalent in rural areas, though not necessarily experienced by the same sets of households. In particular, **food insecurity affects a large share of rural households**, with two-thirds of the poorest households having skipped a meal and almost half having run out of food. Even among the wealthiest quintiles, 30 percent reported having skipped a meal, almost 40 percent expressed concerns about not having enough food to eat and approximately one-fifth ran out of food.
- Assets ownership is limited in rural areas, with limited reported ownership of vehicles, electric devices and solar panel devices. This is unsurprising, given that **fewer than one-third of households report access to electricity**. Agricultural tools and implements represent the most widely held asset, reflecting the agricultural orientation of most rural dwellers.
- Access to financial services, such as bank accounts for savings and both formal and informal sources of credit, is within reach of a minority of rural households, and women are significantly less likely than men to borrow or hold a bank account. **Liquidity constraints are characteristic of the average rural household**, with only 24 percent reporting savings activity, and borrowing more typically serving to finance input purchases than

investments. Whereas bank account ownership is observed as an indicator of wealth, accessing credit emerged as an indicator of dearth.

- **The extent of social network participation is indicative of a capacity to strengthen livelihoods**, as non-poor households are more likely to benefit from exchange labour networks, to form part of informal insurance associations, and to report linkages to agricultural cooperatives and producer associations. Bottlenecks in rural finance and in rural labour markets seem to be eased in part through such rural networks, which wealthier households – in terms of expenditures and land – seemed better placed to access.
- Agricultural activities are the mainstay of rural livelihoods. However, given constraints that appear to be linked across the agricultural system, they are characterized by limited marketed output and often paired with other activities in order to meet rural household needs.

The main findings of the analysis point to the following broad-based areas for further research and eventual interventions and investments.

1. **Agricultural commercialization.** The on-farm sector forms part of the livelihood strategies of around 95 percent of rural households, with household agricultural activities occupying over three-fifths of rural adults. However, much of these production activities take place at a small scale, with the average area cultivated reported being 0.9 hectares and the median 0.6 hectares. Furthermore, while almost 70 percent of households commercialize crop output, less than one-fifth of total crop output is sold on the market. Among dairy producers, only around 35 percent report commercializing any fresh or processed output. Commercialization is generally not significantly related to poverty status, household expenditures or cultivated area. The lack of economies of scale in production and commercialization points to constraints not only at the household level in terms of productivity bottlenecks, but potentially also in terms of markets, scale of demand, and linkages to the value chain and post-harvest infrastructure and services.
2. **Unemployment and the diversification of the rural economy.** Participation in non-agricultural activities is scant in the rural space. Few households engage in off-farm labour activities, and few maintain non-farm household enterprises. Inactivity affects almost one-quarter of rural adults, and this state is significantly more prevalent among rural women. Most jobseekers point out that employment opportunities are scarce and that a mismatch in skills or age profiles is a key impediment to finding work. By contrast, those who do engage in non-agricultural wage labour, or who report managing a non-farm enterprise, are significantly more likely to be non-poor, and in turn are more likely to hold more human, physical, financial and social capital. Investments that encourage the growth and diversification of the rural economy garner potential to encourage rural poverty reduction, inasmuch as they also seek to sustainably build the multidimensional asset base of poor households.
3. **Nutrition-sensitive interventions.** A diverse picture of food insecurity and poverty was mapped out by indicators such as the food consumption score, the food insecurity experience scale and the Household Dietary Diversity Score. However, little variability was observed across poor and non-poor households in terms of their staple food consumption patterns, and in terms of the diversity of the production portfolio, which often serves household consumption purposes. Consumption of protein is, however, differentiated across poverty lines, with access to food groups such as meat, eggs and dairy constrained among poor people. Given the widespread ownership of livestock, targeted nutrition interventions could address improving animal productivity and by-product production. Targeted support to producers of nutrient-rich crops through investments – for example,

that improve irrigation access, which are critical for vegetable and fruit production – could also enable scaling up the production of these cultivars. With almost 25 percent of rural poor households reporting food shortages in at least one month of the year, supporting production outcomes and market access to food can also be paired with improved household access to storage infrastructure.

4. **Local institutions and support networks.** A rich set of local institutions – including cooperatives, organizations, associations and informal networks – populate the rural space, each with different membership requirements. The objectives of these institutions are diverse, including financial services, input access, commercialization channels and extension services. While this offering complements formal, private or market-based providers, the membership requirements of these institutions vary and may not be inclusive of the poorest households. Even among traditional networks, such as *iddir*,[1] membership is more prevalent among households with higher levels of education. *Iqqub*[2] participation emerges as pro-poor; however, the widespread relevance of these entities in rural areas is unclear. The formation and recognition of "common interest groups" among vulnerable groups may serve to strengthen their networks, foster inclusion, enhance access to resources, and build capacity in ways that would otherwise be inaccessible for their members.

An enhanced understanding of these topics at the local level will provide necessary inputs for the design and targeting of investments in contexts such as the ACPZs. Adequate attention to the issues raised in this poverty profile report, complemented with territorial-level investigations, will serve as a basis for developing a knowledge base and targeting tools and interventions that can be operationalized by stakeholders in these investment areas.

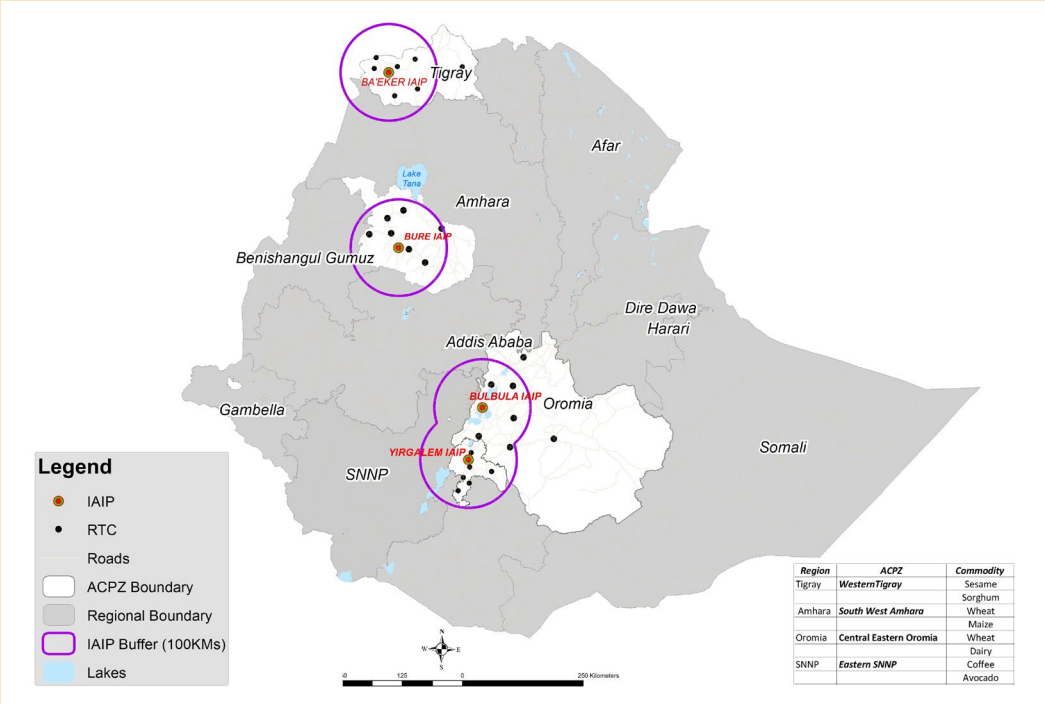
[1] *Iddir*: a traditional form of social and economic insurance.

[2] *Iqqub*: a traditional rotating savings association.

1 Introduction

While Ethiopia has experienced relatively high rates of economic growth during the past 15 years, the country remains predominantly agricultural and structural transformation is still incipient (FAO, 2020a). Since 2009, the Government of Ethiopia has developed Integrated Agro-Industrial Parks (IAIPs) around the country. These structures are based on a growth corridor analysis, with the objectives of stimulating the country's agro-industry sector, modernizing the agricultural sector and, thus, driving further structural transformation of the economy (FAO, 2019; Kaspersen and Rankin, 2021). For the 2020–2025 period, four IAIPs were identified as pilots for this development, one in each region of Amhara, Oromia, Southern Nations, Nationalities and People's Region (SNNPR), and Tigray. In order to supply the IAIPs with necessary agricultural products, certain areas in the circumference of the parks were designated as Agro-Commodity Procurement Zones (ACPZs). Within the ACPZ, aggregation is envisioned to occur through Rural Transformation Centres (RTCs), which collect from Primary Collection Centres (PCCs); these, in turn, ultimately, collect from the farmer level. Figure 1 presents the location of the pilot IAIPs, ACPZs and RTCs.

FIGURE 1 Map of Agro-Commodity Procurement Zone areas



Source: OCHA (2021) modified by the authors based on information provided by the Ministry of Agriculture of Ethiopia, the Ministry of Finance and Economic Development of Ethiopia and the United Nations Industrial Development Organization (UNIDO).

In 2019, with funding from the European Union, the Food and Agriculture Organization of the United Nations (FAO) led the development of investment plans for ACPZ areas, designated around the four pilot ACPZs, and identified three key outcomes. The first outcome is increased production and productivity through the adoption of modern inputs, irrigation, mechanization and sustainable management. The second outcome is a promotion of agricultural commercialization through improvements in post-harvest handlings and storage, aggregation and quality, formalization of market channels and development of agro-infrastructure. The third outcome is institutional strengthening, through capacity building (farmers' trainings), support to small and medium enterprises, access to finance, and coordination of the ACPZ investment.

Various feasibility assessments and value chain studies conducted between 2014 and 2018 identified lead and priority commodities within each ACPZ, in order to meet the needs of the designated IAIP within the same region. Table 1 describes the commodity focus of each ACPZ. Although the ACPZ areas do not represent the entirety of the region in which they are located, and thus cannot be isolated one-to-one using the secondary data sources available, national and regional trends can provide insights on potential characteristics of vulnerable people at the ACPZ level.

TABLE 1 Agro-Commodity Procurement Zone lead and priority commodities

ACPZ	Region	Lead commodity		Other priority commodities	
		Crop	Livestock	Crop	Livestock
Baeker	Western Tigray	Sesame Sorghum			Red meat Dairy
Bulbula*	Central-Eastern Oromia	Wheat	Dairy	Tomato Potato Haricot bean	Red meat
Bure	Southwest Amhara	Wheat Maize		Sorghum	Red meat Dairy
Yirgalem*	Eastern SNNPR; Sidama	Coffee Avocado			Red meat Dairy

Notes: Asterisks denotes the two focus ACPZs addressed by the technical cooperation programme.
Source: FAO, 2019.

With the ACPZ investment seeking to improve the production, productivity and commercialization of the agricultural sector, and the IAIPs pursuing the development and modernization of agro-industry, an opportunity exists for the investment to benefit households in ACPZ areas that are directly and indirectly engaged in agriculture. In addition, it should be ensured that, as a minimum, the development of the value chain does no harm to the local communities, and, optimally, includes them in the processes of value chain and economic development as much as possible. In particular, given the small scale of most household agricultural activities in Ethiopia, the investment may benefit small-scale producers. However, whether and how this investment can be inclusive of vulnerable groups is unknown.

By characterizing poverty, food insecurity and livelihoods within the ACPZ areas, this report seeks to provide quantitative evidence to support the targeting of the poorest and most vulnerable groups for inclusion in the ACPZ investment. Given the agricultural focus of the ACPZ investment, this report will concentrate on households in rural areas,[3] whose livelihoods – the report will demonstrate – are primarily reliant on the agricultural sector, inclusive of crop and livestock activities. Nevertheless, rural households not engaged in agriculture – a minority – are also considered in the profiles, as the ACPZ investments have the potential to generate labour effects and an impact on households through broader influence on the entire rural economy.

More specifically, this report will build a profile of Ethiopian rural households that: (i) takes stock of the livelihoods assets held by rural households; (ii) describes the livelihoods activities performed by rural households; and (iii) provides an in-depth look at the agricultural activities of rural households (definitions of these terms are provided in Section 2.2). Each of these areas will draw comparisons between poor and non-poor households, and examine other measures of vulnerability.

Whereas this profile seeks to assess the various dimensions of vulnerability in the specific context of the ACPZ investments, the guiding framework relies on additional inputs. FAO's technical network on poverty analysis (THINK-PA) has recently launched guidelines for conducting poverty analyses, including poverty profiles in the context of rural areas and agricultural livelihoods (FAO, 2021b). This profile is one of the early applications of these guidelines in a project context. The Sustainable Livelihoods Framework (DFID, 1999) is also referenced, as it provides a structure for characterizing the livelihoods assets described in this report. These two frameworks offered an initial skeleton that was then further refined to meet the information needs of the activities of the FAO technical cooperation programme. As a result, this report is neither a typical poverty profile nor a complete sustainable livelihoods analysis, but rather an adaptation of these studies tailored to the project context being addressed.

The profile is divided into four sections. Following this introduction, the data and methods are covered in Section 2, which also describes the main secondary data sources and key indicators of poverty, food security and vulnerability. Sections 3 and 4 present the results in terms of rural poverty and food security, respectively. Access to resources is covered in Section 5, while Section 6 provides a detailed analysis of the main livelihood strategies. Agricultural livelihoods are explored in depth, with specific attention to ACPZ commodities. Section 7 wraps up with a summary of the main characteristics of poor rural households, and a stocktaking discussion regarding the main target household types, topics for further investigation and issues of relevance, paired with initial recommendations for improving the inclusiveness of the ACPZs.

[3] The vast majority of households in rural areas participate in agricultural activities. Urban agriculture also exists and is relevant for certain commodities; however, the ESS 2018/19 did not administer an agricultural module to urban households, precluding any analysis of urban agriculture.

2 Data and methods

KEY MESSAGES

- The main data source is the 2018/19 Ethiopian Socio-Economic Survey, a multitopic household survey, representative at the national, regional and urban/rural level. The survey collected detailed information on a variety of topics, including demographics, consumption, food security, labour and agriculture.
- Poverty status is captured through household consumption expenditure in adult equivalent units, based on the 2015/16 official poverty line.
- Food security is captured through five indicators: (i) the food gap; (ii) the Food Insecurity Experience Scale; (iii) the Household Dietary Diversity Score; (iv) the Food Consumption Score and (v) child anthropometric indicators.
- The analysis focuses primarily on rural households; however, it also explores heterogeneity across regions as well as specific target groups, defined based on their land, livelihoods and demographic characteristics.

2.1 Data sources

The poverty profile relies on secondary data sources. The main source analysed is the 2018/19 Ethiopia Socio-Economic Survey (ESS). The ESS is a nationally representative survey implemented by the Central Statistical Agency of Ethiopia in collaboration with the World Bank, as part of the Living Standards Measurement Survey (LSMS) Integrated Surveys on Agriculture (ISA). The survey was administered from September 2018 to August 2019, with multiple visits to households in order to collect detailed information about household members, their living standards and their livelihood activities. The survey collected household, post-planting, post-harvest, livestock and community questionnaires; the detailed contents of these questionnaires, as well as information on survey design and implementation, are described by the World Bank (World Bank, 2020). The comprehensive set of information collected at the community, household, individual, parcel, crop and agricultural-holder levels provides a rich database for characterizing household vulnerabilities, livelihoods and food security. The survey was designed to be representative of the ten regions of Ethiopia; therefore, reliable disaggregated statistics can be obtained at the regional level, but not for subregions (e.g. zones, districts or ACPZs).[4]

Table 2 describes the coverage of the ESS 2018/19 at the national level and disaggregated by urban/rural areas and agro-ecological zones. These zones reflect the temperature, moisture and elevation of the Ethiopian territory (Sebastian, 2009). Tropics areas are those with a temperature higher than 18oC over the whole year, a criterion fulfilled by the entire

[4] Because of security problems in the Somali region during the implementation of the ESS 2018/19, the agricultural module was not administered there. As a result, Somali is not included in the analysis of this report based on the ESS, except in certain tables (where the region is specifically mentioned).

Ethiopian territory. Warm areas pertain to lowlands, and cool areas to highlands. The length of the growing period (LGP)[5] informs the classification as arid/semi-arid/subhumid/humid areas. Arid areas have an LGP under 70 days; semi-arid areas between 70 and 180 LGP; subhumid areas between 180 and 270 days; and humid areas, more than 270 days. The vast majority of the rural population is found in the highlands, with almost half concentrated in subhumid areas where production is possible over more than half the calendar year.

TABLE 2 Ethiopian Socio-economic Survey 2018/19 sample characteristics

	Region	Number of Households	Number of Individuals	% rural	% sample by agro-ecological zone (rural only)					
					Tropics warm (lowlands)			Tropics cool (highlands)		
					Arid	Semi-arid	Subhumid	Arid, Semi-arid	Subhumid	Humid
Ethiopia		6 770	29 503	0.68	0.02	0.06	0.01	0.27	0.48	0.16
Regions with a pilot ACPZ	Amhara	750	3 008	0.71		0.04		0.44	0.52	
	Oromia	753	3 483	0.71		0.02		0.20	0.62	0.15
	SNNPR	691	3 298	0.75		0.02	0.03	0.02	0.46	0.47
	Tigray	676	2 766	0.65		0.15		0.85		
Regions without a pilot ACPZ	Afar	524	2 302	0.64	0.11	0.78		0.11		
	Benishangul Gumuz	364	1 511	0.65			0.33		0.67	
	Gambela	495	2 260	0.52			0.60		0.25	0.15
	Harar	550	2 103	0.43				1.00		
	Somali	610	3 495	0.72	0.46	0.34		0.20		
	Addis Adaba	778	2 956							
	Dire Dawa	579	2 321	0.30		0.23		0.77		

Source: Authors' own elaboration based on ESS 2018/19.

In addition to the ESS, the food insecurity experience scale (FIES) survey data is utilized to analyse the FIES indicator. Collected by FAO in collaboration with Gallup World Poll (GWP), the FIES survey was administered in Ethiopia on an annual basis from 2015 to 2019 and is representative of the adult population (above 15 years of age) at the urban/rural level. The FIES is designed to measure the second dimension of food security – food access – through the collection of individual experiences with multiple dimensions of food insecurity. The five years' worth of FIES survey data available are averaged to provide a sufficiently large sample to analyse over rural income levels.

[5] "The *length of growing period (LGP)* concept identifies the time with both moisture and temperature are conducive to crop growth. Length of growing period is defined as the period during the year when average temperatures are greater than or equal to 5oC (Temperature mean >=5o C) and precipitation plus moisture stored in the soil exceed half the potential evapotranspiration (P>0.5PET)" (Sebastian, 2009).

2.2 Indicators

The key indicators of this report used to classify households in terms of poverty, food insecurity and livelihoods are based on household-level indicators. These are described in the following subsections.

Poverty

The official national poverty line in Ethiopia is ETB[6] 7 184 per adult equivalent per year (PDC, 2018; World Bank, 2020). A poor household is one whose household consumption expenditure per adult equivalent terms falls below this poverty line. The figure was set based on the consumption patterns of the 2015/16 Household Income and Consumption Expenditure Survey (HICES), and was not re-estimated with the ESS data due to important differences in the survey questionnaires that precluded replication of the poverty line estimation methodology. For this reason, this report also assumes that the proportion of the population living in poverty remained the same between surveys. This implies that for this report, households in the ESS 2018/19 are classified as poor when their monetary consumption falls below the poverty line of the 2015/16 HICES.

In addition to the poverty classification, the use of consumption quintiles illustrates trends in key indicators across multiple levels of poverty.

Food insecurity

Food and nutrition security is based on four dimensions – food availability, access, utilization and stability – such as that "[f]ood security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 1996). A single metric cannot capture all dimensions of food insecurity; hence, various indicators are used to illustrate different challenges for food and nutrition security outcomes.

In this report, food availability (and stability) is captured through a measure of the **food gap** – which considers the number of months – of the 12 months preceding the survey, in which the household reports having had insufficient access to food. Based on this indicator, a dichotomous classification of **food insufficiency** identifies those households that experienced at least one month of insufficient access to food.

Food access is captured through three indicators. The **FIES** indicates the degree of food insecurity according to a set of eight "experience" questions that indicate the extent to which the household had insufficient quantity and quality of food. The **Household Dietary Diversity Score** (HDDS) measures, out of 12 potential food groups, the number of food groups from which households consumed food in the previous seven days[7] (Kennedy, Ballard and Dop, 2013). The **food consumption score** (FCS)[8] is a weighted index of consumption from eight food groups in the previous seven days. Based on the FCS, households are categorized as having "poor", "borderline" or "acceptable" food consumption levels.

Food utilization and nutritious dimensions are captured through **child anthropometric indicators** (stunting, wasting, underweight), which point to past and contemporaneous nutritional deficiencies in child growth.

6 Ethiopian birr; December 2015 prices; equivalent to approximately to USD 341 per year or USD 0.93 per day.

7 The FAO HDDS methodology recommends using the previous 24 hours as the reference period for data collection on dietary diversity. However, the reference period can be adjusted to different contexts.

8 The FCS is calculated according to the methodology developed by the World Food Programme (WFP, 2015).

In addition to these indicators, consideration of the household production portfolio is also relevant in terms of engaging in the production, consumption and commercialization of nutrient-dense commodities. The composition of the production portfolio in a context where households consume or sell an important share of their output has direct consequences for nutritional outcomes; the diversification of such portfolios can have further implications. Furthermore, commercialization of production in this context could be beneficial if remuneration leads to the purchase of nutrient-rich foods. On the other hand, it could be detrimental if it is compensated by consumption of nutrient-scarce foods. The degree of participation and barriers to participation in nutrient-dense value chains may represent a bridge between the ACPZ's priorities and the potential for improved food and nutrition security outcomes.

2.3 Target groups

The analysis focuses on rural households. However, these constitute a diverse group: rural households have different likelihoods of engaging in activities of relevance to the ACPZ; different avenues through which to engage; and, possibly, different potentials to benefit from the ACPZ investment. In order to identify inclusive pathways, it is necessary to identify key groups, in terms of those best positioned to participate in the production dimension of the ACPZs, and those that may instead gain entry from activities occurring further along the commodity chain (processing, labour, etc.) or within the broader ACPZ model, through alternative income streams (e.g. semi-skilled employment, trading, household enterprises). Table 3 describes the share of the rural population, and of the population in ACPZ-hosting regions, that fall into each of the target groups.[9]

Producers of ACPZ lead commodities and other priority commodities

These are the households reporting any production during the previous agricultural season of the commodities listed in Table 1. They are an obvious target group, as the production sourced from such households has potential for aggregation in the ACPZs. As this group represents almost half of rural households (Table 3), understanding the extent to which these producers also form a vulnerable group will provide insights on how ACPZ investments must be designed in order to improve production and productivity in an inclusive manner.

Landless households without livestock

The categorization of landlessness in this report identifies rural households that do not hold any land, acquired through any means, for cultivation or grazing purposes. These households are land-constrained in terms of private landholdings; however, they may be able to access land through community means, a type of access that was not observed by the available ESS survey data. In order to differentiate this group from pastoralists (described below), this categorization is paired with the lack of livestock holdings – thus proposing a clearly defined target group that is unlikely to gain from the production-oriented investments in the ACPZs. This minority group in rural areas may instead stand to benefit from up- or downstream linkages of agriculture. These households may gain as potential small and medium enterprise operators, or by engaging in agricultural service activities such as labour gangs or machinery rings. The extent to which such gains would be possible relies on parallel factors such as education and financial literacy.

[9] Apart from the distinction between "lead commodity producers", who are landholders by definition, and "landless", the remaining groups are not intended to be mutually exclusive categorizations.

Pastoralist households

These households hold livestock but do not report holding any agricultural land, in the survey data. Unlike the landless, these households may very well access land, but through common property resources – a form of access that is not observed in the ESS. Although a relatively small share of rural households in ACPZ regions are pastoralist (Table 3), this group could potentially contribute to the ACPZ aggregation chain, provided that the ACPZ institutions are structured to integrate output from this type of population.

Households with low dependency ratio

The dependency ratio is defined as the ratio between the number of "dependents" in a household (children under 15 and elderly persons above 65) and the number of working-age adults (between 15 and 65 years old). A low dependency ratio is defined as a dependency ratio below the median for the household's region of residence. *This group thus characterizes households with an abundant supply of working-age members relative to children and the elderly*. These households, which account for over 40 percent of the rural population, may have the potential to optimize their labour supply in agricultural or non-agricultural activities, depending on their land and human capital endowment.

Target groups based on gender, age and education

Women and youth are identified as priority targets of the ACPZ for increased employment and income generation along the commodity chain (FAO, 2019). Focusing on households headed by women and on those with young heads (under 35 years old) will identify these potential beneficiaries. Furthermore, considering educational attainment (at least primary schooling completed by household members 15 to 35 years of age) will illustrate the stock of human capital in relation to concerns of high levels of youth unemployment in Ethiopia. Particular attention will be given to households and individuals meeting the criteria of several target groups, such as:

- female-headed and landless households;[10]
- female-headed households with young formally schooled members; and
- youth-headed households with young formally schooled members.

Other groups

Groups that diverge from the aforementioned classifications may also be analysed, such as households with connections to agricultural cooperatives and farmer organizations, or commercially oriented households. These may be explored unsystematically in relevant sections of the report.

[10] Whether holding livestock or not.

TABLE 3 Share of households, by target group (rural only)

	Overall	ACPZ regions	Other regions	Significance	No. households
Lead commodity producer	0.49	0.75	0.39	***	2 760
Pastoralist	0.39	0.06	0.59	***	2 760
Landless and lacking livestock	0.03	0.03	0.14	***	2 760
Landless and female-headed	0.15	0.04	0.27	***	2 760
Young, schooled members	0.27	0.24	0.16	***	2 760
Female-headed and young schooled members	0.08	0.05	0.06		2 760
Youth-headed and young schooled members	0.11	0.07	0.06		2 760
Low dependency ratio	0.44	0.38	0.41		2 760

Notes: The "Significance" column reports the results of the *t*-test of differences in means across "ACPZ regions" and "Other regions". Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

In addition to presenting results in this report according to indicators of poverty and food insecurity, and the target groups above, disaggregation also takes place across geographic areas. Geographic disaggregation is reported for rural/urban areas, by region and by agro-ecological zone, when relevant and data permitting. The overall manner in which the information is interrelated may provide targeting criteria of relevance when fostering inclusivity in the ACPZs.

3 Rural poverty

KEY MESSAGES

- Poverty is highest in the rural areas of Ethiopia. The poverty rate varies considerably across regions, with the highest levels observed in regions where ACPZ investments are made, as well as in Benishangul Gumuz.
- Poverty is also concentrated in rural lowland-subhumid areas (only observed in SNNPR), in lowland-arid areas (non-ACPZ-pilot areas), and in highland arid and semi-arid areas (primarily Tigray and Oromia).
- Poverty rates are highest among landholding households, those with high dependency ratios, and those whose livelihood strategies rely on both on-farm and off-farm work.

3.1 Descriptive analysis

As shown in Table 4, 22.3 percent of the population in Ethiopia falls below the national poverty line.[11] At regional level, the lowest incidence of poverty is observed in Harari (7 percent of the population), Dire Dawa (15 percent) and Addis Ababa (17 percent). As for the other regions, poverty is highest in Benishangul Gumuz and Tigray (25 percent). Among the regions targeted for ACPZ investments, Tigray reports the highest incidence of poverty, at 25 percent, followed by Amhara with 24 percent, Oromia with 23 percent and SNNPR with 20 percent.

In rural areas, a greater share of the population is poor compared to urban areas, reflecting the urban/rural differences in livelihoods and living standards. This pattern is consistent across regions, with rural areas reporting poverty rates that are 1.5 to 2 times greater than those in urban areas, even in regions with overall lower poverty rates such as Dire Dawa. In the ACPZ regions, the rural poverty rate ranges from 22 percent (SNNPR) up to 31 percent (Tigray). Total household consumption expenditure per adult equivalent is significantly lower among poor households (ETB 5 812), which report total consumption expenditure that is 3.6 times lower than among non-poor households (ETB 21 459).

Subdividing the territory according to agro-ecological zone (Table 5), it is possible to observe the homogeneity of rural territories: poverty rates vary little across agro-ecological zones. Instead, the rural/urban divide becomes more evident. Across most agro-ecological zones, urban areas record significantly lower poverty rates than rural areas, ranging from 11 to 19 percent, as compared to 25 to 28 percent in rural areas. Only for lowland/arid and semi-arid areas is the urban poverty rate (33 percent) comparable to that observed in the rural space (27 percent).

[11] The poverty figures in this section are drawn from the ESS 2018/19; differences with respect to the figures provided by the Planning and Development Commission of Ethiopia (PDC, 2018) and the World Bank (World Bank, 2020) are due to changes in the population distribution since 2015/16.

TABLE 4 Poverty rate, by geographic region

	Total	Rural	Urban	Significance	No. households
National	0.22	0.26	0.15	***	6 770
By region					
Tigray	0.25	0.31	0.14	***	676
Amhara	0.24	0.29	0.12	***	750
Oromia	0.23	0.26	0.15	***	753
SNNPR	0.20	0.22	0.15	**	691
Afar	0.21	0.27	0.11	***	524
Somali	0.23	0.22	0.23		610
Benishangul Gumuz	0.25	0.29	0.18	**	364
Gambela	0.22	0.27	0.17	***	495
Harari	0.07	0.09	0.06		550
Addis Ababa	0.17		0.17		778
Dire Dawa	0.15	0.24	0.11	***	579

Notes: The "Significance" column reports the results of the *t*-test of difference in means across rural and urban areas. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

TABLE 5 Poverty rate, by agro-ecological zone

	Total	Rural	Urban	Significance	No. households
National	0.22	0.26	0.15	***	6 770
By agro-ecological zone					
Lowlands: arid	0.28	0.27	0.33		354
Lowlands: semi-arid	0.25	0.27	0.19		1 049
Lowlands: subhumid	0.21	0.28	0.12	**	461
Highlands: arid and semi-arid	0.23	0.28	0.11	***	2 026
Highlands: subhumid	0.21	0.25	0.16	***	2 378
Highlands: humid	0.23	0.25	0.11	***	412

Notes: Estimates include Somali region. The "Significance" column reports the results of the *t*-test of difference in means across rural and urban areas. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Characterizing poverty by target groups reveals trends regarding household composition, education and land, reported in Table 6. Poverty is associated with a higher-than-average dependency ratio in all regions, which illustrates the economic challenges faced by households with few working-age members compared to children and elderly members.

Formal schooling is associated with lower poverty rates, especially in Oromia and SNNPR; however, this ultimately depends on the gender and age of the household head. In Oromia, female-headed households with young, schooled members record a higher-than-average poverty rate (27 percent), an outcome that suggests this group is unlikely to overlap with the female-headed and landless group, but also reveals geographic heterogeneity, gender, schooling and poverty trends. By contrast, those in Oromia with a young household head and schooled members record a poverty rate of only 5 percent. In SNNPR, this same group is poorer than in the other regions; however, this trend is not observed for the female-headed households in the region.

The characterizations of target groups indicate that poverty and landlessness are not linked to female headship. Instead, the poverty rate among female-headed landless households is consistently lower than the national and regional averages, which suggests that the economic activities of this group may fall within better-remunerated sectors or that they are more likely to benefit from social assistance. This observation is consistent with that made by the World Bank (World Bank, 2020), which points to lower poverty rates among female-headed households.

Pastoralist households – those that are landless and hold livestock – emerge as the most vulnerable, with above-average poverty rates in certain regions, such as SNNPR. Instead, landless households that do not hold livestock record below-average poverty rates, which is indicative of a different livelihoods orientation, including outside agriculture.

◆ TABLE 6 Poverty rate, by target groups and livelihood activities (rural only)

	National	Tigray	Amhara	Oromia	SNNPR	Other regions
Rural poverty rate	0.26	0.31	0.29	0.25	0.22	0.23
Target groups						
Landholder	0.27	0.36	0.30	0.26	0.22	0.28
Pastoralist	0.28	0.33	0.25	0.22	0.50	0.28
Landless	0.21	0.13	0.22	0.20	0.36	0.23
Landless without livestock	0.19	0.07	0.21	0.18	0.12	0.05
Female-headed and landless	0.20	0.18	0.23	0.13	0.22	0.18
Low dependency ratio	0.22	0.30	0.23	0.24	0.16	0.17
High dependency ratio	0.28	0.32	0.31	0.26	0.27	0.31
Young, schooled members	0.23	0.34	0.29	0.21	0.15	0.19
Female head and young, schooled members	0.23	0.29	0.23	0.27	0.18	0.07
Young head and young, schooled members	0.09	0.05	0.04	0.05	0.22	0.18

Source: Authors' own elaboration based on ESS 2018/19.

Overall, the relationship between land quintiles and poverty (Table 7) provides further indications that poverty is not clearly associated with landlessness, when represented by household holdings of agricultural land, nor with the quantity of landholdings.[12] Approximately 21 percent of rural landless households are poor, whereas between 20 and 36 percent of landholding households are poor.

TABLE 7 Poverty rate, by land quintiles and geographic regions (rural only)

		Land quintile				
	Landless	Bottom	Second	Third	Fourth	Top
Average holding (ha)	0.00	0.11	0.36	0.68	1.21	2.77
National	0.21	0.25	0.33	0.26	0.29	0.20
By region						
Tigray	0.13	0.36	0.42	0.39	0.30	0.32
Amhara	0.22	0.21	0.39	0.34	0.30	0.27
Oromia	0.20	0.25	0.41	0.22	0.30	0.14
SNNPR	0.36	0.24	0.18	0.20	0.27	0.19
Other regions	0.23	0.33	0.26	0.25	0.28	0.24

Notes: The "Landless" category comprises households without any reported agricultural landholdings.
Source: Authors' own elaboration based on ESS 2018/19.

At a national level, this relationship suggests different livelihoods typologies over the land distribution categories, such that landlessness is not necessarily a poverty correlate on its own: such households may optimize a non-agricultural livelihood strategy (Table 8).

TABLE 8 Share of households participating in non-agricultural activities, by landholding status (rural only)

	Landless	Landholder	Significance	No. landless	No. landholder
National	0.45	0.32	***	948	2 167
ACPZ regions					
Tigray	0.59	0.47		79	314
Amhara	0.66	0.38	***	71	408
Oromia	0.34	0.26		62	391
SNNPR	0.31	0.31		31	391

[12] The absence of a clear correlation between land size and poverty may reflect a negative correlation between land size and land quality. Ethiopian farmers historically accessed land through large-scale land redistributions; while the size of the land was primarily allocated based on household size, quality of the land was also an allocation criterion in some contexts (Rahmato, 1984; Holden and Yohannes, 2002).

TABLE 8 (cont.) Share of households participating in non-agricultural activities, by landholding status (rural only)

	Landless	Landholder	Significance	No. landless	No. landholder
Other regions					
Afar	0.45	0.44		249	50
Somali	0.42	0.58		334	21
Benishangul Gumuz	0.30	0.26		12	157
Gambela	0.68	0.17	***	26	169
Harar	0.77	0.27	***	21	169
Dire Dawa	0.55	0.53		63	97

Notes: Participation in non-agricultural activities indicates that the household runs a non-farm enterprise or that at least one household member was employed in salary or temporary wage work in the previous 12 months. The "Significance" column reports the results of the *t*-test of difference in means across landless households and landholders. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

In terms of livelihoods activities, Table 9 reports poverty rates for lead commodity producers (those that produced any commodity prioritized by the ACPZs)[13] as well as for a simple typology of household livelihood strategies: (1) specialized crop or livestock producers representing households that only work on household agricultural activities; (2) specialized off-farm, representing households that only engage in labour or household enterprise activities; and (3) diversified, representing households that engage in on-farm and off-farm activities.

◆ TABLE 9 Poverty rate, by target groups and livelihood activities (rural only)

	National	Tigray	Amhara	Oromia	SNNPR	Other regions
Rural poverty rate	0.26	0.31	0.29	0.25	0.22	0.23
Livelihoods activities						
Lead commodity producer (crop/livestock)	0.27	0.39	0.29	0.26	0.24	0.28
Typology						
Specialized: on-farm	0.25	0.31	0.26	0.25	0.21	0.31
Specialized: off-farm	0.24	0.12	0.32	0.00	0.00	0.28
Diversified: on-farm and off-farm work	0.38	0.47	0.43	0.34	0.29	0.11

Source: Authors' own elaboration based on ESS 2018/19.

[13] The statistics on lead commodity producers by region (as in Table 9) represent production of the ACPZ commodities prioritized only for that specific region, as reported in Table 1.

In Oromia and SNNPR, poverty is slightly above the regional average for households that produce lead commodities. This suggests that production of these commodities may be performed by poorer households. In Amhara, no difference is observed across this dimension, while in Tigray, lead commodity producers report poverty rates 8 percentage points above the regional average.

Specializing in agricultural activities on the farm is not a priori associated with higher poverty rates in the regions of interest for ACPZ investment. Instead, diversification across on-farm activities is associated with higher poverty rates in these regions. This suggests that diversification may be a remedial risk management strategy among asset-constrained households.

3.2 Multivariate analysis: correlates of poverty

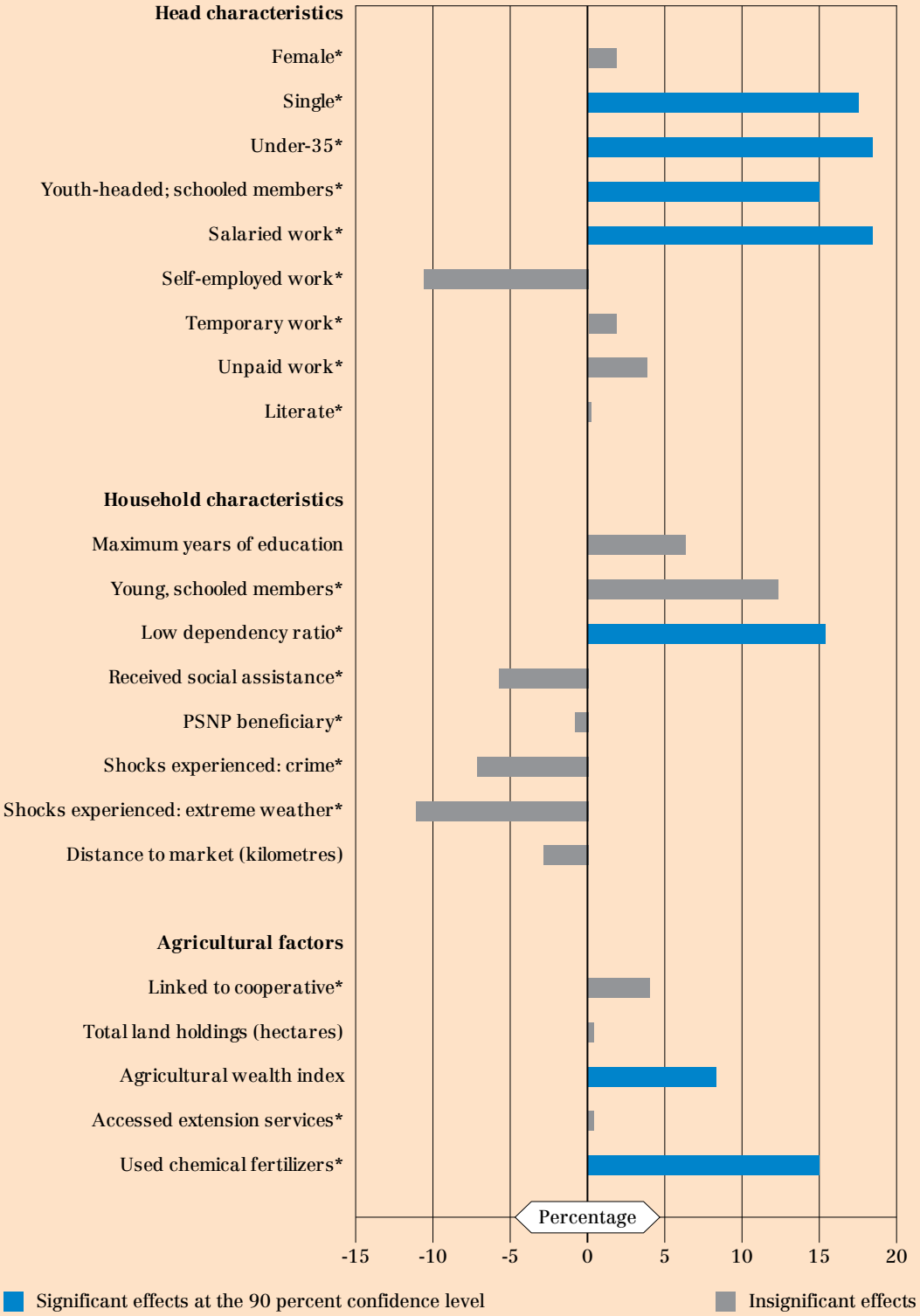
The descriptive analysis of poverty prevalence is indicative of a diverse panorama, mediated in part by specific household characteristics observed in the target group typologies. This section presents the results of a multivariate regression analysis of rural poverty that sheds light on which factors are significantly correlated with household consumption levels and poverty status.

The regression framework estimates the dependent variable (total household consumption, measured in ETB) as a function of a broad set of household head, household socio-economic, and regional characteristics. Household head variables include the following indicators: female, single, under 35 years of age, employed in salaried job, self-employed, in temporary employment, in unpaid work, and literacy. Household characteristics include the maximum educational attainment of the household, the presence of young and schooled members, indicators of a low dependency ratio, linkages to an agricultural cooperative, a measure of hectares (ha) of land held, an agricultural wealth index, access to extension services, the use of chemical fertilizers, the receipt of social assistance (for households not participating in the Productive Safety Net Programme[14] [PSNP]), PSNP beneficiary status, experience of crime-related shocks, and experience of extreme weather events. Regional characteristics include proximity to markets, indicators of the region of residence of the household, and indicators of the agro-ecological zone of residence. Figure 2 reports the results of the estimations.

The factors that are positively related to total consumption are those that are negatively related to poverty status (Figure 2). Single-headed households and youth-headed households are less likely to be poor. The employment status of the head in salaried work is also a positive correlate of consumption, and thus negatively related to poverty. Households with a low dependency ratio are also less likely to be poor, as are those with greater endowments of agricultural wealth and with access to productivity-enhancing inputs, such as chemical fertilizers. Section 5 explores access to various types of assets in order to unpackage these initial observations.

[14] The PSNP is Ethiopia's largest social protection system, operating in eligible districts in rural and urban areas. The PSNP consists of providing support to eligible households and individuals in the form of an unconditional cash transfer, temporary employment in public works, or a series of livelihoods pathways that support household enterprise development.

FIGURE 2 **Correlates of household consumption in adult equivalent units (rural only)**



Notes: The graphic reports marginal effects from the survey-weighted ordinary least squares estimation of total household consumption, with region and agro-ecological zone fixed effects and cluster robust standard errors. Asterisks denote binary variables.

Source: Authors' own elaboration based on ESS 2018/19.

4 Food security

KEY MESSAGES

- Food shortages are more common among poor households, especially in Oromia and SNNPR.
- The lines between food insufficiency and poverty are blurred, with notable shares of poor households reporting food sufficiency and of non-poor households reporting food insufficiency. Around 30 percent of adults in the highest income quintiles report having skipped meals in the previous week.
- Dietary diversity is lower among rural poor households; however, the frequency of consumption points to similar consumption trends among poor and non-poor households, especially for fruits, meats, eggs and dairy.
- The FIES indicates a declining trend of moderate to severe food insecurity across income quintiles. Over 70 percent of adult individuals in poor households are moderately or severely food-insecure. This share drops to 39 percent among those with the highest income levels.

4.1 Descriptive analysis

Whereas the incidence of monetary poverty reflects deprivation of access to a comprehensive set of household consumables, deprivation in terms of food access is described by a series of other indicators.

Insufficient access to food[15] indicates whether a household lacked sufficient access in at least one month of the year. Oromia, SNNPR and Somali record the highest rate of food insufficiency overall, while Afar, Benishangal Gumuz, Gambela and Addis Ababa show the lowest. As with the incidence of poverty, insufficient access to food is generally more prevalent in rural than urban areas, although in SNNPR, the difference in prevalence across rural and urban areas is not significant (Table 10).

Instead, across all but two agro-ecological zones,[16] food insufficiency is significantly higher in rural than in urban areas (Table 11). In general, food insufficiency improves with longer growing seasons in the highlands, as evidenced by the agro-ecological zone typology. In the lowlands, the limited share of the population residing in these areas exhibits atypical trends, with semi-arid areas reporting low food insufficiency and subhumid areas recording relatively high insufficiency.

[15] The ESS 2018/19 asked households: "In the last 12 months, have you been faced with a situation when you did not have enough food to feed the household?".

[16] In tropic-warm/subhumid areas, almost twice as many rural households report food insufficiency than in urban space of these areas. However, given the limited number of observations, the difference is not statistically significant.

TABLE 10 Food insufficiency incidence, by geographic region

	Total	Rural	Urban	Significance	No. households
National	0.17	0.20	0.11	***	6 770
By region					
Tigray	0.14	0.19	0.05	***	676
Amhara	0.12	0.14	0.07	***	750
Oromia	0.21	0.24	0.14	***	753
SNNPR	0.21	0.21	0.19		691
Afar	0.05	0.04	0.07		524
Somali	0.24	0.29	0.10	***	610
Benishangul Gumuz	0.09	0.09	0.10		364
Gambela	0.09	0.07	0.12		495
Harari	0.13	0.24	0.05	***	550
Addis Ababa	0.07		0.07		778
Dire Dawa	0.11	0.20	0.07	***	579

Notes: The "Significance" column reports the results of the *t*-test of difference in means across rural and urban areas. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

TABLE 11 Food insufficiency incidence, by agro-ecological zone

	Total	Rural	Urban	Significance	No. households
National	0.17	0.20	0.11	***	6 770
By agro-ecological zone					
Lowlands: arid	0.20	0.25	0.09	***	354
Lowlands: semi-arid	0.11	0.13	0.06	***	1 049
Lowlands: subhumid	0.25	0.32	0.17		461
Highlands: arid and semi-arid	0.19	0.23	0.08	***	2 026
Highlands: subhumid	0.17	0.20	0.12	***	2 378
Highlands: humid	0.15	0.15	0.16		412

Notes: Estimates include Somali region. The "Significance" column reports the results of the *t*-test of differences in means across rural and urban areas. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Food insufficiency in relation to poverty status is clearly delimited. Among poor households, 24 percent report food insufficiency, compared to 15 percent of non-poor households, with national figures comparable to those for rural areas. Across regions, poor households report greater rates of food insufficiency, up to twice as often as among non-poor households (Table 12).

TABLE 12 Share of households reporting food insufficiency, by poverty status and geographic regions

	Poor	Non-poor	Significance	No. households
National	0.24	0.15	***	6 770
Rural	0.24	0.19	**	3 115
Urban	0.22	0.09	***	3 655
By regions (urban and rural)				
Tigray	0.21	0.12	***	676
Amhara	0.13	0.12	***	750
Oromia	0.32	0.18	***	753
SNNPR	0.26	0.19		691
Other regions	0.21	0.12	***	3 900

Notes: Estimates include Somali region. The "Significance" column reports the results of the *t*-test of differences in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

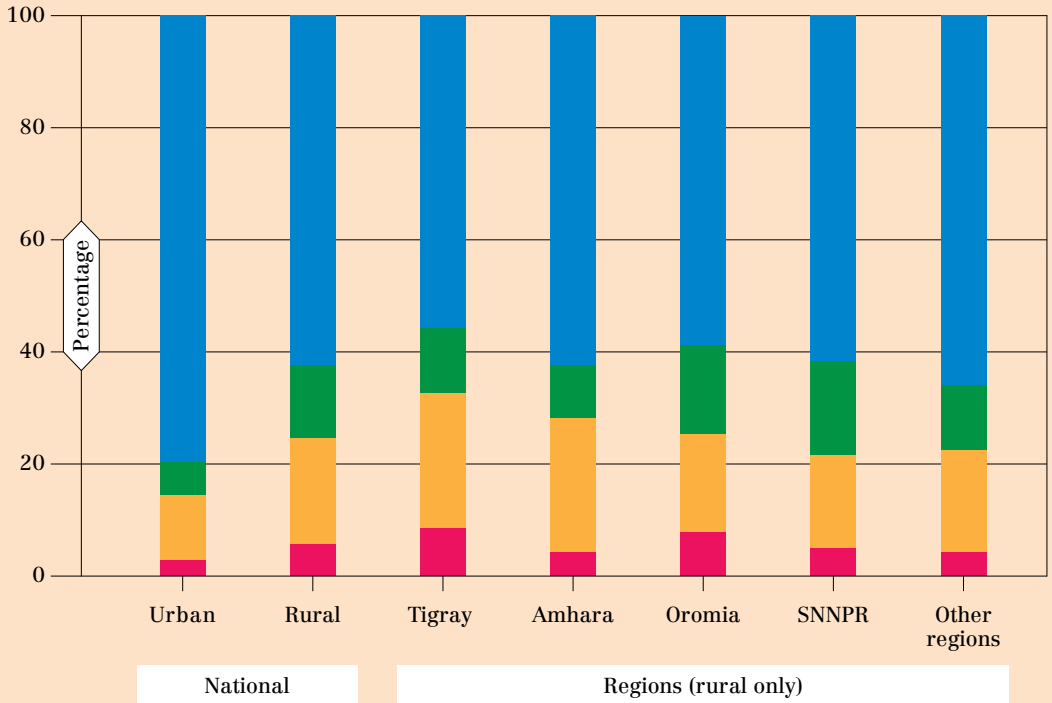
Source: Authors' own elaboration based on ESS 2018/19.

Despite significant differences in poverty status within the share of households experiencing food insufficiency, most poor households are not food-insufficient (Figure 3); in addition, in rural areas, a non-negligible share of non-poor households report food insufficiency. This tendency is also observed across target groups in rural areas, for which food insufficiency is more prevalent among non-poor than poor households. These trends indicate that food insecurity is not a singular dimension of poverty.

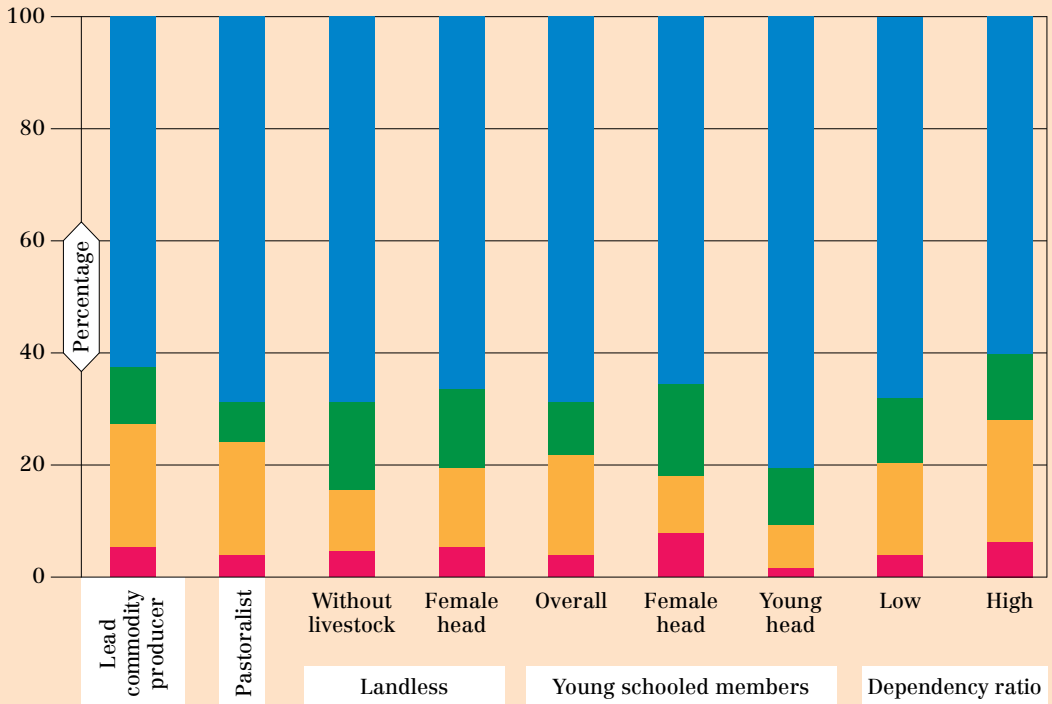
For food sufficiency, the analysis by region of target groups and livelihoods typologies for households in rural areas indicate that female headship is associated with greater food insufficiency. Pastoralism is also associated with greater food insufficiency. Reliance on agricultural livelihoods points to a greater likelihood of food *sufficiency*; whereas rural households with diversified strategies report higher-than-average rates of food insufficiency in almost all regions (Table 13).

FIGURE 3 Poverty and food insufficiency

A. BY GEOGRAPHIC AREA



B. BY TARGET GROUP, RURAL ONLY



Poor and food-insufficient
Non-poor and food-insufficient
Poor and food-sufficient
Non-poor and food-sufficient

Source: Authors' own elaboration based on ESS 2018/19.

TABLE 13 Food insufficiency rate, by target groups and livelihoods activities (rural only)

	National	Tigray	Amhara	Oromia	SNNPR	Other regions
Rural food-insufficient (%)	0.20	0.19	0.14	0.24	0.21	0.16
Target groups						
Landholder	0.19	0.20	0.13	0.22	0.22	0.11
Pastoralist	0.32	0.21	0.40	0.53	0.00	0.05
Landless without livestock	0.20	0.13	0.18	0.24	0.35	0.09
Landless and female head	0.31	0.21	0.31	0.41	0.38	0.05
Low dependency ratio	0.19	0.16	0.17	0.19	0.21	0.07
High dependency ratio	0.20	0.21	0.12	0.26	0.21	0.11
Young, schooled members	0.17	0.12	0.10	0.20	0.25	0.06
Female head and young, schooled members	0.34	0.28	0.26	0.35	0.52	0.09
Young head and young, schooled members	0.16	0.04	0.16	0.16	0.22	0.08
Livelihoods activities						
Lead commodity producer	0.18	0.17	0.12	0.21	0.20	0.09
Typology						
Specialized: on-farm	0.18	0.13	0.10	0.23	0.19	0.09
Specialized: off-farm	0.25	0.16	0.20	0.00	0.84	0.09
Diversified: on-farm and off-farm work	0.31	0.35	0.29	0.28	0.40	0.12

Source: Authors' own elaboration based on ESS 2018/19.

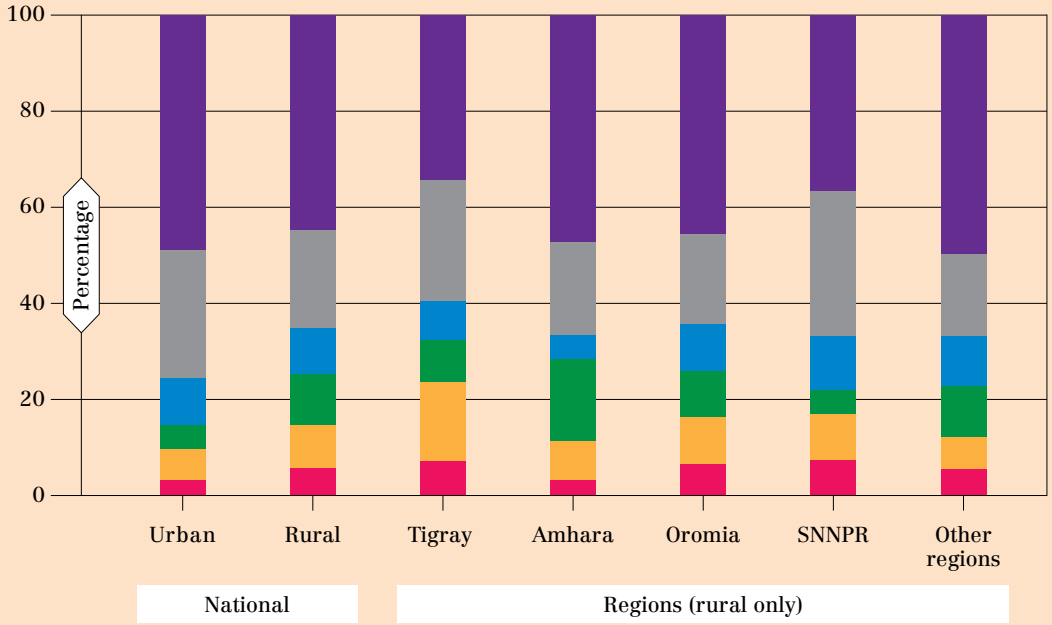
The FCS categories (Figure 4) offer a different picture of food insecurity, in which a greater share of poor households in rural areas are at the FCS poor/borderline levels of consumption than at the FCS acceptable level. Among non-poor households, although notable shares are at the poor/borderline level, a greater share is concentrated at the acceptable FCS level. **Therefore, for households in rural areas, the FCS is a closer representation of poverty than food insufficiency**.

Across target groups in rural areas, close to half of rural households are in a state of food-access vulnerability, with poor households more likely to have poor or borderline FCS levels and non-poor households more likely to fall within the "acceptable" category.

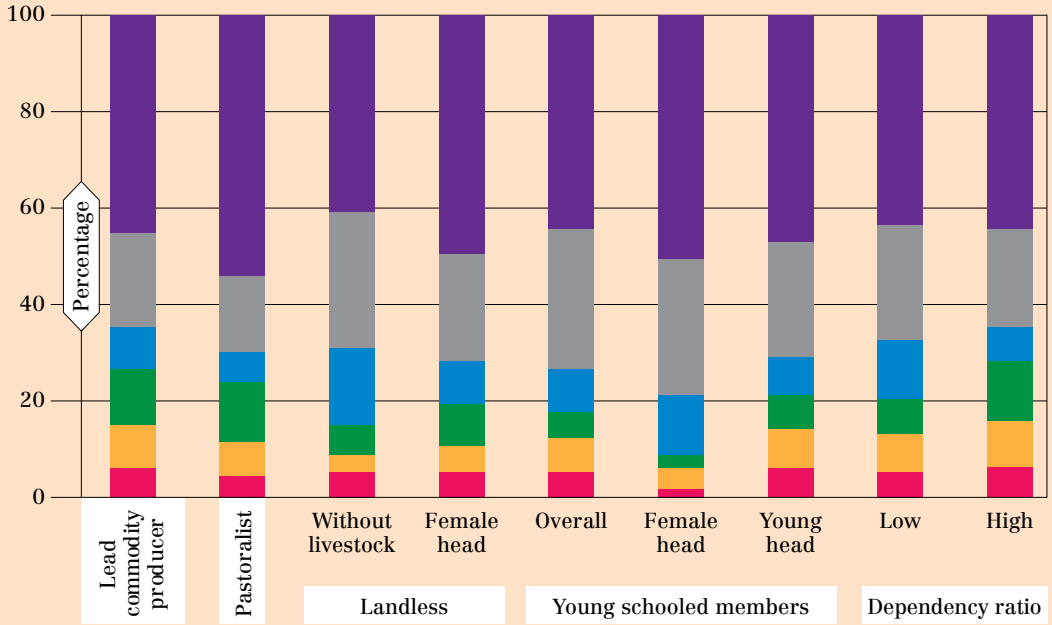
Among non-poor households, pastoralists report the greatest share of "acceptable" FCS, whereas female-headed households with young, schooled members tend to have the greatest share of poor or borderline FCS among non-poor households. The same tendency is observed for these target groups among poor households.

FIGURE 4 Poverty and food consumption score categories

A. BY GEOGRAPHIC AREA



B. BY TARGET GROUP, RURAL ONLY

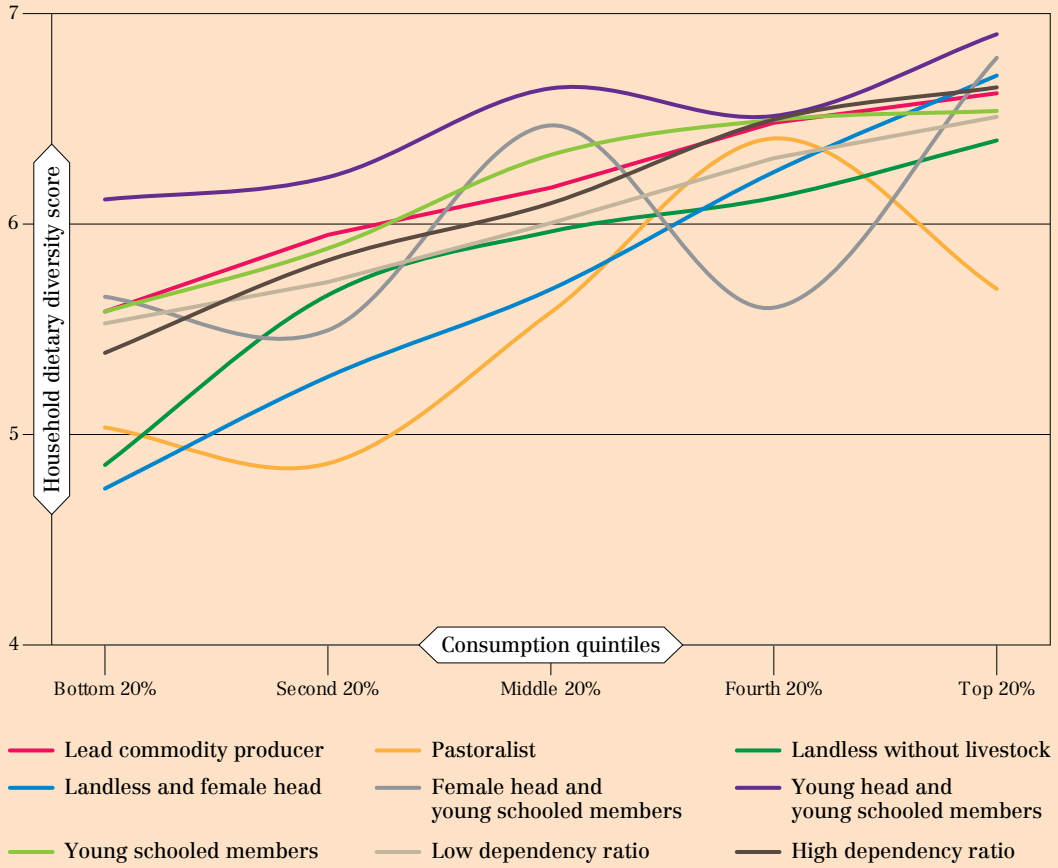


Poor and FCS-poor
Poor and FCS-borderline
Poor and FCS-acceptable
Non-poor and FCS-poor
Non-poor and FCS-borderline
Non-poor and FCS-acceptable

Source: Authors' own elaboration based on ESS 2018/19.

The results of the FCS indicate, as expected, that non-poor households consume from a greater number of food groups than poor households. The HDDS (Figure 5) conveys a similar message, illustrating clearly how, as monetary consumption rises from one quintile to the next, the number of food groups from which a household consumes also tends to rise. The highest dietary diversity is observed among households with young heads and young, schooled members, whereas the lowest scores are observed among the pastoralist and landless groups.

FIGURE 5 Rural household dietary diversity score, by target group



Source: Authors' own elaboration based on ESS 2018/19.

Differences in the number of food groups consumed are not indicative, however, of the dietary composition of poor and non-poor households. Almost all households consume cereals, and upwards of 90 percent consume vegetables and spices or condiments, irrespective of poverty status (Table 14). Rather, differences in the food groups consumed do exist in terms of the share of poor versus non-poor households consuming various sources of proteins (meat, eggs, legumes, dairy), fruits, fats, and roots and tubers. For these categories, non-poor households are more likely to report access.

Despite a greater likelihood of consumption of different food groups among non-poor households, the intensity of consumption in terms of number of days consumed for poor versus non-poor households does not vary much in magnitude, except for fish and seafood consumption. These trends indicate that poor households experience some constraints in accessing non-staple food groups; however, among the households able to overcome those constraints, consumption patterns are similar across poor and non-poor households.

TABLE 14 Household dietary diversity, by poverty status (rural only)

	Proportion of households consuming from food group			Number of days in past week consumed (among those consuming)		
	Poor	Non-poor	Significance	Poor	Non-poor	Significance
Cereals	0.99	1.00		6.0	6.2	**
Roots, tubers	0.55	0.69	***	3.6	4.1	***
Vegetables	0.94	0.97	**	4.2	4.0	**
Fruits	0.20	0.25	**	2.4	2.4	
Meat	0.04	0.11	***	2.1	2.0	
Eggs	0.04	0.08	***	1.7	1.9	
Fish, seafood	0.01	0.01		2.2	4.4	***
Legumes, nuts, seeds	0.78	0.82		4.5	4.4	
Milk, milk products	0.24	0.38	***	4.4	4.3	
Oils, fats	0.63	0.81	***	5.7	6.0	**
Spices, condiments	0.99	1.00		5.8	5.8	

Notes: Estimates include Somali region. The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

The FIES score captures food insecurity across eight dimensions that highlight different intensities or acuteness of food insecurity. More than half of all rural households in Ethiopia suffer from moderate to severe food insecurity (Table 15). Along the income distribution, the prevalence of food insecurity is highest among the poorest households, affecting over 70 percent thereof. Food security improves with rising incomes; however, even at the highest income level, almost 40 percent of rural households expressed concerns about insufficient food to eat.

The FIES indicates that food insecurity situations can transcend poverty status, and thus food insecurity can be felt by all groups. This observation also emerges from the anthropometric indicators (Table 16), which reveal a stunting prevalence of more than 50 percent among children in both poor and non-poor households.

Across target groups and over consumption quintiles, a declining trend is observed only for wasting. For stunting, the trends are irregular, reflecting in part the nature of those indicators as capturing consumption occurring in previous years. The stunting indicator demonstrates that households that are non-poor at the time of the ESS survey may have been poor or more food-insecure in the past, because stunting reflects nutritional deficiencies from the earliest stage of the life cycle. Wasting and underweight reflect more transient states of food insecurity. Overall, these indicators identify food insecurity as a state that overlaps with poverty status in certain dimensions, but that also reaches beyond the monetary consumption domain of the poverty indicator (Figure 6).

TABLE 15 Food insecurity experience scale, by income quintile (rural only)

	Poorest 20%	Second 20%	Middle 20%	Fourth 20%	Richest 20%	Overall
FIES score	4.98	4.26	3.89	3.19	2.63	3.79
Food insecurity classification						
Moderate-severe	0.73	0.64	0.59	0.47	0.39	0.56
Severe	0.23	0.16	0.13	0.09	0.07	0.14
Disaggregated FIES questions (affirmative responses, %)						
1. Were you worried you would not have enough food to eat?	0.70	0.63	0.57	0.47	0.39	0.55
2. Were you unable to eat healthy and nutritious food?	0.79	0.72	0.67	0.60	0.48	0.65
3. Did you eat only a few kinds of foods?	0.83	0.77	0.75	0.67	0.60	0.72
4. Did you have to skip a meal?	0.66	0.54	0.51	0.39	0.30	0.48
5. Did you eat less than you thought you should?	0.72	0.62	0.58	0.47	0.36	0.55
6. Did your household run out of food?	0.48	0.39	0.32	0.24	0.19	0.32
7. Were you were hungry but did not eat?	0.49	0.38	0.32	0.22	0.18	0.32
8. Did you go without eating for a whole day?	0.31	0.22	0.17	0.15	0.10	0.19

Source: Authors' own elaboration based on 2015–2019 FIES surveys.

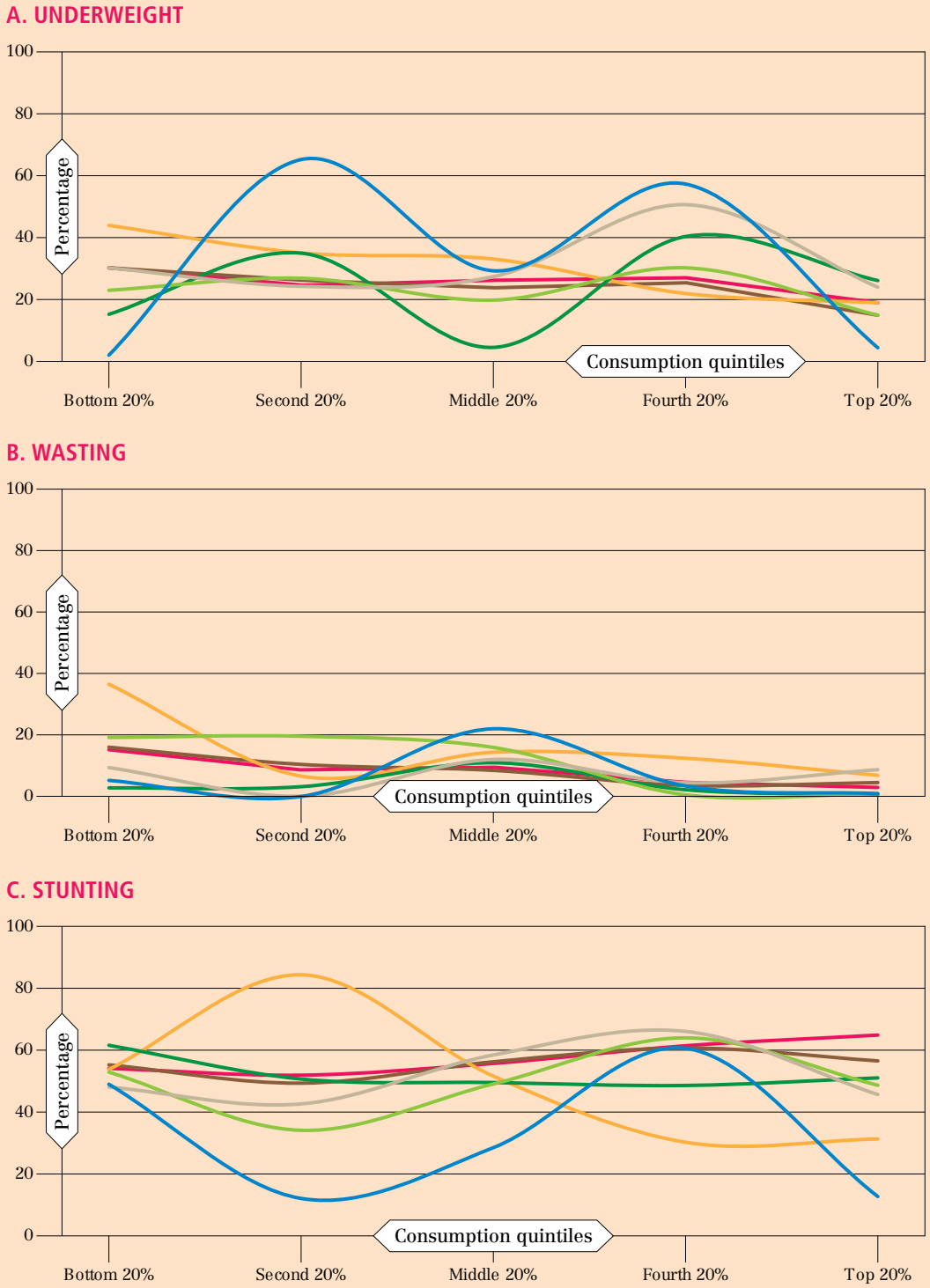
TABLE 16 Anthropometric indicators (prevalence among children under five years of age), by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Stunted	0.53	0.56		1 434
Wasting	0.16	0.08	***	1 402
Underweight	0.31	0.24	**	1 542

Notes: The "Significance" column reports the results of the t-test of difference in means across children under five in poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**), and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

FIGURE 6 **Prevalence of stunting, wasting and underweight among children under five years of age, by target group and consumption quintile (rural only)**



Source: Authors' own elaboration based on ESS 2018/19.

4.2 Multivariate analysis: correlates of food security in rural areas

Regression analysis of food security indicators follows the same approach and specifications stated in Section 3.2 of this publication. This multivariate estimation (Figure 7) reveals that access to land is positively associated with higher levels of household food consumption and acceptable FCS levels. Household food consumption levels are also positively influenced by higher agricultural wealth and linkages to agricultural cooperatives, both of which may represent better capacity to engage in agricultural production. Likewise, having ties to agricultural cooperatives is a negative predictor of having poor FCS levels.

The employment profile of the household head influences food security outcomes. Non-agricultural self-employment of the household head is associated with higher household food consumption. Engaging in temporary work is associated with lower food consumption, which may reflect the irregular or low level of income obtained from such work. Unpaid work (exchange labour) is instead positively related to an acceptable FCS level, and negatively correlated with poor FCS levels. This observation coincides with the negative relationship between unpaid or exchange labour and household poverty status.

Education is found to positively influence food security: households with higher educational attainments have higher food consumption levels, and those with members who completed primary school and literate household heads are more likely to attain acceptable FCS levels. These effects may reflect access to remunerated employment opportunities, or also greater skills and knowledge that are of relevance for optimizing household economic activities.

FIGURE 7 Correlates of household food security indicators (rural only)

A. DEPENDENT VARIABLE: HOUSEHOLD FOOD CONSUMPTION PER ADULT EQUIVALENT

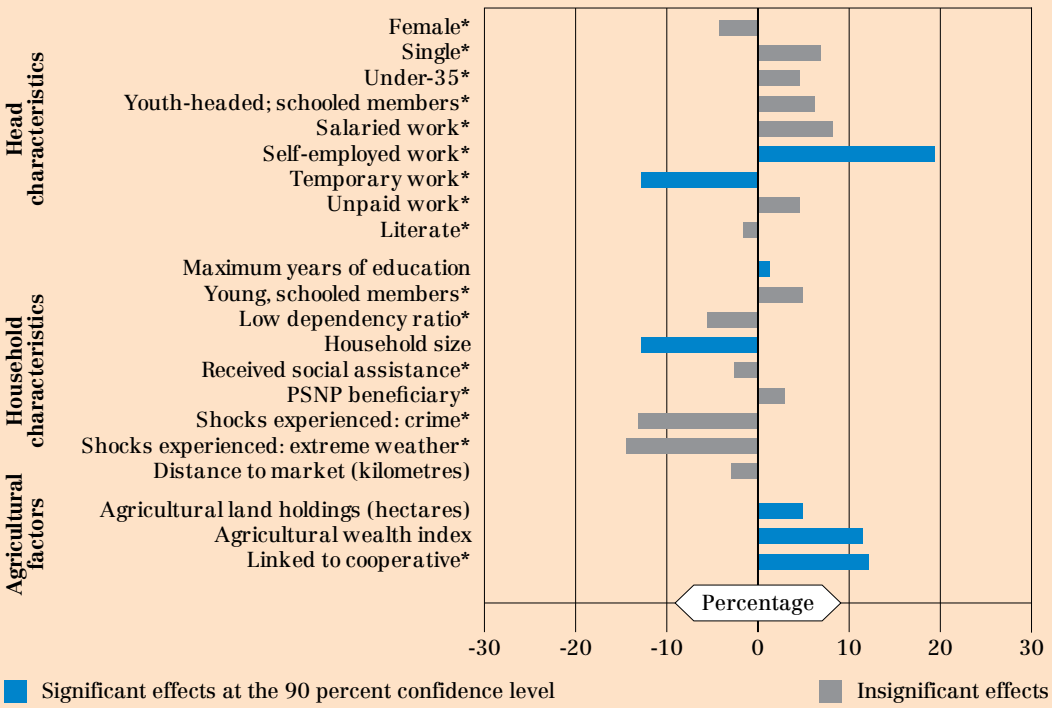
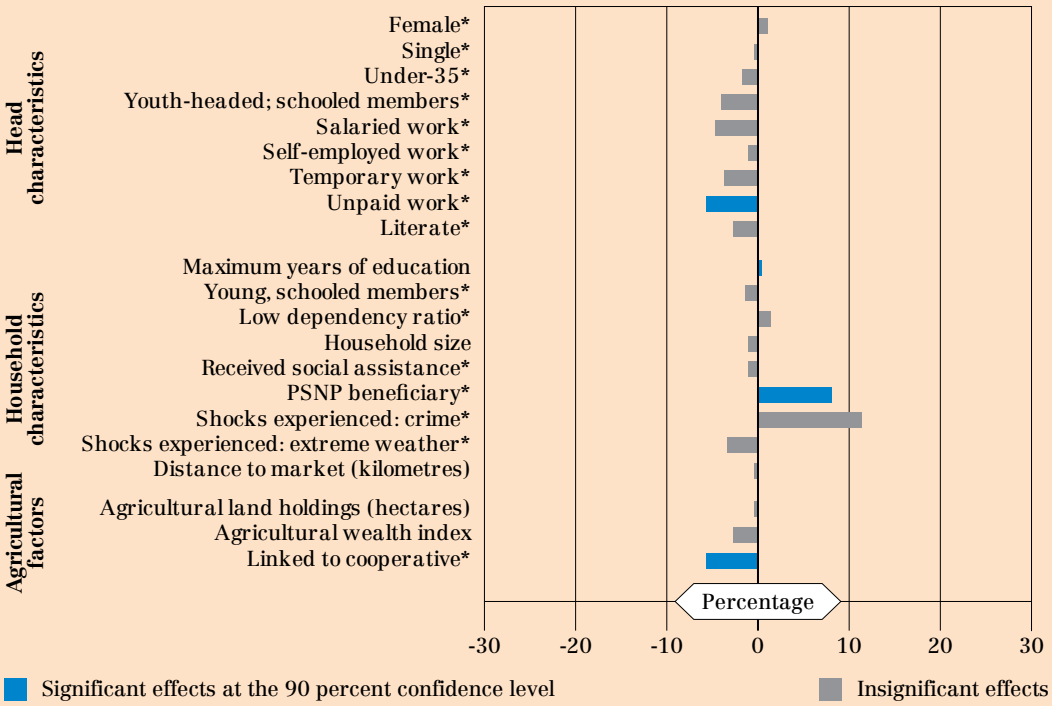
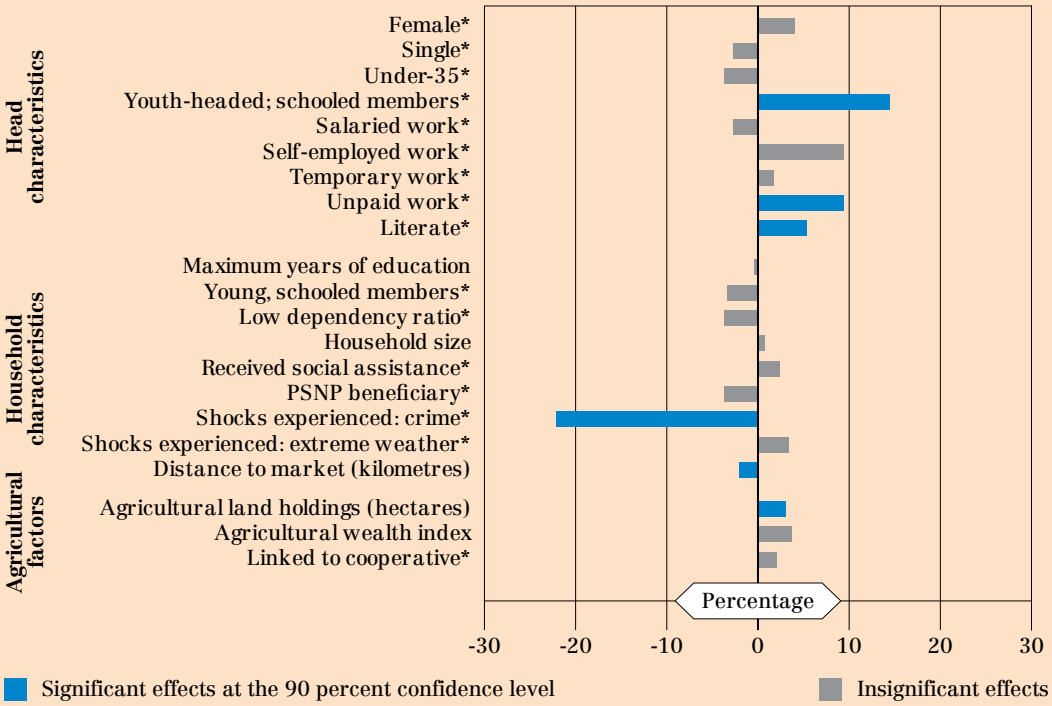


FIGURE 7 (cont.) Correlates of household food security indicators (rural only)

B. POOR FCS LEVEL



C. ACCEPTABLE FCS LEVEL



Notes: The graphic reports marginal effects from the survey weighted ordinary least squares (a) and the maximum likelihood estimation (b; c) of household food security indicators, with region and agro-ecological zone fixed effects and cluster robust standard errors. Asterisks denote binary variables.

Source: Authors' own elaboration based on ESS 2018/19.

5 Access to resources in rural areas

KEY MESSAGES

- Differences in educational attainment, household size and household structure exist across poverty lines, with poor households reporting lower educational attainment and greater dependency ratios.
- Access to infrastructure and agricultural assets is limited in rural areas, and poor people are disproportionately less likely to report access to electricity, mobile phones, vehicles and agricultural tools and machinery.
- Access to financial services, such as bank accounts and formal insurance products, is more prevalent among non-poor households; borrowing is more common among poorer households, notably for the purchase of agricultural inputs. This reflects liquidity constraints of relevance for their agricultural production strategies.
- Linkages to local institutions, including informal social networks, appear to be weaker among poor households; however, these institutions emerge as important sources of labour and input access, suggesting an important agricultural production bottleneck among poor households.
- Land use patterns do not vary substantially over consumption levels and poverty status; however, the smallest landholders are significantly less likely to make use of irrigation or access modern productivity-enhancing inputs.

The Sustainable Livelihoods Framework (DFID, 1999) considers that household livelihood strategies are shaped by the assets to which households have access. These assets are typically characterized into five groups: human, physical, financial, social and natural capital. Together, they represent the stock of assets upon which households draw to shape the economic decisions that define the household's livelihood, and that determine the resilience of households to manage and cope with risk.

5.1 Human capital

The household supply of productive labour and its correlation with poverty can be illustrated through household head characteristics, household educational attainment and demographic descriptors.

Household head characteristics

In rural areas, approximately 18 percent of poor households and 23 percent of non-poor households are headed by women. Within this group, those women are *de jure* female heads, being widows, separated, divorced or never-married, in 68 percent of poor households and 77 percent of non-poor households. The higher share among non-poor households suggests that de jure female headship is not necessarily associated with poverty. Instead, a greater

share of poor female-headed households are de facto heads, indicating that absence of the spouse could be related to greater household vulnerability (Table 17); however, these differences are not statistically significant at standard levels.

Poor households have slightly older household heads than non-poor ones. The average age of household heads among the rural poor is 46 years, slightly above the average age of 44.5 years among non-poor household heads. This difference could be related to the larger household size among poor households.

TABLE 17 Household head characteristics, by household poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Female	0.18	0.23	*	2 760
Female, de jure	0.68	0.77		702
Female, de facto	0.32	0.23		702
Single (never married, separated, divorced, widowed)	0.15	0.22	***	2 760
Age	46.1	44.5	*	2 760
Migrant	0.04	0.05		2 760

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Educational attainment

Education levels, measured in years of formal schooling, are low (Table 18). Among rural household heads, the average educational attainment of household heads stands at 1.6 years among poor households, significantly lower than the average of 2.5 years among non-poor households. When narrowing in on working-age (15–60 years) household members, the maximum level of educational attainment is higher, at almost four years for poor households and close to five years among non-poor ones.

TABLE 18 Educational attainment (years), by household poverty status (rural only)

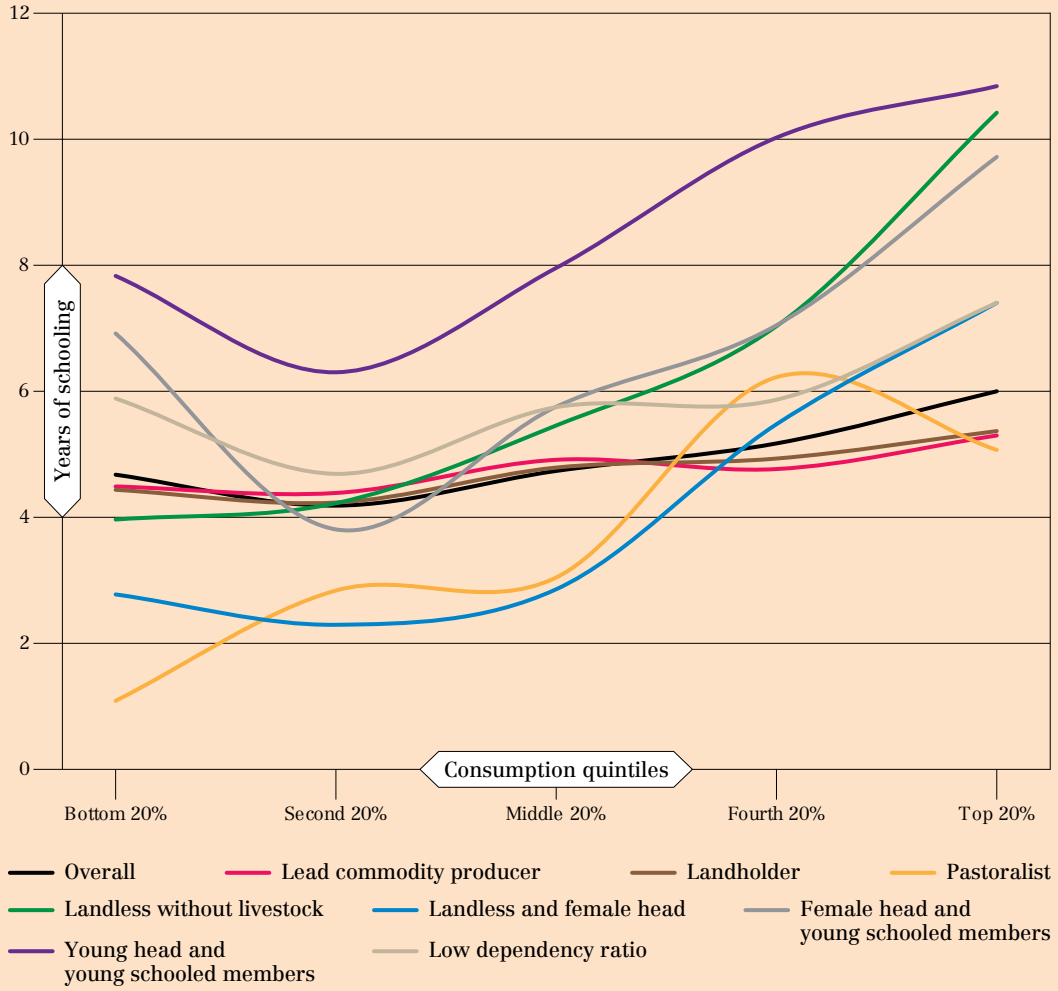
	Poor	Non-poor	Significance
Household head	1.56	2.48	***
Maximum attainment among household members, 15–60 years old	4.02	4.94	***
Maximum attainment among household members, 15–35 years old	4.07	5.16	***

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Educational attainment varies considerably by target group criteria, such as landlessness, female headship and age. Households with young, primary-schooled members record the highest levels of educational attainment. Female-headed landless and pastoralist households tend to record the lowest level of educational attainment among the bottom three quintiles, whereas lead commodity producers report little variation in educational attainment across all five quintiles (Figure 8).

FIGURE 8 Household educational attainment (maximum years among adults), by consumption quintiles (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Household demographics

Rural poor households are comprised of approximately six members on average, as compared to fewer than five members among non-poor ones. The difference in household size is reflected in the dependency ratio, which is significantly higher among poor households compared to non-poor ones. The dependency ratio among poor households indicates that for every working-age household member, a poor household has 1.2 "dependent" household members – more family members depend on the incomes of a few members. Instead, among non-poor households, the ratio of working-age to dependent household members is approximately one-to-one (Table 19).

TABLE 19 Household size and dependency ratio, by poverty status (rural only)

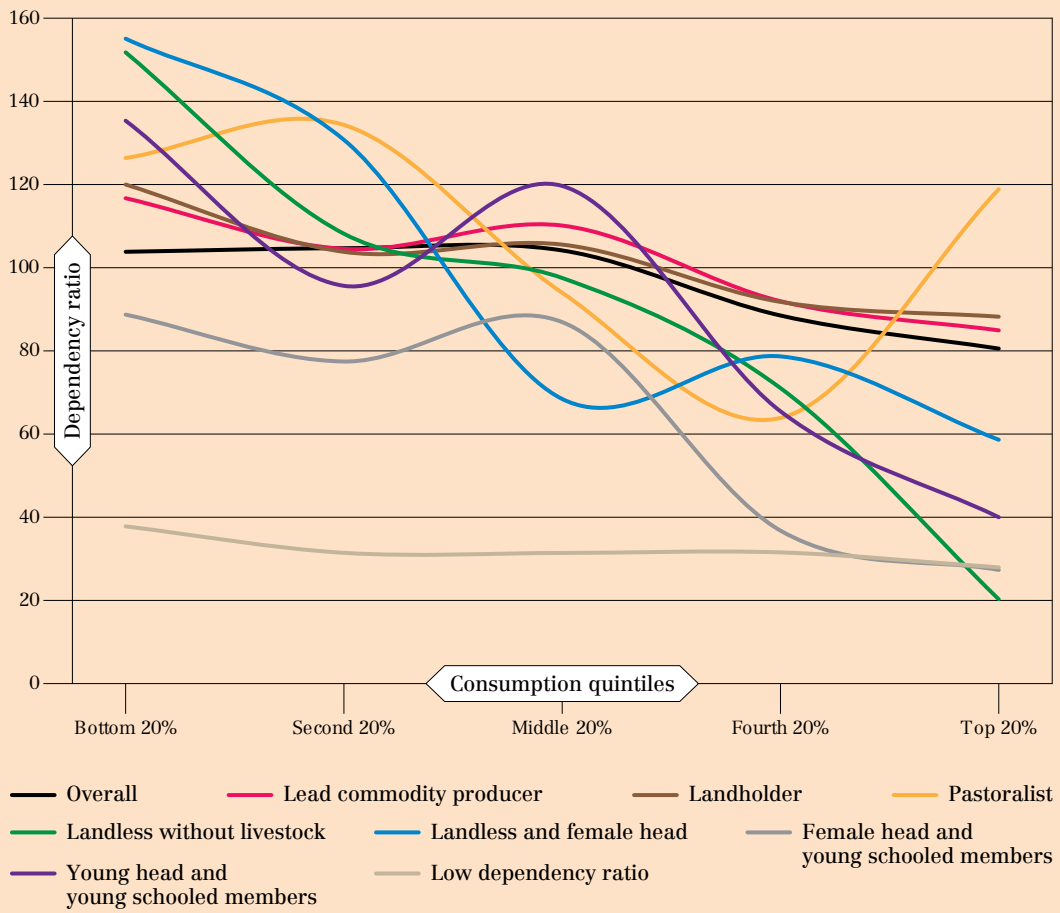
	Poor	Non-poor	Significance
Household size	5.97	4.85	***
Dependency ratio	119.02	98.75	***

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Mapping demographics across consumption quintiles for target groups points to substantial differences in household structure across groups, particularly among the bottom three consumption quintiles (Figure 9). Landlessness emerges as a strong correlate of high dependency ratios at the bottom quintile, pointing to an intersection of multiple vulnerabilities: land constraints and productive labour supply constraints. Instead, lead-commodity-producing households and female-headed households with young, schooled members report lower dependency ratios, and are thus well positioned for productive livelihoods. The dependency ratio among youth-headed households is not concomitantly related to consumption quintiles.

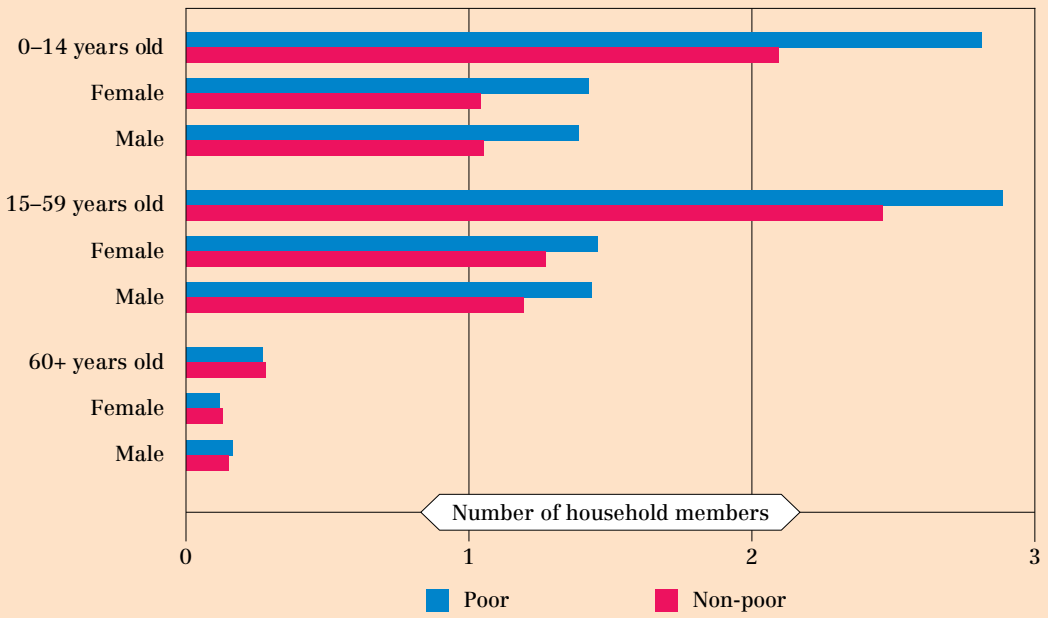
FIGURE 9 Household dependency ratio, by consumption quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Across gender lines, few differences exist in terms of the number of male versus female household members; however, the larger household size among poor households is attributed to the fact that there are more household members in the 0–14 and 15–59 age groups. Poor and non-poor households report comparable numbers for members 60 years of age and older. The higher dependency ratio among poor households is thus due to there being more children, rather than more elderly household members.

FIGURE 10 Household demographic composition, by poverty status (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

5.2 Physical capital

Access to infrastructure

Access to certain types of improved infrastructure is limited in Ethiopia, and even more so among poor households. Almost 70 percent of rural poor households report no access to electricity in their dwelling, as compared to 57 percent among non-poor ones (Table 20).

The share of rural households owning a mobile phone is comparable to those with access to electricity, suggesting that electricity access is one factor related to mobile phone access.[17] Mobile phone ownership is significantly lower among poor households (32 percent) than among non-poor ones (43 percent). That differentiation is even more pronounced across gender lines, with only 5 percent of female adults in poor households owning a mobile phone, as compared to 10 percent of female adults in non-poor households; these figures also fall below the 26 percent (poor households) and 37 percent (non-poor households) of male adults reporting mobile phone ownership.

[17] Indeed, an unconditional weighted estimation of mobile phone ownership on electricity access finds that the lack of access reduces the probability of ownership by 19 percentage points. At the same time, charging via solar energy or communal means are alternate ways to charge phones. The Lighting Africa programme seeks to extend off-grid energy access to 35 percent of households in Ethiopia (Lighting Africa, 2018).

The lower shares of mobile phone ownership among poor households are not offset by a greater likelihood of access to fixed-line telephones. Instead, ownership of fixed-line telephones is scant in rural areas, with less than 1 percent of rural poor households and 3 percent of rural non-poor households reporting ownership. These shares are indicative of limited communications infrastructure investments in rural areas.

The limited infrastructure in rural areas is also evident in terms of piped water networks: less than 3 percent of rural households have access to piped drinking water and even fewer have access to flush toilets. The share of rural households with access to improved sanitation does not differ significantly across poverty status.

TABLE 20 Household access to infrastructure, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Has electricity in dwelling	0.32	0.43	***	2 760
Owns mobile phone	0.32	0.43	***	2 754
Female adults (%)	0.05	0.10	***	3 325 (individuals)
Male adults (%)	0.26	0.37	***	3 161 (individuals)
Owns fixed line phone	0.00	0.03	***	2 760
Has access to piped drinking water	0.02	0.03		2 760
Has access to basic drinking water source	0.79	0.74	*	2 760
Has access to flush toilet	0.00	0.01	***	2 760
Has access to improved sanitation	0.16	0.18		2 760

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Non-agricultural asset ownership

The ownership of non-agricultural assets in rural areas is limited (Table 21). Private transportation – motorized or not – is highly limited among poor and non-poor households, reflecting in part poor access to roads and, potentially, the poor quality of roads. In fact, Annex Table A1 reveals that almost half of all rural households reside in communities that are not fully accessible by vehicle all year. Communities in rural areas are inaccessible four months of the year, and the average distance to the nearest major road is approximately 20 kilometres. In terms of other non-agricultural assets, approximately one-fifth of poor households and one-quarter of non-poor households own a radio, while only 7 and 12 percent of poor and non-poor households, respectively, own a clock. Only 4 percent of poor households and 12 percent of non-poor households own shelves for storage, and negligible shares own a refrigerator or a water pit.

TABLE 21 Household non-agricultural asset ownership, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Household owns (%)				
Car	0.00	0.00	**	2 760
Motorcycle	0.00	0.00		2 760
Bicycle	0.00	0.00	**	2 760
Hand-pulled cart	0.00	0.00		2 760
Animal-drawn cart	0.02	0.01		2 760
Clock	0.07	0.12	***	2 760
Radio	0.20	0.23		2 760
Refrigerator	0.00	0.00	***	2 760
Water pit	0.01	0.02		2 760
Shelf	0.04	0.12	***	2 760

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Agricultural asset ownership

Agricultural asset holdings are more common, and the stock is differentiated across poverty lines (Table 22). The agricultural wealth index – a normalized index of agricultural asset holdings – indicates that non-poor households hold significantly greater levels of agricultural wealth than poor households. The differences in agricultural wealth can be attributed to ownership of pickaxes and solar devices, which is significantly greater among non-poor households. Otherwise, most households report ownership of basic implements such as sickles and traditional ploughs, with access not being differentiated along poverty lines. Modern agricultural machinery, such as mechanized tractor ownership, is reported by about 1 percent of poor and non-poor households.

TABLE 22 Household agricultural asset ownership, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Agricultural wealth index	0.08	0.09	***	2 760
Household owns (%)				
Sickle	0.85	0.86		2 760
Axe	0.40	0.36		2 760
Pickaxe	0.43	0.50	**	2 760
Traditional plough	0.75	0.71		2 760
Modern plough	0.01	0.01		2 760
Water pump	0.00	0.00		2 760
Solar device	0.18	0.22	**	2 760

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Among target groups, rural households producing lead ACPZ commodities appear to hold the highest levels of agricultural wealth across consumption quintiles, in terms of agricultural wealth index, ownership of traditional ploughs, sickles and pickaxes (Figure 11). The least endowed households in terms of agricultural assets are female-headed landless households and landless households that also lack livestock. However, these groups are not completely deprived of an agricultural asset endowment. Among the households in these two groups found in the bottom three consumption quintiles, more than 20 percent report ownership of a traditional plough, upwards of 40 percent report ownership of sickles, and up to 30 percent report owning a pickaxe. These households appear to be agriculturally equipped; however, they are constrained in their access to land.

FIGURE 11 Household endowment of agricultural wealth, by target groups and consumption quintiles (rural only)

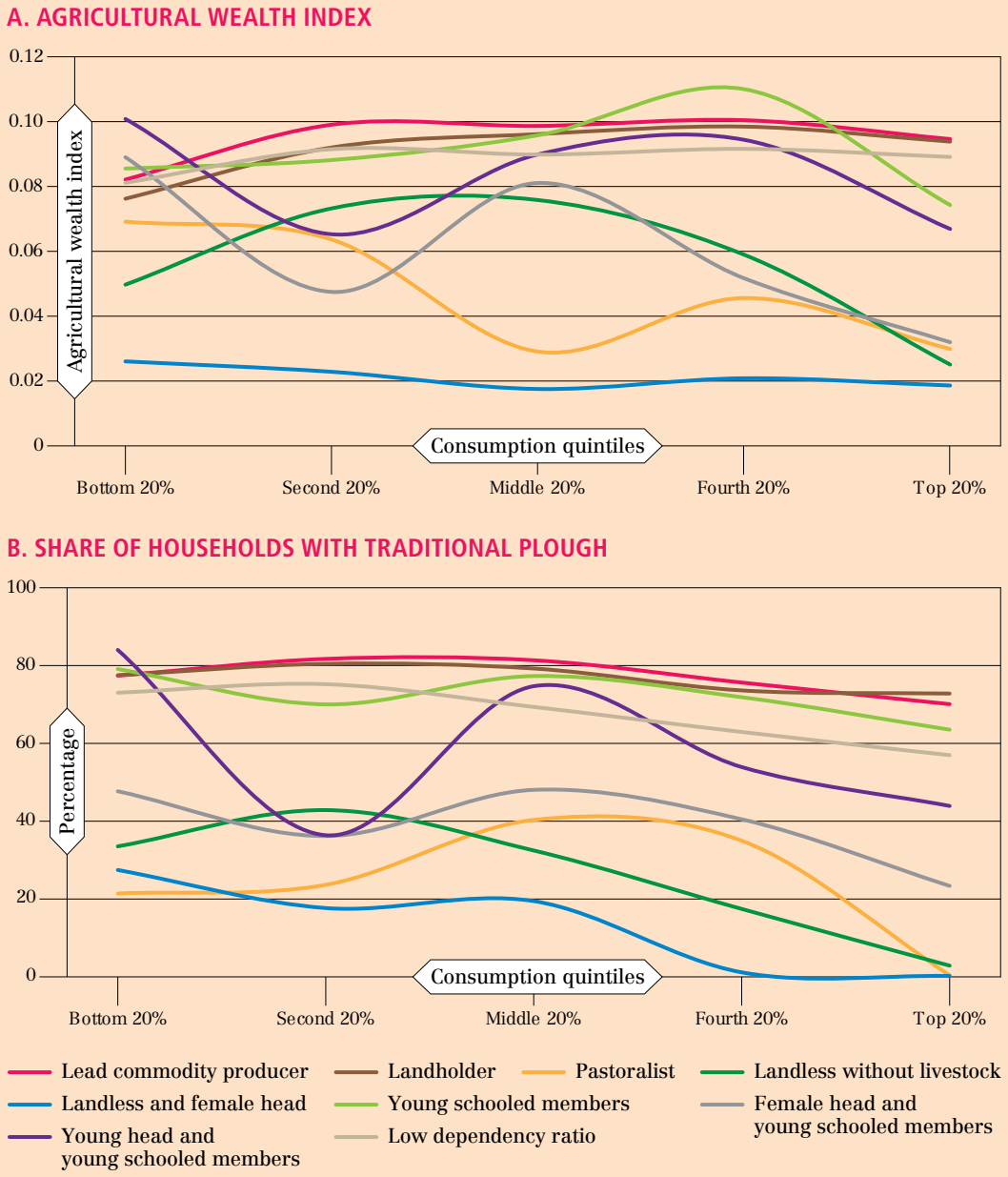
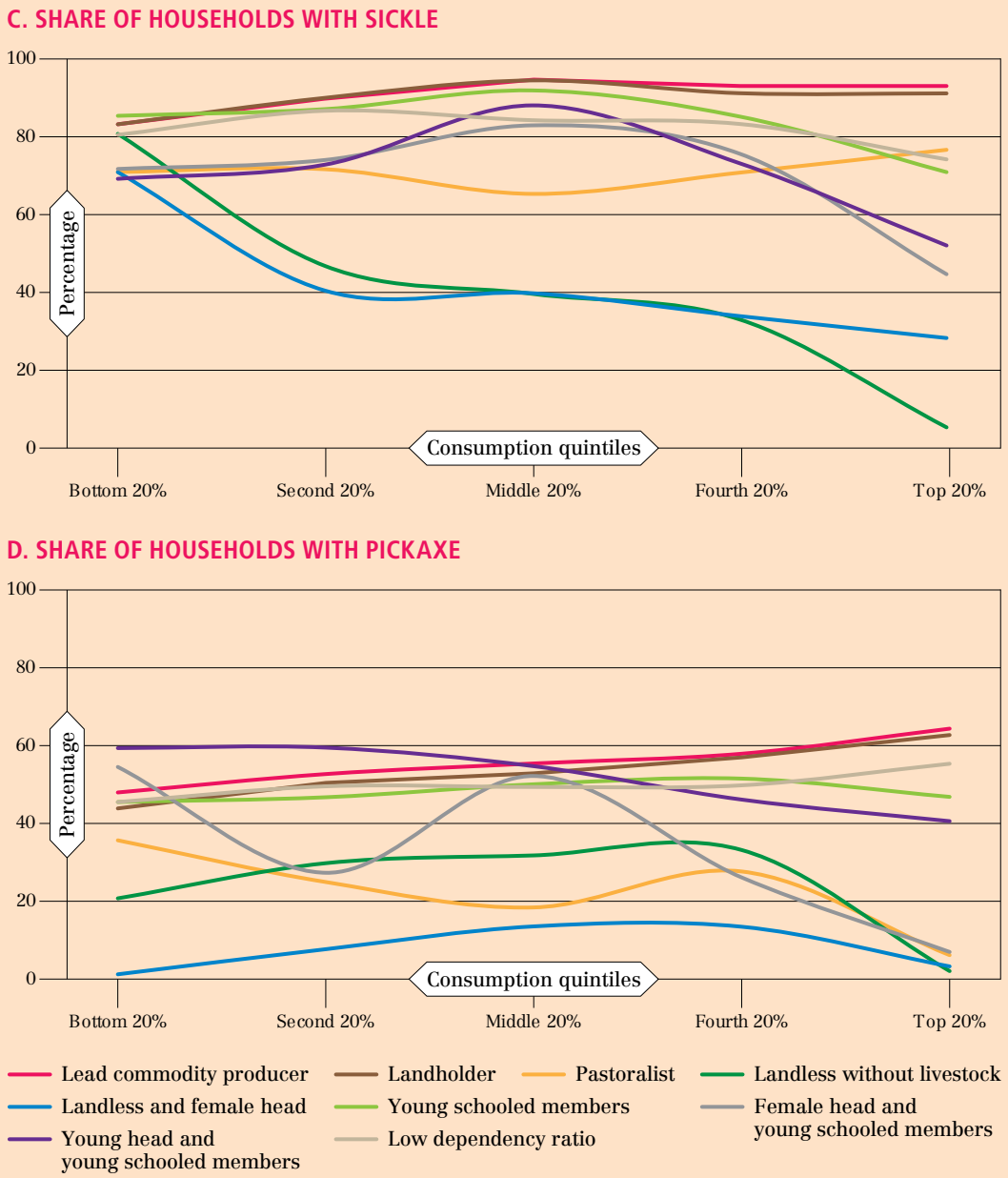


FIGURE 11 (cont.) Household endowment of agricultural wealth, by target groups and consumption quintiles (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

5.3 Financial capital

Household linkages to financial services are described in terms of bank accounts, savings activity, insurance products and borrowing patterns. Access to these is somewhat divided along poverty lines and illustrates the importance of public and communal institutions, as well as informal mechanisms for rural financial activities.

Thirty percent of non-poor households hold registered bank accounts with a private or public bank, with a microfinance institution or savings and credit cooperatives (SACCOs),

while only 18 percent of poor households report the same (Table 23). Whereas access to private banks is divided along poverty lines (19 percent of non-poor households versus 7 percent of poor households), access to registered accounts in public banks is not: similar shares of poor and non-poor households hold an account in this type of institution. The share of households reporting having saved in the previous 12 months is higher than those with bank accounts. This reflects the various options for saving outside the banking sector, including at home in cash, through an *iqqub* network, a traditional rotating savings association typically accessed by poor households without access to formal banks (Aredo, 1993), or through other mechanisms (e.g. associations or with friends or family). The mode of savings among households is not statistically differentiated across poverty lines. However, at an individual level, adults in non-poor households are significantly more likely to hold a bank account or to have saved, with male adults tending towards greater access than female adults. A similar trend is observed for households and individuals holding formal insurance products: non-poor households are significantly more likely to report holding insurance, a result that holds when disaggregated along gender lines at the individual level.

TABLE 23 Household access to financial services, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Holds bank account	0.18	0.30	***	3 115
Female adults	0.05	0.08	***	3 325 (individuals)
Male adults	0.13	0.24	***	3 161 (individuals)
Institution where bank account is held				
Private bank	0.07	0.19	***	754
Public bank	0.43	0.37		754
Saved in past 12 months	0.25	0.33	***	2 760
Female adults	0.09	0.12	**	3 325 (individuals)
Male adults	0.17	0.25	***	3 161 (individuals)
Savings institution/approach				
Private bank	0.08	0.12		814
Public bank	0.68	0.60		814
At home	0.42	0.39		814
Iqqub	0.25	0.31		814
Other	0.12	0.14		814
Holds formal insurance product	0.08	0.12	**	2 760
Female adults	0.06	0.10	***	3 325 (individuals)
Male adults	0.07	0.11	***	3 161 (individuals)

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Despite different levels of integration with banking, insurance and savings mechanisms, access to credit or loans is not differentiated across poverty status (Table 24). Approximately 15 to 17 percent of respondents report having borrowed money in the previous 12 months, with loans most often obtained from private individuals (neighbours, relatives, local merchants) and, to a lesser extent, from SACCOs and microfinance institutions. The purpose of the loan is also generally directed towards the purchase of inputs, as reported by 61 percent of poor and 51 percent of non-poor households. Loans are most often held jointly by male and female members, and when held by a single member, most often by a male (rather than female) household member, pointing to gender differentials in access to credit and loans.

At an individual level (reported in Annex Table A3), the same tendencies hold, with two notable differences: male adults in poor households are significantly more likely than those in non-poor households to borrow to finance input purchases, and significantly less likely to borrow to finance consumption expenditure. Instead, similar shares of female adults in poor and non-poor households borrow for these purposes.

◆ TABLE 24 Household access to credit and loans, by poverty status (rural only)

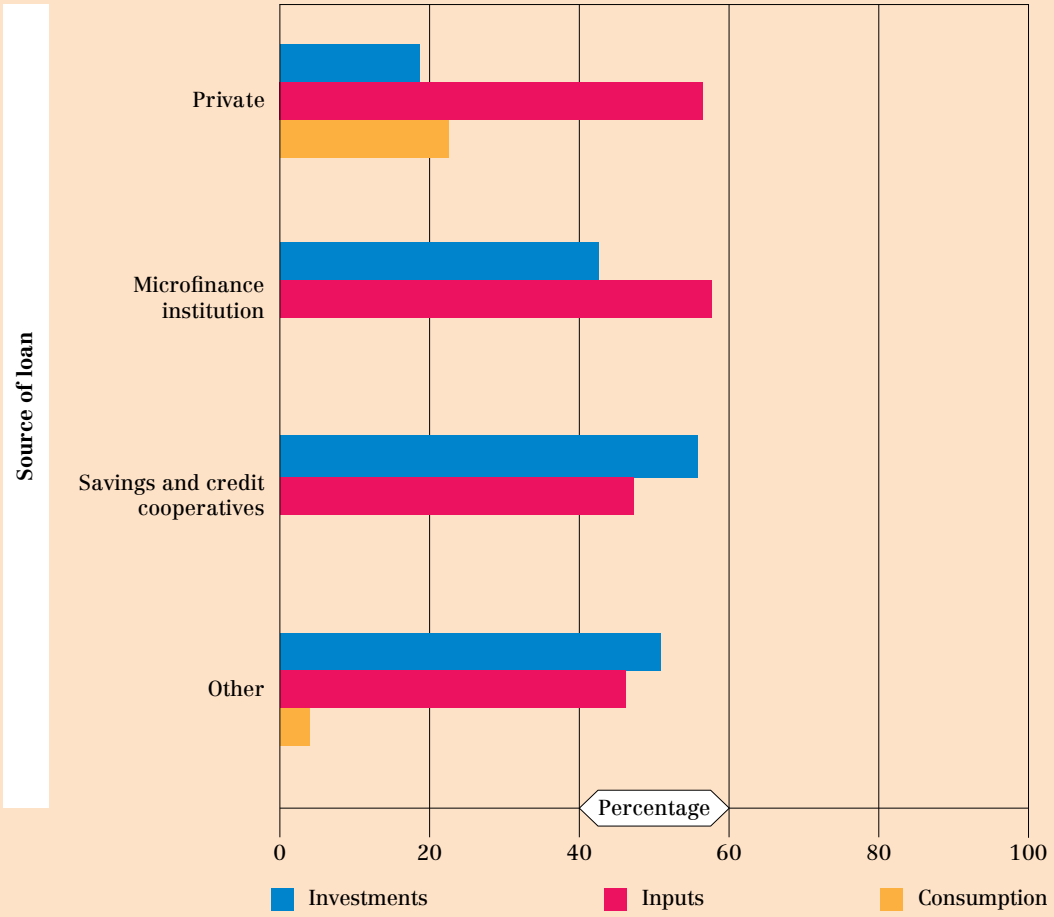
	Poor	Non-poor	Significance	No. households
Accessed loan in last 12 months	0.17	0.15		2 760
Source of loan				
Private individual	0.61	0.60		358
Savings and credit cooperative	0.20	0.17		358
Microfinance institution	0.13	0.14		358
Bank	0.00	0.00		358
Other source	0.08	0.09		358
Borrowed to finance				
Investment	0.33	0.32		358
Inputs	0.61	0.51		358
Consumption	0.08	0.13		358
Loan taken by				
Male household member	0.27	0.38	*	358
Female household member	0.18	0.19		358
Male and female household members	0.55	0.42	*	358

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*). "Investment" refers to purchase of land, construction of a house, or capital for enterprise. "Inputs" refers to inputs for farm and non-farm activities. "Consumption" comprises food, non-food, health and education expenditures.

Source: Authors' own elaboration based on ESS 2018/19.

Input purchases are the single most important reason for borrowing, both formally and informally. This outcome may reflect a structural feature of input markets in rural areas, in which credit lines are facilitated for agricultural purposes through mechanisms such as the Input Voucher System (IVS). The IVS is an intervention implemented through the Agricultural Transformation Agency (ATA) of Ethiopia, whereby producers in target regions can apply for vouchers through local microfinance institutions (in Amhara and SNNPR) and rural SACCOs (in Oromia and Tigray) to purchase inputs, with repayment on flexible terms. Most loans obtained from microfinance institutions in Amhara, Oromia, SNNPR and Tigray are reportedly used for agricultural input purchases, as are an important share of those sourced from SACCOs (Figure 12).

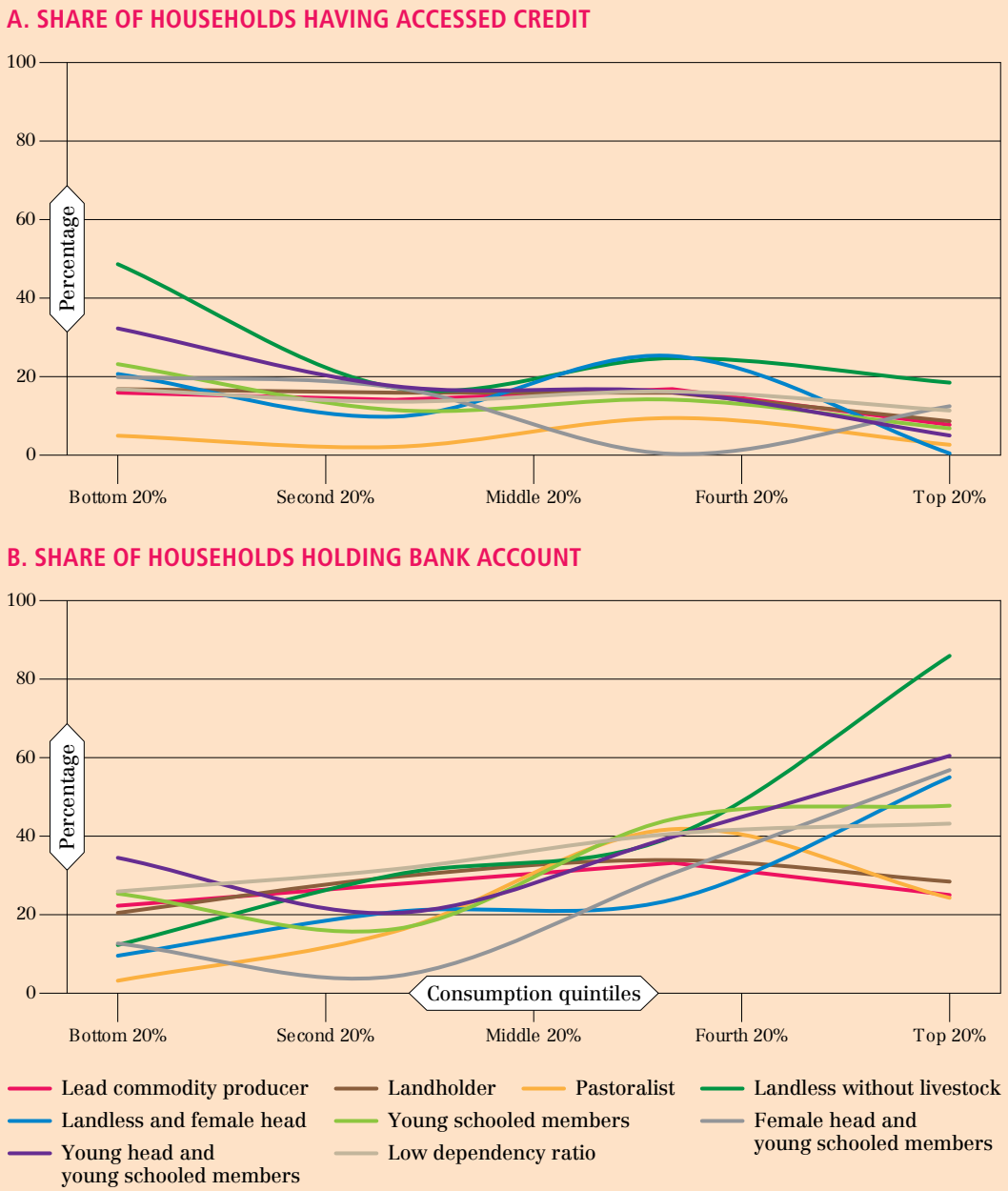
FIGURE 12 Share of households accessing credit, by source and purpose of loan (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

The outcomes for bank account ownership and access to credit or loans present contrasting indicators in terms of financial inclusion (Figure 13). Reporting these indicators over consumption quintiles reveals bank account ownership as a representation of wealth, while borrowing appears to be an indicator of limited liquidity, and thus suggestive of scarce resources. For bank account ownership, a positive relationship with consumption levels is observed for households with female heads or experiencing landlessness.

FIGURE 13 Household access to financial services, by target groups and consumption quintiles (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

5.4 Social capital

The limited access to, or ownership of, formal financial accounts and products among households in Ethiopia may be related to the widespread prevalence of alternate mechanisms of savings and support. Households are likely to engage with associations, organizations and cooperatives, as well as with reciprocal private support networks. For agriculturally oriented households, the role of cooperatives and other rural associations can be critical to gain access to inputs or as a commercialization channel.

For example, whereas ownership of formal insurance products is limited, membership in iddir, a traditional form of social and economic insurance, is widespread: over two-thirds of rural poor households and around three-quarters of rural non-poor households form part of such a network. This level of participation is well above that reported in *iqqub*. Approximately three-tenths of households form part of an iqqub. This figure, as indicated by Section 5.3, is not differentiated along poverty lines.

As for other types of networks, over 40 percent of rural poor households are associated[18] with an agricultural cooperative, producer organization or savings association, compared to 49 percent of non-poor households. This difference is statistically significant, indicating a greater degree of integration with livelihoods-supporting local organizations, as well as the increased access to credit and inputs which is generally associated with these types of organizations.

Reported interactions with agricultural cooperatives and savings associations are only marginally different across poverty status. Instead, stronger differentiation is observed for access to producer organizations, with which a significantly greater share of non-poor households report interaction. Indeed, non-poor households are significantly more likely to access inputs through producer organizations and to commercialize crop output through this channel (Table 25).

TABLE 25 Household interaction with organizations, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Member of *iddir*	0.69	0.75	**	2 760
Interacted with a cooperative, organization or association	0.43	0.49	**	2 760
Interacted with an agricultural cooperative	0.26	0.29		2 760
For input access	0.25	0.28		2 760
As a sales outlet	0.04	0.03		1 292
Interacted with producer organization	0.11	0.16	**	2 760
For input access	0.11	0.15	**	2 760
As a sales outlet	0.00	0.01	***	1 292
Interacted with a savings association (for input access)	0.10	0.12		2 760

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

[18] Apart from *iddir* membership, the ESS does not ask households to report their membership in cooperatives, unions or organizations. Being "associated" means that households report interactions with these institutions in terms of accessing inputs from them or selling agricultural output to them.

The relevance of these organizations for target groups and across consumption quintiles points to the different populations that each of these groups serve (Figure 14). Membership in *iddir* is closely related to agricultural orientation, as around 80 percent of lead commodity producers and landholders report membership, while only around 20 percent of landless and pastoralist households are members, across all levels of consumption quintiles. Interactions with agricultural cooperatives are more common among the middle quintile groups, indicating that access among poor households is limited; the wealthiest may have limited utility for such cooperatives. Poor people seem to be served slightly more by savings associations: linkages with such bodies are the most prevalent among all target groups in the bottom quintile. Instead, linkages to producer associations are somewhat more likely with increasing levels of welfare.

FIGURE 14 Share of households with interactions with organizations, by target group and consumption quintile (rural only)

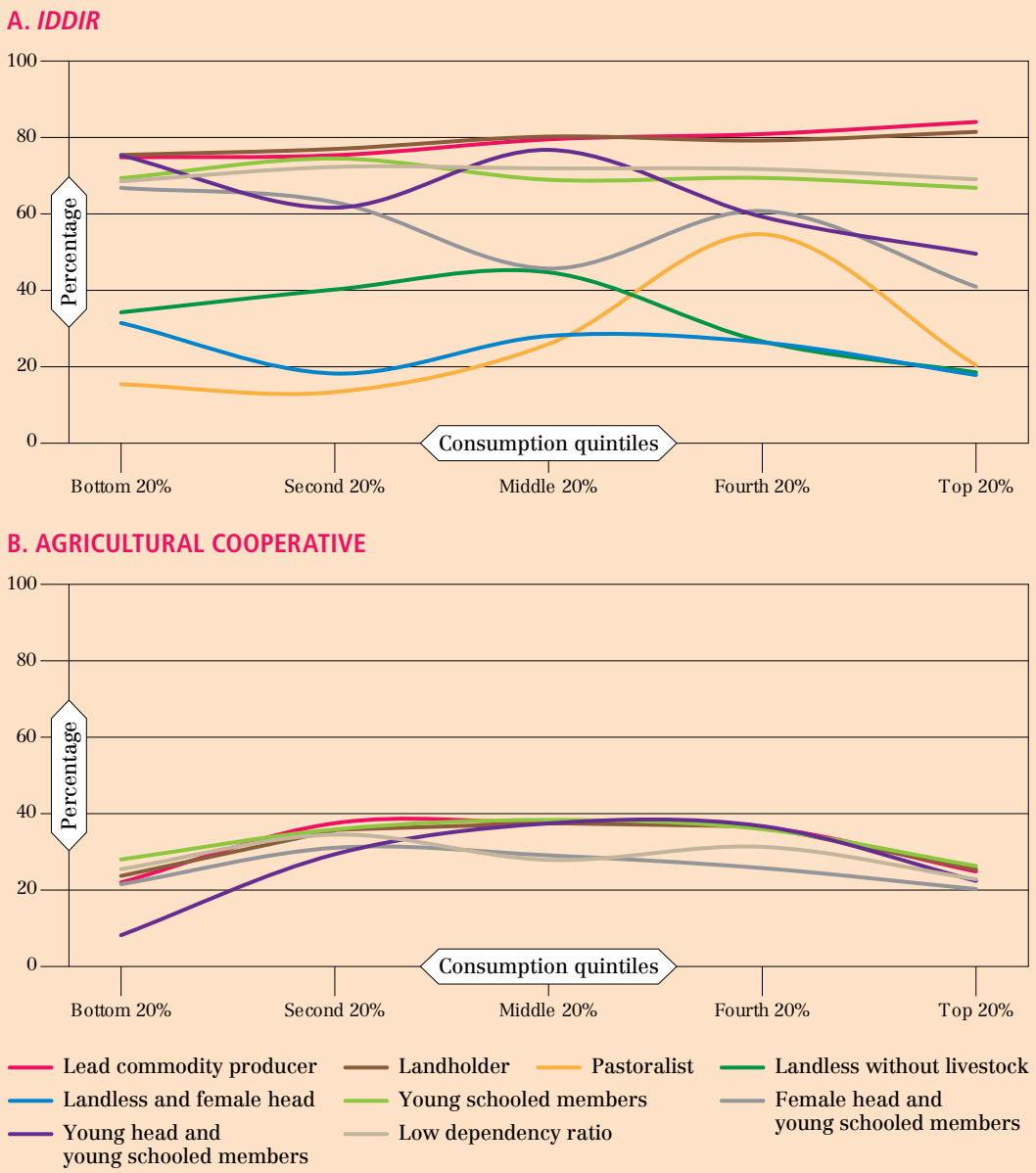
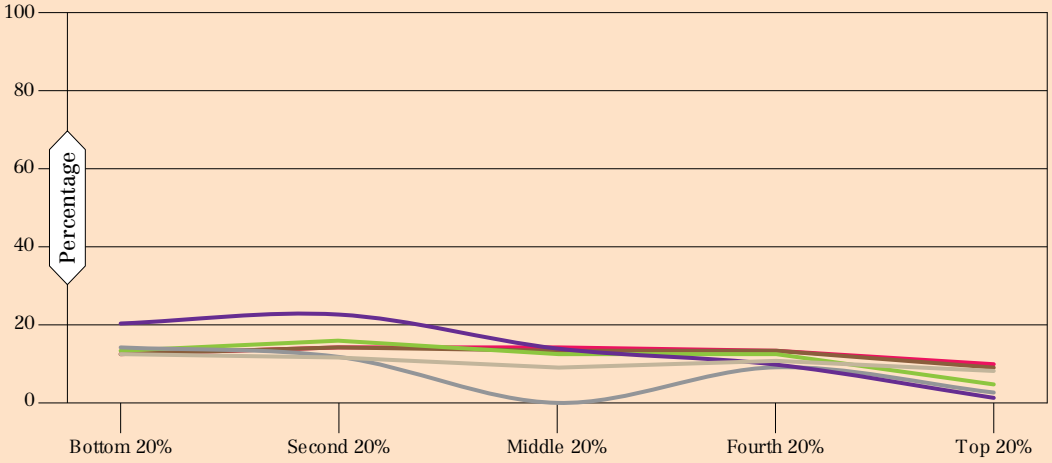
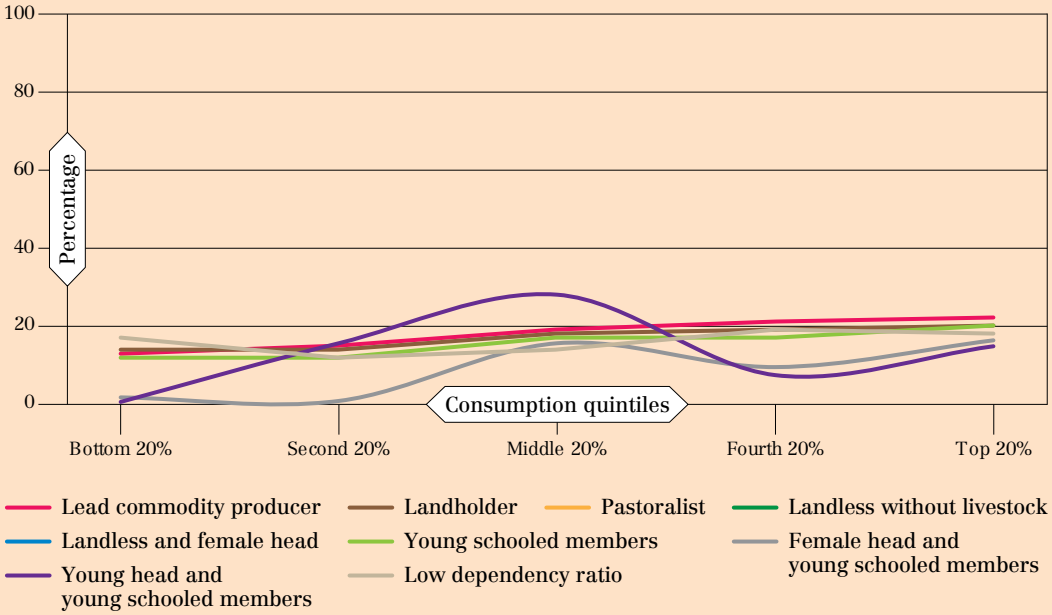


FIGURE 14 (cont.) Share of households with interactions with organizations, by target group and consumption quintile (rural only)

C. SAVINGS ASSOCIATION



D. PRODUCER ORGANIZATION



Notes: Pastoralist and landless groups were not included in the agricultural cooperative, savings association and producer organization figures due to data constraints.

Source: Authors' own elaboration based on ESS 2018/19.

The relationship between participation in rural cooperatives and organizations is closely related to landholdings, demonstrating how land scarcity is linked to constraints in terms of input access and marketing channels (Table 26). An important differentiation is how households with less versus more land utilize these institutions for their production activities. Households are more likely to use these organizations to access inputs rather than for commercialization purposes. Across land quintiles, access to inputs via these organizations rises concomitantly with land size. Conversely, among the few households that commercialize output via an agricultural cooperative, it is those in the bottom land quintile that are slightly more likely to do so.

TABLE 26 Household interaction with organizations, by land quintile (rural only)

	Land quintile					No. households
	Bottom 20%	Second 20%	Middle 20%	Fourth 20%	Top 20%	
Interacted with a cooperative, organization or association	0.27	0.43	0.57	0.61	0.74	2 760
Interacted with an agricultural cooperative	0.12	0.25	0.37	0.40	0.45	2 760
For input access	0.09	0.23	0.36	0.39	0.44	2 760
As a sales outlet	0.05	0.03	0.01	0.03	0.03	1 292
Interacted with a producer organization	0.11	0.12	0.16	0.18	0.23	2 760
For input access	0.11	0.12	0.15	0.18	0.21	2 760
As a sales outlet	0.00	0.00	0.02	0.00	0.02	1 292
Interacted with a savings association (for input access)	0.09	0.13	0.13	0.12	0.17	2 760

Note: The landless category was excluded.

Source: Authors' own elaboration based on ESS 2018/19.

5.5 Natural capital

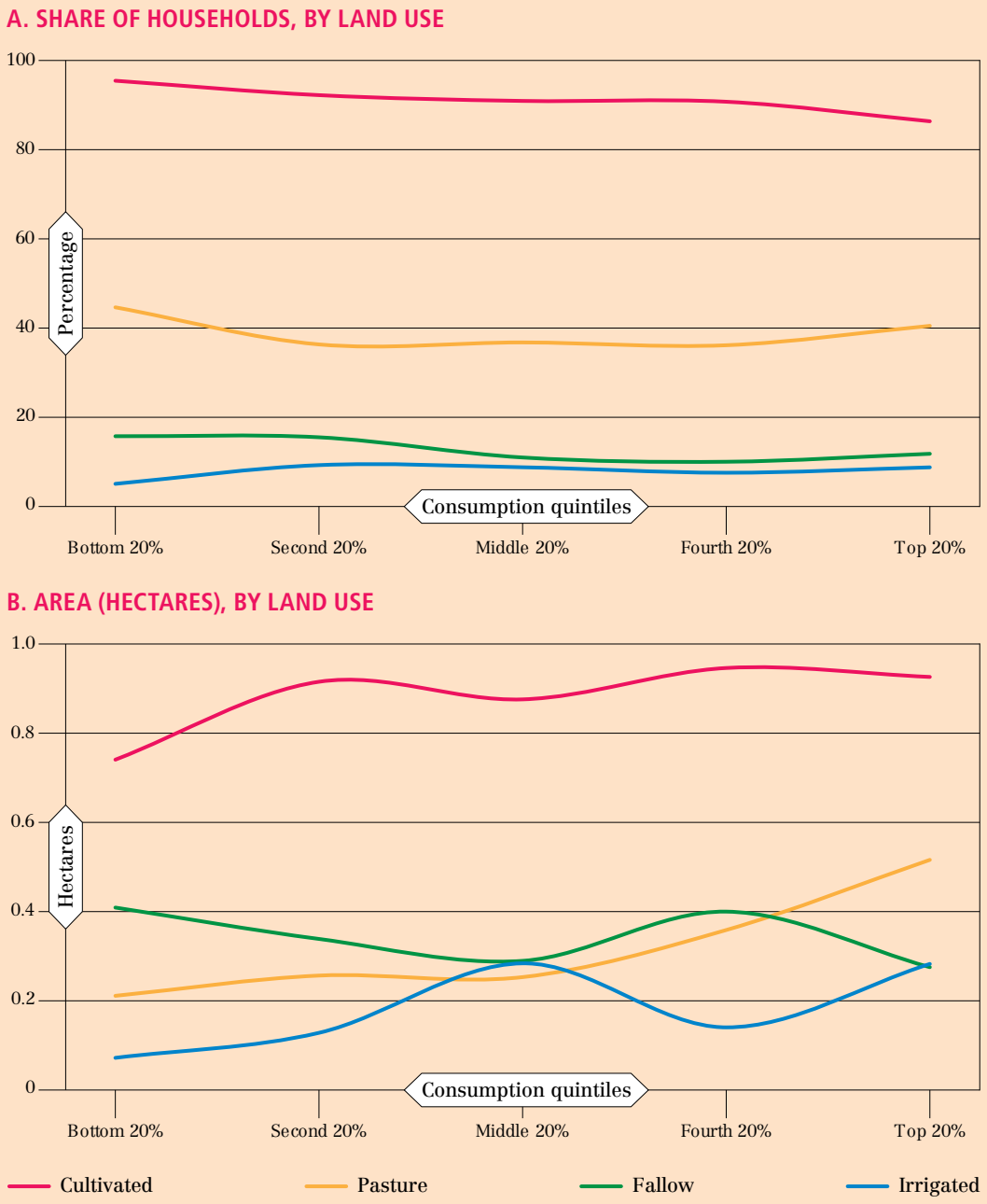
Land use among rural households is largely directed towards crop farming, with over 90 percent of rural poor and non-poor households reporting cultivation. Comparable shares of poor and non-poor households left land fallow (13–15 percent) or used land for pasture (39 percent).

The patterns of land use do not, however, vary considerably over consumption levels (Figure 15). Although the share of rural households cultivating declines with rising consumption, the differences are not stark, with 95 percent of the poorest households and 86 percent of the wealthiest households cultivating land. Across consumption quintiles, no trend is observed for the share of rural households that used land for pasture or that irrigated land.

In terms of area cultivated, households in the poorest quintiles cultivate smaller areas of land than those in the upper quintiles; however, the magnitude of the difference is not great. Households at the bottom consumption quintile cultivate 0.74 ha of land, while those in the second to fifth quintiles cultivate 0.87 to 0.94 ha of land. Area allocated to pasture does rise with household consumption, the poorest quintile allocating 0.20 ha versus the 0.51 ha allocated by the highest quintile. These differences in land allocation to pasture reflect patterns of ownership of grazing animals, which is more likely among non-poor households.[19]

[19] Annex Table A2 shows that the trends over consumption quintiles carry over to differences in land allocation across poor and non-poor households. Poor households report cultivating 0.75 ha of land, which is significantly lower than the 0.9 ha cultivated by non-poor households. Among households that irrigate land, non-poor households irrigate more than twice the area irrigated by poor households (0.19 ha versus 0.09 ha). Land used for pasture is also significantly greater among non-poor households, which allocate 0.31 ha, as compared to the 0.22 ha allocated among poor households.

FIGURE 15 Agricultural household land use, by consumption quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Across land quintiles, scale differences in land allocation emerge even more evidently. Households in the top land quintile cultivate an area 22 times greater than that cultivated by those in the bottom land quintile, and seven times greater than the land cultivated by those in the second land quintile. The scale difference is comparable for the area used for pasture and for the area left fallow (Table 27).

Irrigation is not widespread in Ethiopia. However, whereas 10 percent of households in the top land quintile irrigate their agricultural land, only 4 percent in the bottom land quintile report irrigation of any kind.

TABLE 27 Agricultural household land use, by land quintile (rural only)

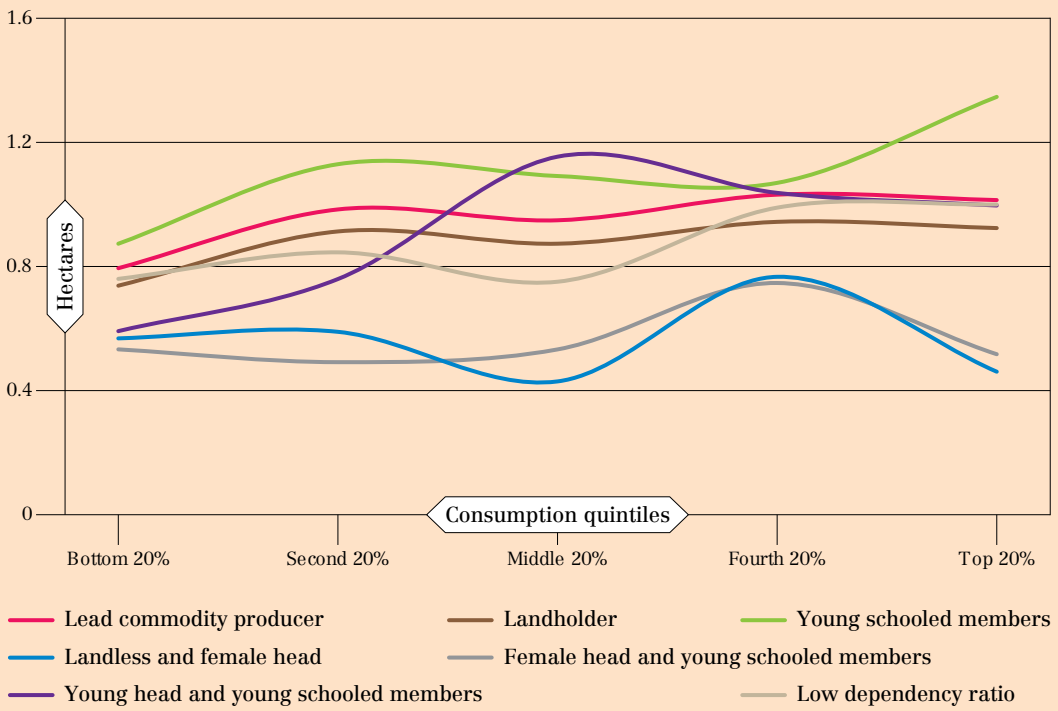
	Land quintile					No. households
	Bottom 20%	Second 20%	Middle 20%	Fourth 20%	Top 20%	
Hectares						
Cultivated	0.10	0.32	0.59	1.02	2.26	2 138
Used for pasture	0.05	0.09	0.17	0.26	0.63	636
Left fallow	0.05	0.06	0.15	0.30	0.64	303
Share of households						
Irrigated land	0.04	0.09	0.10	0.08	0.10	2 704

Notes: The rows reporting ha cultivated, used for pasture or left fallow only consider the households that indicated they used land in that corresponding manner.

Source: Authors' own elaboration based on ESS 2018/19.

The land constraints experienced by female-headed households are evident when focusing on this target group over consumption quintiles (Figure 16). Whereas lead commodity producers and youth-headed households mark an increase in area cultivated over the land distribution, female-headed households with land, and those with schooled members, report smaller areas across the land distribution compared to other target groups, and no clear tendency can be seen as land quintiles increase.

FIGURE 16 Agricultural households' land use, by target group and consumption quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

6 Rural livelihood strategies

KEY MESSAGES

- Agriculture is by far the main economic activity among rural poor and non-poor households, occupying almost 90 percent of rural households and serving as the only economic activity for approximately 60 percent.
- Among the 30 percent of rural households that diversify, poor households are relatively more likely to pair agricultural activities with temporary labour, while non-poor ones are more likely to combine them with wage employment or non-farm self-employment.
- Gender differences in livelihoods activities emerge, with men relatively more likely to engage in a productive activity and women more likely to report inactivity; this reflects their disproportionate share of the domestic burden.
- The lack of suitable opportunities is reported as the main source of non-participation in labour markets, reflecting the limited diversification of the rural economy.
- Production patterns and modern input use are not divided along poverty lines; however, larger landholders are more likely to use modern inputs and hire in labour.
- Despite widespread ownership of livestock among rural households, the milking of animals or commercialization of milk or meat products characterizes only a minority of rural livestock holders.

The level of asset ownership across the various dimensions explored above reveals significant inequalities across poverty status in terms of key productive resources – such as land area, electricity and educational attainment – and services and institutions such as access to basic infrastructure related to water and sanitation, insurance products and interactions with local organizations. For dimensions such as agricultural and non-agricultural asset ownership, inequalities of access are more nuanced; however, a clear picture emerges of an overall low asset endowment among all households in the rural space.

It is in this context that the following subsections describe household livelihood strategies in relation to poverty status. Section 6.1 addresses household- and individual-level statistics regarding participation in economic activities. This is followed by an in-depth examination of household crop and livestock production and commercialization activities, in Sections 6.2 and 6.3. Following a synthesis of livelihoods diversification (Section 6.4), the reliance of households on social assistance is then discussed in Section 6.5.

6.1 Livelihoods profile

Household level

Agriculture is by far the main economic activity in which households participate. Indeed, as illustrated by Table 28, most rural households live in communities for which agriculture is the most important activity. A minority of rural households are based in communities where agricultural processing and non-agricultural services and industries are key sources of employment. The relationship between the employment sector and poverty is not clearly defined; however, it can be seen that the **incidence of poverty is lowest, in rural areas, among communities that report significant employment in agricultural processing and small-scale industries**.

TABLE 28 Share of households and poverty rate, by main sector of employment in community (rural only)

	Main sectors of work for households within the community				
	Farming, fishing, forestry	Agricultural processing (beer brewing)	Small-scale trading and services	Small-scale industry	Other (transport, professional jobs, etc.)
Share of households	0.99	0.19	0.37	0.06	0.14
Poverty incidence	0.26	0.20	0.28	0.18	0.26

Notes: The sum of row shares can exceed 100 percent because each community may report multiple "main" sectors.

Source: Authors' own elaboration based on ESS 2018/19.

The role of agriculture as the main economic activity is also evident when considering the different activities in which households engage (Table 29). Overall, 96 percent of poor households and 93 percent of non-poor households engage in agricultural activities such as crop cultivation or livestock husbandry. Participation in on-farm activities is significantly higher among poor households.

Despite the broad engagement of rural households in agriculture, households also participate in off-farm livelihoods, likely as secondary activities. Around one-fourth to one-fifth report involvement in temporary or salaried labour activities, with poor households more likely to engage in the former and non-poor ones in the latter. Non-farm household enterprises are reported by 12 percent of poor households and 17 percent of non-poor ones. Income from these livelihoods activities is further complemented by social assistance programmes, which reach 25 percent of poor households and less than 20 percent of non-poor households.

Table 30 presents a unique typology of rural household livelihoods activities across labour (wage, temporary labour), household enterprises and on-farm activities (crop and livestock), enabling a precise characterization of how rural households diversify their economic activities.

The typology reveals that rural livelihoods specialization in on-farm activities is the norm for 60 percent of poor and non-poor households alike; however, few specialize in off-farm activities such as wage or temporary labour, or household enterprises. Almost 30 percent of rural households engage in multiple livelihoods activities, primarily by combining on-farm and off-farm activities (27 percent).

TABLE 29 Household participation in livelihoods activities, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
On-farm	0.96	0.93	***	2 760
Crop	0.92	0.89		2 760
Livestock	0.89	0.86	*	2 760
Off-farm	0.34	0.33		2 760
Labour	0.25	0.21		2 760
Wage	0.05	0.07	**	2 760
Temporary	0.21	0.16	**	2 760
Household enterprise	0.12	0.17	***	2 760
Social assistance	0.25	0.17	***	2 760

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

TABLE 30 Household livelihoods diversification typology, by poverty status (rural only)

	Overall	Poor	Non-poor	Significance	No. households
No activity	0.06	0.05	0.07		2 760
Labour only	0.03	0.01	0.03	**	2 760
Household enterprise only	0.03	0.01	0.03	**	2 760
Household enterprise and labour	0.01	0.00	0.01	***	2 760
On-farm only	0.60	0.60	0.60		2 760
On-farm and labour	0.15	0.21	0.12	***	2 760
On-farm and temporary labour	0.11	0.18	0.09	***	2 760
On-farm and wage labour	0.03	0.03	0.03		2 760
On-farm, household enterprise	0.08	0.08	0.09		2 760
On-farm, household enterprise and labour	0.04	0.03	0.04	*	2 760

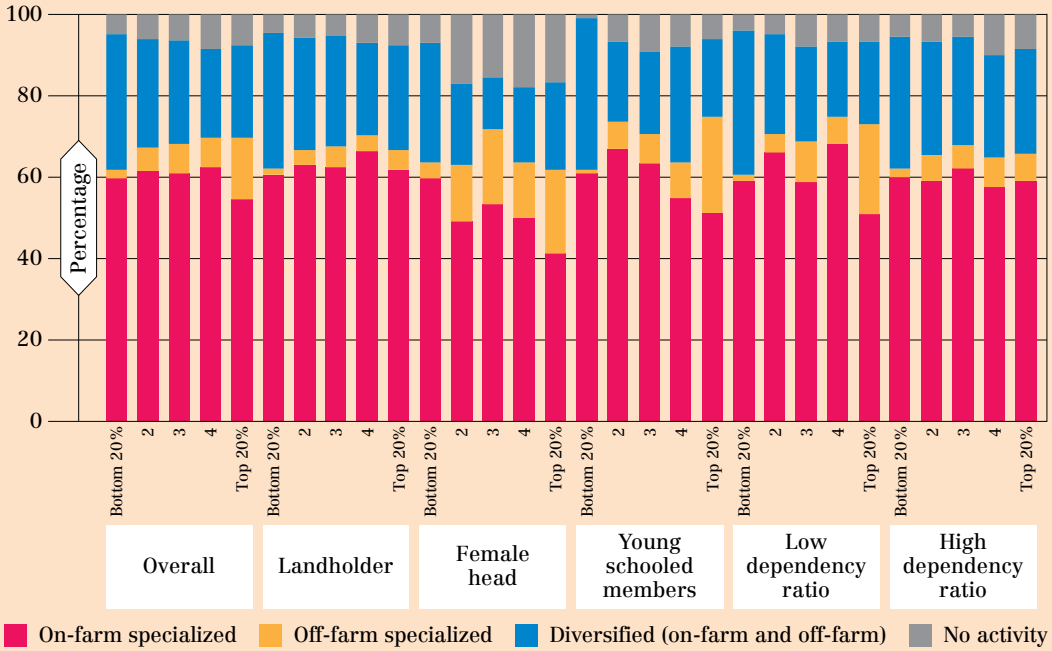
Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Differences across poverty status in rural livelihood strategies arise in terms of which off-farm activities are combined with household agricultural production. Whereas a significantly greater share of poor households (18 percent, versus nine percent of non-poor households) report engaging in temporary work in addition to on-farm activities, non-poor households are slightly but significantly more likely to diversify into non-agricultural labour and household enterprise work. These differences are indicative of a potentially better investment capacity among non-poor households in terms of the human, financial or social capital required to form and manage an enterprise.

Over expenditure quintiles and by target groups, the prevalence of diversification – meaning participation in on-farm and off-farm activities – tends to decline with increasing consumption levels, suggesting that diversification represents a survival rather than an opportunity-led strategy; see Figure 17). Instead, specialization in off-farm activities tends to rise with consumption levels, a trend that holds across almost all target groups. Landholding households are less likely to specialize in off-farm activities, while female-headed households are more likely to do so. Female-headed households are also more likely not to report any activity within the survey reference period. Whereas households with young, formally schooled members and households with low dependency ratios increase their specialization in off-farm work with higher quintiles, those with high dependency ratios exhibit no particular trend over the distribution of consumption.

FIGURE 17 Livelihoods typology, by target group and over expenditure quintiles (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Individual level

Reflecting the importance of agricultural activities at the household level, individual participation is also directed towards those activities. More than 60 percent of working-age adults (above 15 years old) in poor and non-poor households report having worked on the household farm. This participation is not differentiated across poverty status (Table 31).

TABLE 31 Working-age adult participation in productive activities, by poverty status (rural only)

	Poor	Non-poor	Significance	No. individuals
Worked in household agricultural activities	0.62	0.63		7 548
Female	0.49	0.51		3 848
Male	0.74	0.76		3 700
Worked in wage job	0.01	0.03	***	7 548
Female	0.01	0.01		3 848
Male	0.02	0.04	***	3 700
Worked in temporary job	0.08	0.06		7 548
Female	0.05	0.04		3 848
Male	0.11	0.08		3 700
Performed unpaid/exchange work	0.32	0.35	**	7 548
Female	0.25	0.26		3 848
Male	0.39	0.46	***	3 700
Worked in household enterprise	0.02	0.06	***	7 548
Female	0.03	0.06	***	3 848
Male	0.02	0.06	***	3 700

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Consistent with findings at the household level, participation in labour and household enterprise activities complements household livelihoods. In addition, analysis at the individual level enables significant differences among male adults to emerge, across poverty status. Thirty-nine percent of male adults in poor households and 46 percent in non-poor households report having performed unpaid or exchange labour for other households. Among women, approximately one-quarter in poor and non-poor households alike report having performed exchange labour.

Instead, temporary work, meaning casual, part-time and temporary jobs,[20] employs a comparable share of male adults in poor households (11 percent) and non-poor households (8 percent). Results are also not statistically different for female adults across poor and non-poor households, 5 percent of which performed temporary jobs.[21] Participation in temporary work contrasts with that in salaried wage jobs: 3 percent of non-poor adults participate in such work, compared to only 1 percent of adults in poor households.

[20] This does not consider temporary work linked to PSNP, which is addressed in Section 6.5.

[21] The absence of differences between poor and non-poor households in terms of individual participation in temporary work contrasts with the remarkable differences found across poverty status concerning household participation in temporary work (Table 29). This likely reflects differences in terms of household composition between poor and non-poor households. Indeed, Figure 10 shows that poor households are composed of relatively more men of working age, and those are more likely to engage in temporary work (Table 31).

The low prevalence of participation in remunerated salaried and temporary wage jobs in rural areas reflects the scarcity of stable non-agricultural (or non-farm) income-generating opportunities. It also reflects the disproportionate share of rural households with livelihoods depending on agricultural production activities. Indeed, Table 28 shows that almost all households in rural areas are located in communities where primary activities – agriculture, fishing and forestry – are the main activities, whereas fewer than half of all households participate in non-agricultural activities when those are the dominant industry of their community of residence. The discussion that follows, concerning inactivity among rural adults, further indicates that the single most important reason for inactivity is the lack of jobs suitable for the skills and age of the jobseeker.

Employment in a non-agricultural household enterprise is similarly divided among poor and non-poor adults and by gender: 3 percent of female poor people report employment in this activity, while it occupies 5 percent of female non-poor people. Among men in poor households, only 2 percent report working in a household enterprise, compared to 6 percent of men in non-poor households.

The lower shares of women engaged in any of the productive activities listed in Table 32 may reflect the **disproportionate burden, on female time, of domestic responsibilities**. Indeed, women are significantly more likely to have spent time on domestic tasks such as fetching water and collecting firewood, regardless of whether they reside in a female- or male-headed household. Whereas almost 70 percent of female adults participated in domestic tasks, only one-quarter of male adults reported doing so. The number of hours spent in the aforementioned domestic tasks by participants is slightly higher among male than female adults, but only significant at the 90 percent level. If the analysis were also to account for activities such as childcare and food preparation,[22] it is likely that women's time spent in domestic tasks would exceed those of men. Overall, this limited picture of domestic responsibilities *vis-à-vis* participation in economic activities points to structural constraints for women in terms of the strategies available to overcome economic vulnerability.

TABLE 32 Working-age adult participation in domestic tasks in the past seven days, by individual's gender and household head gender (rural only)

	Female	Male	Significance	No. individuals
Has spent time in domestic tasks	0.69	0.25	***	8 522
Female-headed household	0.64	0.22	***	1 833
Male-headed household	0.70	0.26	***	6 689
Hours spent in domestic tasks	1.14	0.48	***	8 522
Female-headed household	0.94	0.31	***	1 833
Male-headed household	1.20	0.50	***	6 689
Hours spent in domestic tasks (conditional upon undertaking domestic tasks)	1.65	1.91	*	3 995
Female-headed household	1.45	1.44		893
Male-headed household	1.71	1.97		3 102

Notes: "Domestic tasks" accounts for fetching water and collecting firewood. The "Significance" column reports the results of the t-test of difference in means across sexes of adult individuals. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

[22] The ESS survey does not include these activities in the time use module question set.

Across target groups, participation levels and relationships with rising consumption levels vary depending on the group. Adults in female-headed households (landless and with young, schooled members) tend to participate more in casual or temporary jobs with rising levels of household consumption. However, whereas employment in household enterprises among the latter is low (at or below 10 percent) across the consumption distribution, almost 30 percent of adults in female-headed landless households in the top quintile report employment in household enterprises.

Individuals in landless households without livestock are most likely to manage multiple jobs when the household is at the bottom of the expenditure distribution, and most likely to engage in casual or temporary jobs. Diversification declines almost to zero as household expenditure levels rises; instead, participation in household enterprises rises and occupies over 30 percent of individuals in this group.

Among individuals in pastoralist households, diversification and non-agricultural household enterprise work rise with consumption levels. These trends contrast with those for adults in lead-commodity-producing households, which report low levels of participation in non-agricultural household enterprises and temporary work. Moreover, fewer than 10 percent hold a diversified portfolio, working in multiple activities.

Fewer than 10 percent of adults in youth-headed households report participation in temporary work or diversified portfolios across the expenditure distribution. Participation in household enterprises rises with rising quintiles; however, it occupies fewer than one-fifth of these adults (Figure 18).

A common trend across all groups is the notably low share of participation in salaried jobs among individuals in the bottom 80 percent of the expenditure distribution – essentially, the vast majority of the population. Salaried labour is a typical source of employment only for individuals in households in the top quintile, occupying 30 to 43 percent of adults in the wealthiest landless households, and 15 to 23 percent of adults in the wealthiest households with young, schooled members. These trends underscore an important educational and asset-defined divide in engaging in stable off-farm employment.

FIGURE 18 Adult participation in productive activities, by target group and consumption quintile (rural only)

A. DIVERSIFIED

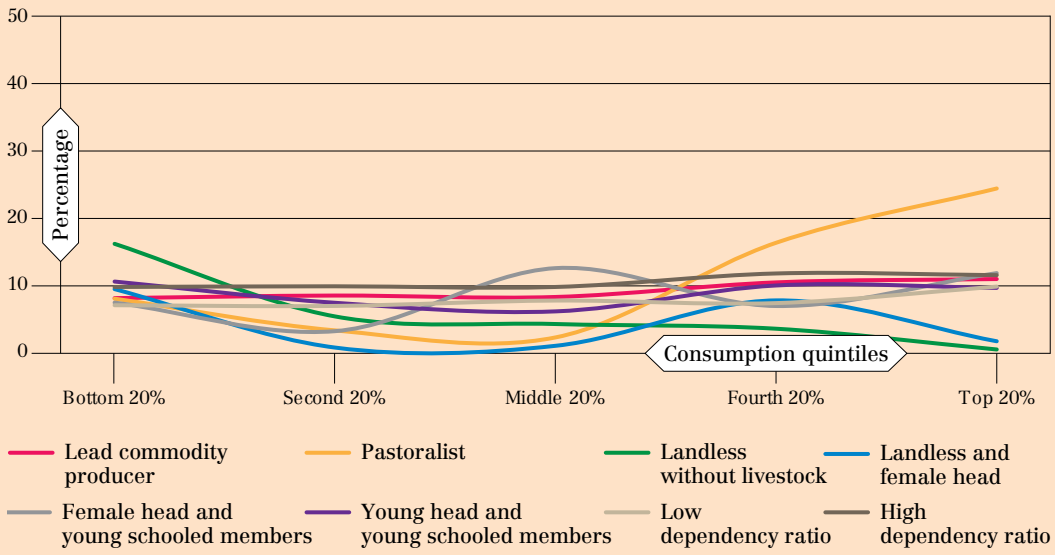
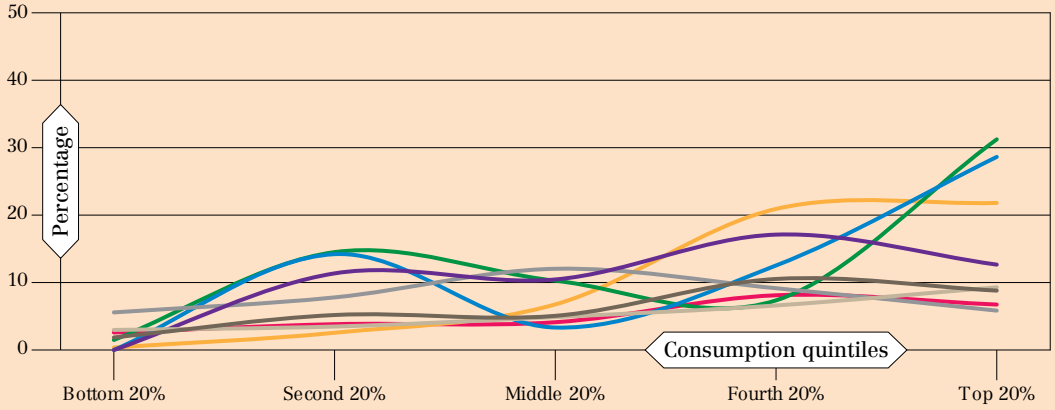
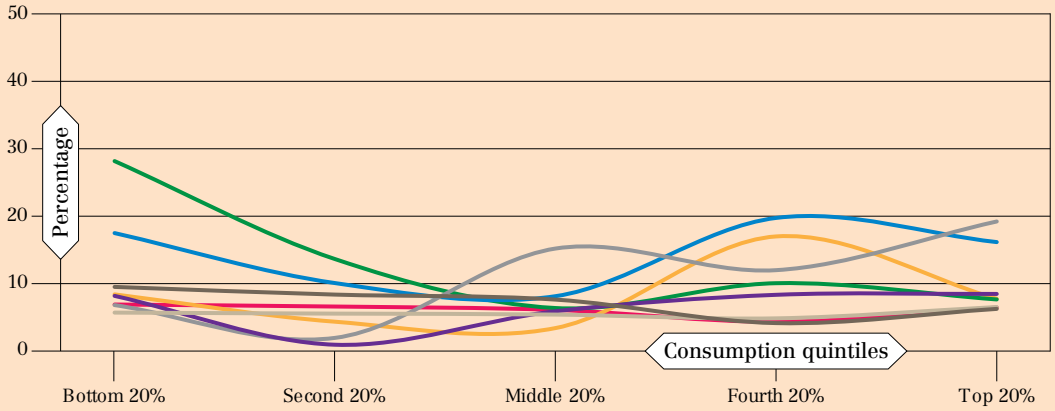


FIGURE 18 (cont.) Adult participation in productive activities, by target group and consumption quintile (rural only)

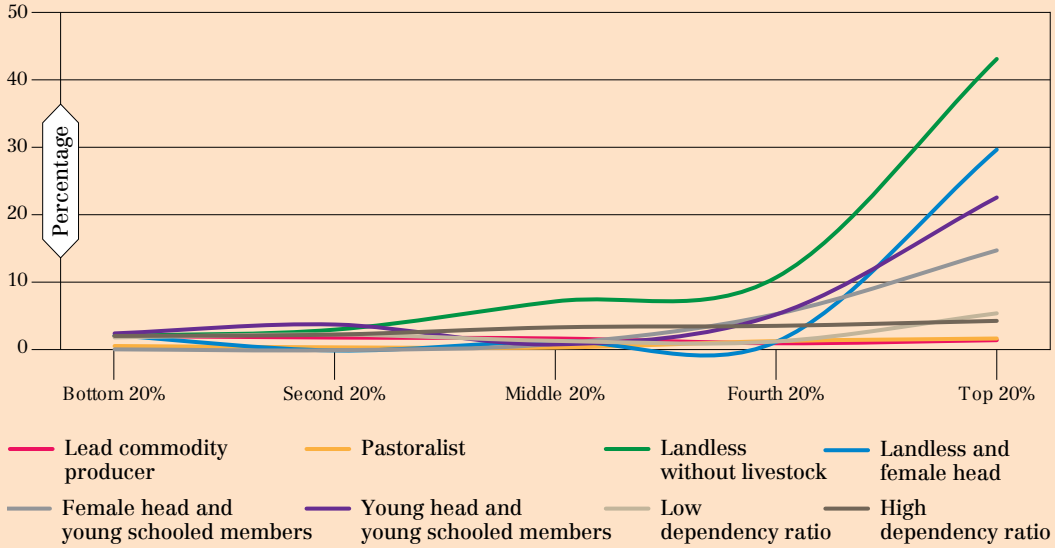
B. NON-AGRICULTURAL HOUSEHOLD ENTERPRISE WORK



C. CASUAL/TEMPORARY LABOUR



D. SALARIED LABOUR



Notes: "Diversified" represents having worked in household agriculture and performed other jobs.

Source: Authors' own elaboration based on ESS 2018/19.

A relevant factor related to the low participation rates in non-agricultural activities for most rural dwellers is the non-negligible level of unemployment and inactivity among working-age adults in the rural households of Ethiopia. Unemployment is defined as not having worked in paid-wage or casual employment, household enterprises or household agriculture[23] in the past seven days, but having searched for work in the four weeks prior to the survey, or having wanted to work at the time of the survey. Inactivity pertains to individuals that are outside the labour force (Gammarano, 2019) such that they did not engage in paid-wage or casual employment, household enterprises or household agriculture in the past seven days, and did not search for work nor want to work at the time of the survey. Inactivity over the previous 12 months identifies individuals that were inactive over the previous seven days and also did not have any wage job, temporary job (including through PSNP), or household enterprise work over the previous year.

Unemployment is reported by a significant share of the population, affecting 22 percent and 17 percent of adults in poor and non-poor households, respectively. With the exception of male youths, who are equally likely to be unemployed irrespective of poverty status (Table 33), individuals in poor households are significantly more likely to be unemployed than those in non-poor households.

TABLE 33 Working-age adult unemployment and inactivity rates, by poverty status (rural only)

	Poor	Non-poor	Significance	No. individuals
Adults (15–60 years), unemployed	0.22	0.17	***	6 833
Female	0.19	0.14	***	3 515
Male	0.25	0.20	**	3 318
Youth (15–30 years), unemployed	0.22	0.17	***	3 705
Female	0.21	0.15	**	1 893
Male	0.22	0.19		1 812
Adults inactive in past seven days	0.24	0.21	**	6 833
Female	0.37	0.32	**	3 515
Male	0.11	0.09	*	3 318
Youth inactive in past seven days	0.25	0.22	*	3 705
Female	0.38	0.32		1 893
Male	0.14	0.10	*	1 812
Adults inactive in past 12 months	0.21	0.16	***	6 833
Female	0.32	0.26	***	3 515
Male	0.10	0.06	**	3 318
Youth inactive in past 12 months	0.23	0.17	***	3 705
Female	0.34	0.27	**	1 893
Male	0.12	0.08	**	1 812

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

[23] The ESS differentiates between subsistence-oriented (mainly for family use) and market-oriented agriculture (mainly for sale) in the skip pattern to define unemployment questions; however, this report also considers subsistence agriculture as a productive activity.

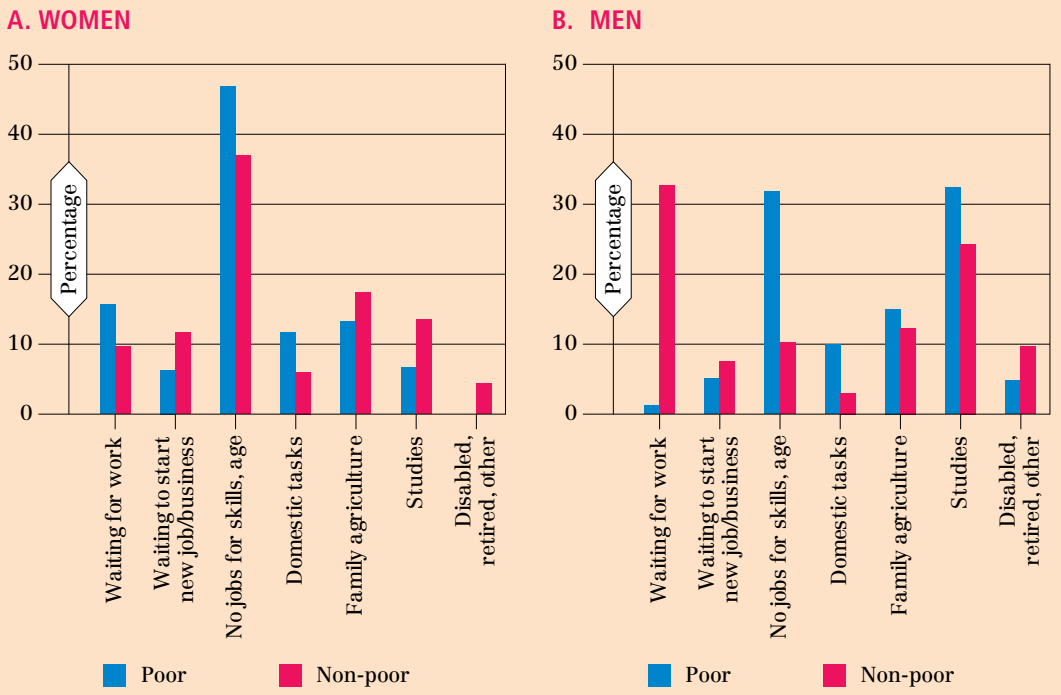
Inactivity disproportionately affects working-age individuals in poor households. Approximately one-quarter of adults and youths in poor households had been inactive in the previous seven days. These figures are significantly greater than the 21 to 22 percent of adults and youths who had been inactive in non-poor households over the previous seven days. The high rate of inactivity among youth partly reflects school attendance, as approximately 30 percent of youth were attending school at the time of the survey and were therefore relatively more likely to be inactive. However, school attendance is not the only reason for inactivity, as approximately 60 percent of inactive youths were not attending school at the time of the survey.

Inactivity also disproportionately affects women in poor households, pointing to the fact that greater challenges are faced by women in gaining access to labour activities. Whereas close to 40 percent of female adults in poor households were reportedly inactive in the previous seven days, only about 11 percent of male adults in poor households were categorized as inactive. This differential also holds among non-poor households, in which 32 percent of women were inactive, yet only nine percent of men were.

Considering the broader time frame of the previous 12 months, similar results can be seen across adults and youth in poor and non-poor households, as well as across gender lines.

The main reason expressed for inactivity is the general perception that no job opportunities exist matching the individuals' skills and age profile (Figure 19). In particular, inactive individuals report reasons such as job search fatigue; the lack of job opportunities in general; lacking skills or experience for available jobs; and being considered too young or old by employers. The lack of jobs matching skills or age profiles is cited by a significantly greater share of women than men, with the gender differential prevalent across the entire consumption distribution.

FIGURE 19 Reasons reported for not searching for work in the previous seven days, by gender and poverty status (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Among male adults in poor households, the lack of jobs is as important a reason for inactivity as being occupied by studies or education. This contrasts with male adults in non-poor households, who are not in the labour force because they are waiting for work or are engaged in educational commitments. The relevance of family agricultural responsibilities is felt especially among those in poor households, whereas waiting for work is reported by a disproportionate share of non-poor male adults. Domestic tasks and family agriculture are not important drivers of non-participation in the labour force, and are not largely differentiated across gender lines.

6.2 Agricultural livelihoods: crops

Crop farming is an important activity among all households in rural areas, with 93 percent of poor households and 91 percent of non-poor households cultivating land. This section explores crop production patterns and commercialization trends among rural households. The ACPZ commodities in this section pertain to those listed in Table 1.

Production portfolio

The crop portfolio, in terms of crop categories, does not differ substantially across poor and non-poor rural households (Table 34). Households are equally likely to cultivate grains, legumes, fruits, vegetables and tubers. However, the area cultivated with grains, legumes and tubers is significantly greater among non-poor households. This partly reflects differences in the size of cultivated areas between poor and non-poor households, as for legumes and tubers, the differences vanish when considering the share of total area planted. For grains, however, they persist: non-poor households dedicate a significantly higher share of their land to grains production.

Narrowing in on ACPZ commodities, their cultivation takes place among poor and non-poor households and – with the exception of maize and sorghum, both of which have staple-crop importance – shows no significant differences across poor and non-poor households. Cultivation of maize and sorghum is significantly greater among poor households, with 55 percent cultivating maize and 31 percent cultivating sorghum, as compared to 48 percent and 20 percent, respectively, among non-poor households.

For sesame, a high-value commercial crop, minor proportions of poor and non-poor households cultivate it, although poor households are significantly more likely to engage in this crop. Nevertheless, poor households cultivate sesame on a much smaller scale than non-poor households, which report a planted area that is almost four times greater.

Cultivation of wheat, coffee and avocado, the lead commodities in the Bulbula and Yirgalem ACPZs, is not significantly different across poverty status. Approximately 20 percent of rural households cultivate wheat on approximately 0.35 ha of land. About one-quarter grow coffee on approximately 0.1 ha of land. Avocado production is reported by 7 percent of households on up to 0.02 ha of land. In the case of avocado, the number of trees cultivated differs by poverty status, with approximately 4.2 trees harvested among non-poor households and an average of 2.9 trees among poor households.

The cultivation of other lead and priority commodities occurs at similar rates across poor and non-poor households. The quantity of land allocated to such crops differs only in the case of potato, for which the area planted by non-poor households is more than three times greater than among poor households.

As for the share of land allocated to different crops, poor households tend to dedicate a greater share of their cultivated area to sorghum, while among non-poor households, maize and sesame are cultivated on a disproportionate share of land. For the remaining crops analysed, the share of land under cultivation does not vary significantly across poverty status.

TABLE 34 Household cultivation and area planted, by poverty status (rural only)

	Cultivated (%)			Area planted (hectares)			Share of total area planted (%)		
	Poor	Non-poor	Significance	Poor	Non-poor	Significance	Poor	Non-poor	Significance
Crop categories									
Grains	0.48	0.51		0.40	0.52	***	0.42	0.47	**
Legumes	0.41	0.38		0.18	0.23	**	0.22	0.21	
Fruits	0.18	0.19		0.02	0.03		0.06	0.04	
Vegetables	0.38	0.41		0.03	0.04		0.05	0.06	
Tubers	0.20	0.21		0.02	0.05	***	0.09	0.11	
ACPZ lead commodities									
Maize	0.55	0.48	**	0.17	0.21		0.25	0.30	**
Sorghum	0.31	0.20	***	0.35	0.38		0.38	0.33	*
Wheat	0.21	0.23		0.38	0.35		0.37	0.33	
Sesame	0.04	0.02	*	0.37	1.59	***	0.17	0.44	***
Coffee	0.25	0.23		0.08	0.13		0.17	0.14	
Avocado	0.07	0.07		0.01	0.02		0.05	0.04	
Avocado trees harvested				2.90	4.24	*			
ACPZ additional commodities									
Haricot bean	0.04	0.05		0.13	0.09		0.21	0.14	
Potato	0.05	0.06		0.02	0.07	***	0.12	0.11	
Tomato	0.01	0.01		0.03	0.04		0.02	0.02	

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

In terms of target groups, the share cultivating by land quintiles and consumption quintiles demonstrates that households with greater landholdings are notably more likely to cultivate grains crops such as wheat, maize and sorghum. However, they are less likely to grow crops such as coffee (Figure 20). Across consumption quintiles, a negative relationship with cultivation of any priority crop emerges, which points to the diminishing importance of agriculture among households at the highest expenditure levels.

FIGURE 20 Share of households cultivating, by target group and land or consumption quintile (rural only)

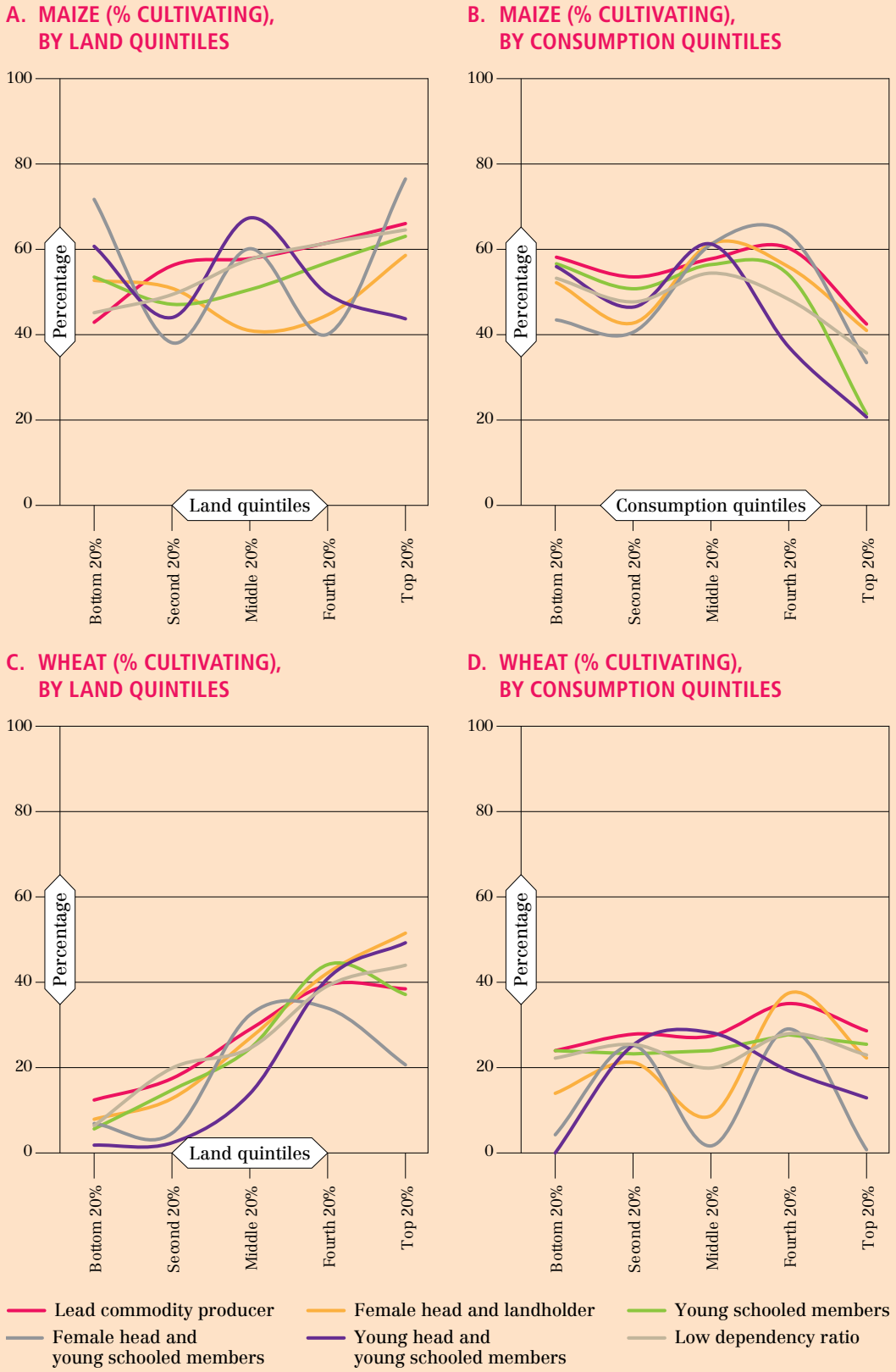
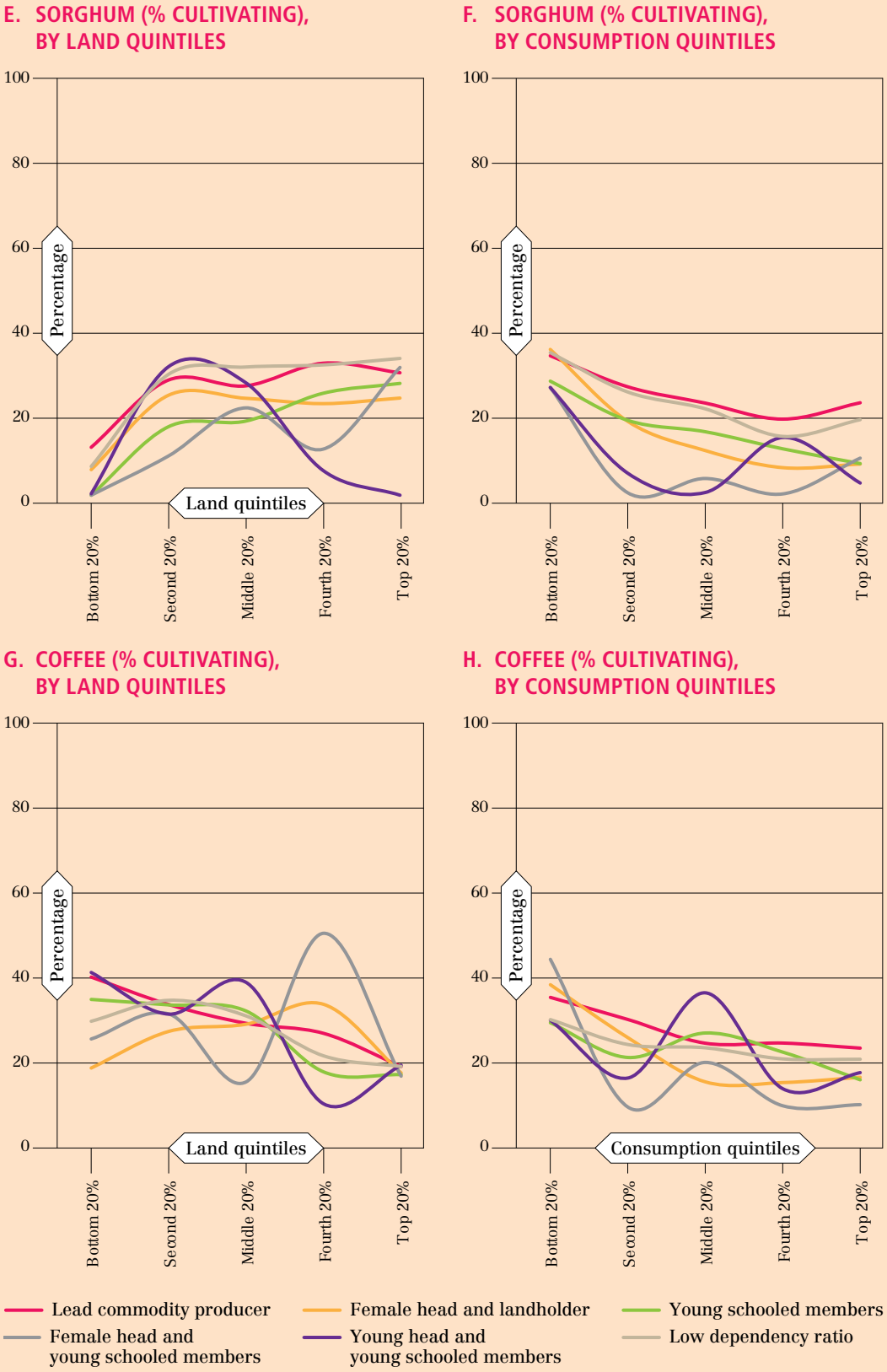


FIGURE 20 (cont.) Share of households cultivating, by target group and land or consumption quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Inputs

Cultivation practices across poor and non-poor households are generally similar, with access to improved seeds, agrochemicals and organic fertilizer not being significantly different across poverty status (Table 35).

Access to inorganic fertilizers is more prevalent among non-poor households, with 59 percent reporting use compared to 48 percent of poor households. Approximately 80 percent of households using fertilizers report purchasing them from a cooperative or a non-governmental organization (NGO), about one-fifth purchased fertilizers directly from the market and around 15 percent from government sources. The fertilizer access provider does not vary across poverty status.

◆ TABLE 35 Household access to inputs, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Used improved seeds	0.35	0.38		2 117
Used agrochemicals	0.30	0.34		2 117
Fertilizer				
Use organic fertilizer	0.67	0.64		2 704
Use inorganic fertilizer	0.48	0.59	***	2 704
Purchased fertilizer from cooperative/NGO	0.80	0.81		1 087
Purchased fertilizer from market	0.22	0.18		1 029
Purchased fertilizer from government	0.15	0.17		1 068
Purchased fertilizer from other sources	0.10	0.12		1 034
Labour				
Hired-in harvest labour	0.24	0.37	***	2 045
Used household labour for harvest	1.00	0.99	***	2 045
Used unpaid non-household labour for harvest	0.57	0.68	***	2 045
Hired-in land preparation labour	0.23	0.30	***	2 704
Used household labour for land preparation	1.00	1.00		2 704
Used unpaid non-household labour for land preparation	0.33	0.48	***	2 704

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

The use of labour differs considerably according to poverty status. Whereas virtually all households – poor and non-poor – rely on household labour for land preparation and harvest activities, the share of households hiring in labour is significantly greater among non-poor households. Almost 37 percent of non-poor households hired in harvest labour, while around

a quarter of poor households did so. The differential is similar for land preparation labour, with 30 percent of non-poor households hiring in versus 23 percent of poor households. **The use of non-household-member free labour is also more prevalent among non-poor households (68 percent versus 57 percent for harvest activities, and 48 percent versus 33 percent for land preparation activities), which points to potentially richer support networks with friends, neighbours and extended family**.

Whereas the use of productive inputs for rural households does not vary substantially across poverty status, clearly marked trends exist with respect to landholdings, with the smallest-scale producers accessing inputs and productive resources to a limited extent compared to the largest-scale producers. This trend holds across target groups and across inputs (Figure 21).

FIGURE 21 Share of households accessing productive inputs, by target group and land quintile (rural only)

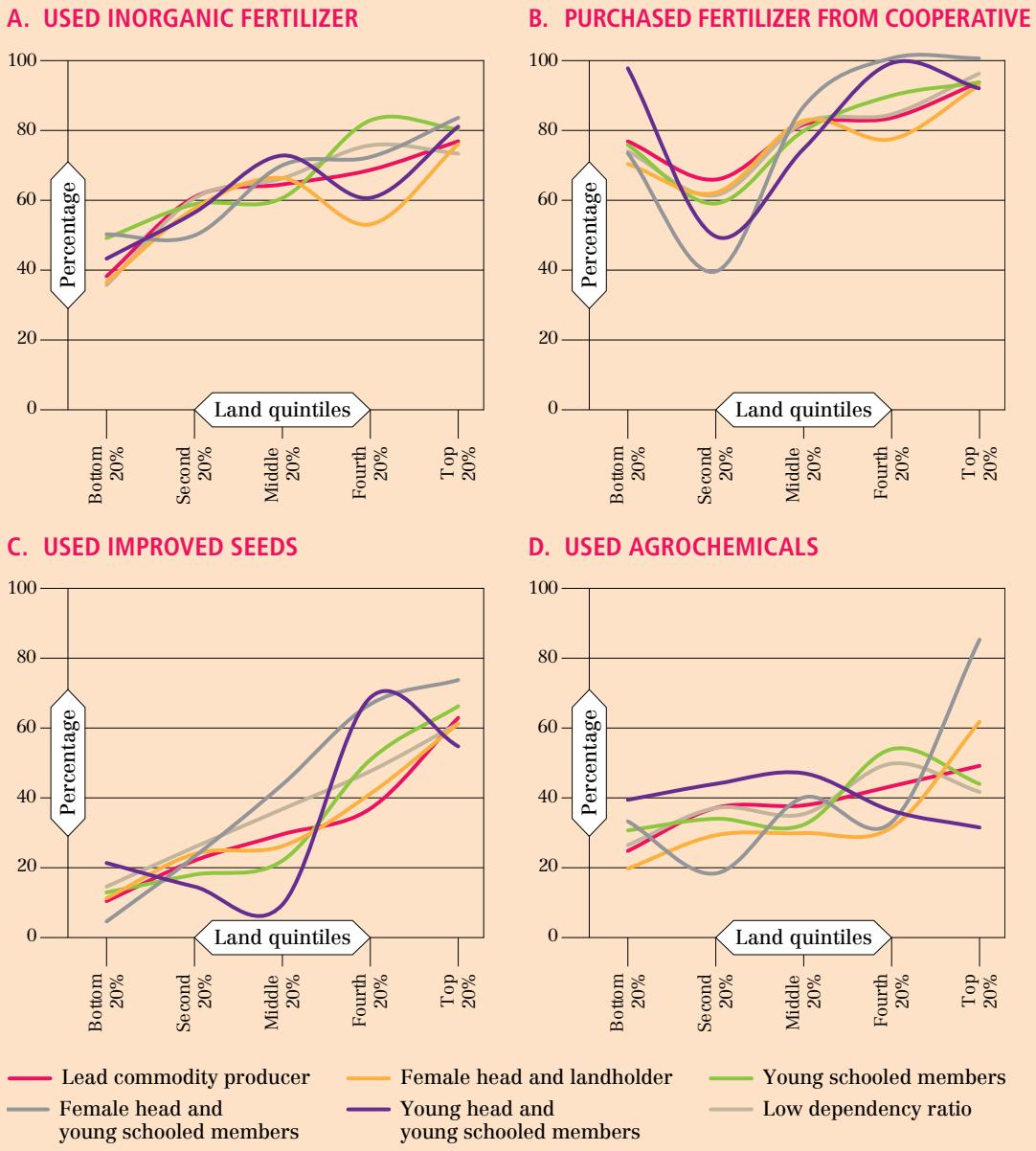
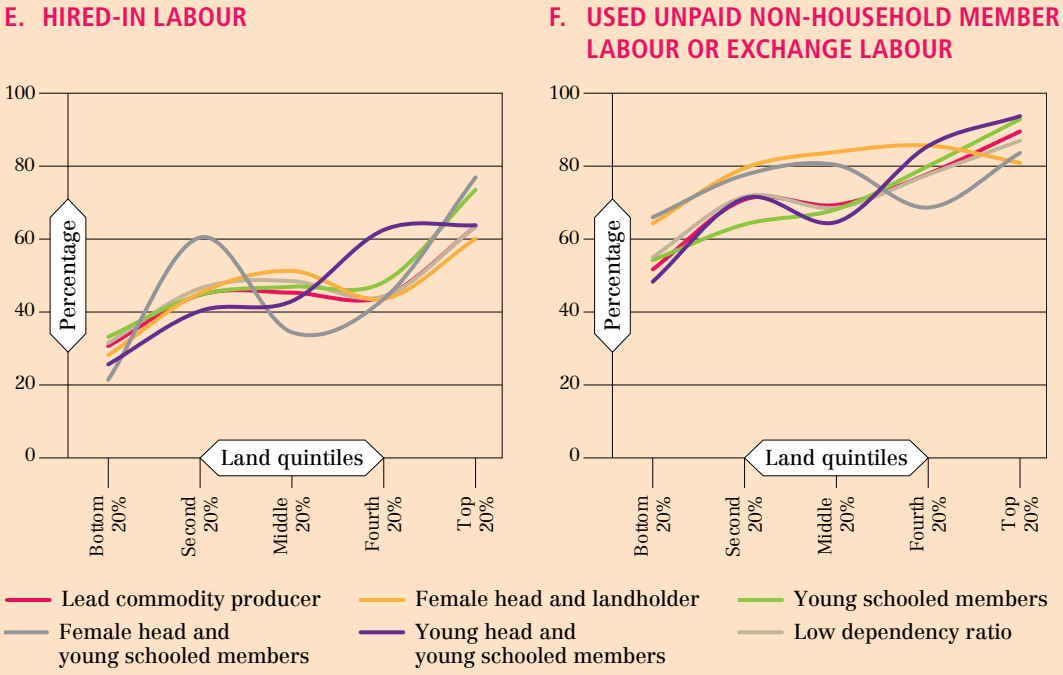


FIGURE 21 (cont.) Share of households accessing productive inputs, by target group and land quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Commercialization

At the time of the planting season, most rural households that cultivate crops express the intent to commercialize their output (Table 36). The share of households with commercialization goals varies according to the specific commodity, but only across poverty status for maize, sesame and avocado, and grains overall. Among the households that cultivate those commodities, a greater share of non-poor than poor households indicate the intent to commercialize.

Whereas 76 to 79 percent of poor and non-poor households, respectively, report having expressed the intention to commercialize, in practice, 65 percent of poor households and 70 percent of non-poor households state that they had actually sold production from any crop cultivated (Table 37).

The share of households with unrealized commercialization intentions varies considerably across crops, but not across poverty status. Both poor and non-poor households report having commercialized less often than intended. This points to potential structural constraints to commercialization, as well as potential exogenous factors related to weather and prices that influenced the decision to commercialize, or the emergence of situations that stressed household food security and thus diverted output towards household consumption rather than markets.

For maize and sesame, the share of households commercializing output differs significantly across poverty status. For these crops, non-poor households are more likely to commercialize output, and report commercializing a greater share of their production than poor households. In the case of maize, 10 percent of non-poor households commercialized, compared to 4 percent among poor ones. The share of output sold is low, at 3 percent

for non-poor households, but significantly greater than the 1 percent of production sold among poor households. The commercialization of sesame takes place almost twice as often among non-poor sesame-cultivating households (74 versus 36 percent), and the share commercialized is also about twice that of poor households (52 versus 23 percent).

The commercialization of ACPZ commodities is more prevalent for the commodities considered to be high in value (e.g. coffee and sesame) or that are more perishable (e.g. haricot bean and tomato), and thus might not be directed only towards household consumption. For these crops, the share of output sold on the market is also considerable, in contrast to the share of maize, sorghum and wheat sold on the market, as these are also important consumption crops for households in rural areas. For wheat, although more than 20 percent of cultivating households sold output, only about 5 percent of their total harvest was sold.

In terms of landholdings, households with less land are less likely to commercialize production than those with more land, and variation in the share of production sold is only notable for specific non-staple crops (Figure 22). For maize, sorghum and wheat, nominal shares of output are sold on the market, regardless of the quantity of land held. For coffee and avocado, the commercialization/land relationship is negative.

TABLE 36 Share of households that intend to commercialize output, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
All crops (including non-ACPZ)	0.76	0.79		2 117
Lead commodities				
Maize	0.16	0.23	**	1 203
Sorghum	0.22	0.24		751
Wheat	0.38	0.45		421
Sesame	0.49	0.91	***	80
Coffee	0.62	0.56		518
Avocado	0.37	0.54	**	187
Additional commodities				
Haricot bean	0.39	0.26		95
Potato	0.30	0.29		115
Tomato	0.77	0.42		27
Non-ACPZ crops				
Grains	0.46	0.56	**	980
Legumes	0.39	0.45		740
Fruits	0.46	0.52		640
Vegetables	0.36	0.44		751
Tubers	0.19	0.27		434

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

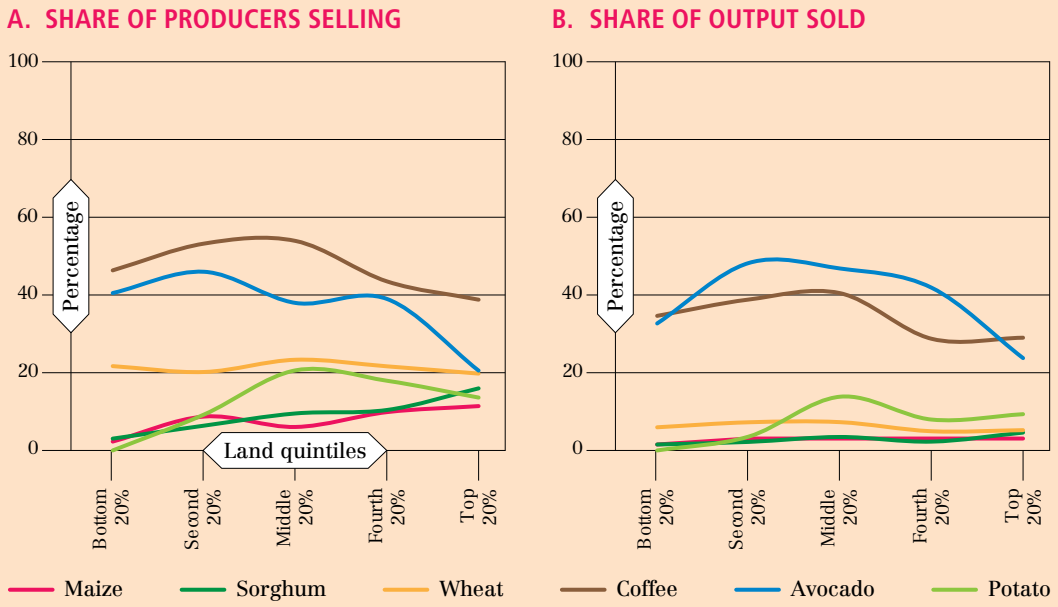
TABLE 37 Household crop commercialization patterns, by poverty status (rural only)

	Sold crop output (% households)			Share of production sold (% total harvest)		
	Poor	Non-poor	Significance	Poor	Non-poor	Significance
All crops	0.66	0.70		0.16	0.19	
Lead commodities						
Maize	0.04	0.10	***	0.01	0.03	***
Sorghum	0.11	0.09		0.02	0.03	
Wheat	0.25	0.20		0.05	0.06	
Sesame	0.36	0.74	**	0.23	0.52	**
Coffee	0.48	0.44		0.30	0.36	
Avocado	0.33	0.31		0.32	0.35	
Additional commodities						
Haricot bean	0.49	0.21	*	0.36	0.19	
Potato	0.18	0.13		0.10	0.07	
Tomato	0.53	0.43		0.44	0.23	

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

FIGURE 22 Commercialization of Agro-Commodity Procurement Zone crops, by land quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

A multivariate analysis of the decision to commercialize demonstrates that engaging in crop commercialization depends on a broad set of factors, such as the scale of production, the subsistence (or market) orientation of the producer, price incentives, household processing capacity, and the linkages of producers to the value chain in terms of commercialization and aggregation opportunities (Figure 23). Additional factors of relevance that may differentiate the intention to commercialize from actually commercializing include household-specific contexts that define food security needs, exposure to shocks, as well as changes in household demographics.

The observable characteristics that are correlated with crop commercialization are modelled econometrically for the sale of any crop, and of any ACPZ crop. The analysis reveals that commercialization is positively related to: cooperative linkages, which may reflect commercialization channels; total household landholdings, which reflect the scale of production; and the use of improved seeds and irrigation, which favour productivity. Negative correlates of commercialization include female headship and distance to markets.

The correlates of ACPZ crop commercialization are similar in terms of cooperative linkages, landholdings, irrigation and proximity to markets. However, household headship factors do not emerge as significant. Instead, household composition is a positive predictor of ACPZ crop commercialization for households with a low dependency ratio. Access to extension services is negatively related to crop commercialization, which may reflect households that seek agricultural support to respond to production strategy constraints.

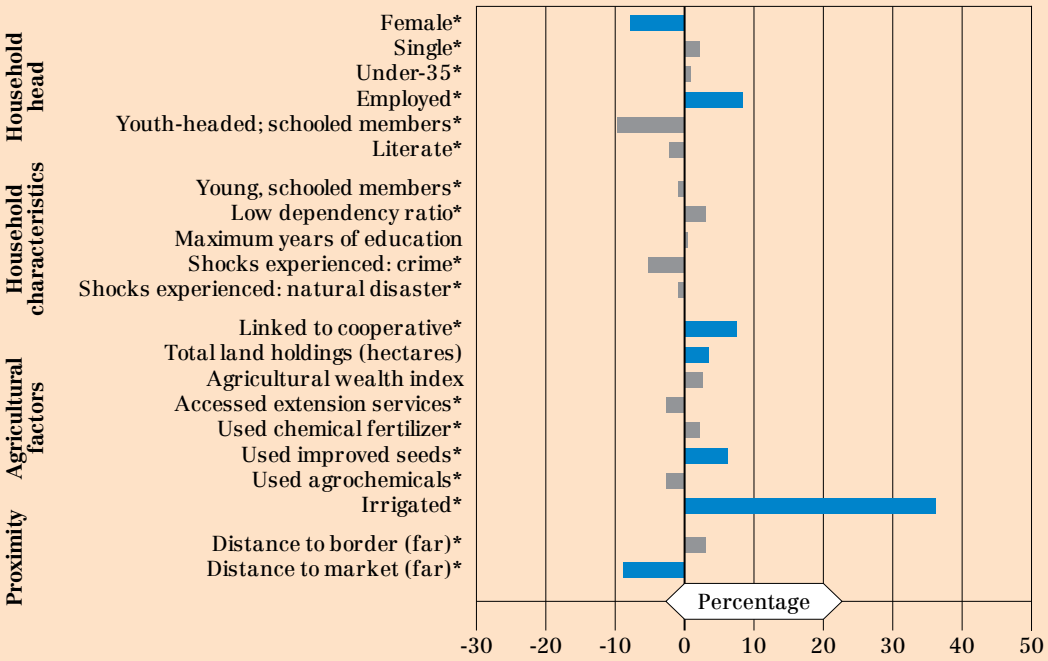
The findings of the multivariate analysis point to the importance of irrigation for commercialization. Irrigation is associated with a 35 to 42 percent greater likelihood of commercialization among rural crop-producing households. This large and significant association underscores the importance of infrastructural investments that reduce variability in essential inputs – in this case, water – for obtaining reliable production outcomes.

The relevance of irrigation is most likely linked to other factors that emerge as significant, such as the importance of production scale in the surface area cultivated, improved seeds for productivity, proximity to markets and linkages to cooperatives for commercialization channels.

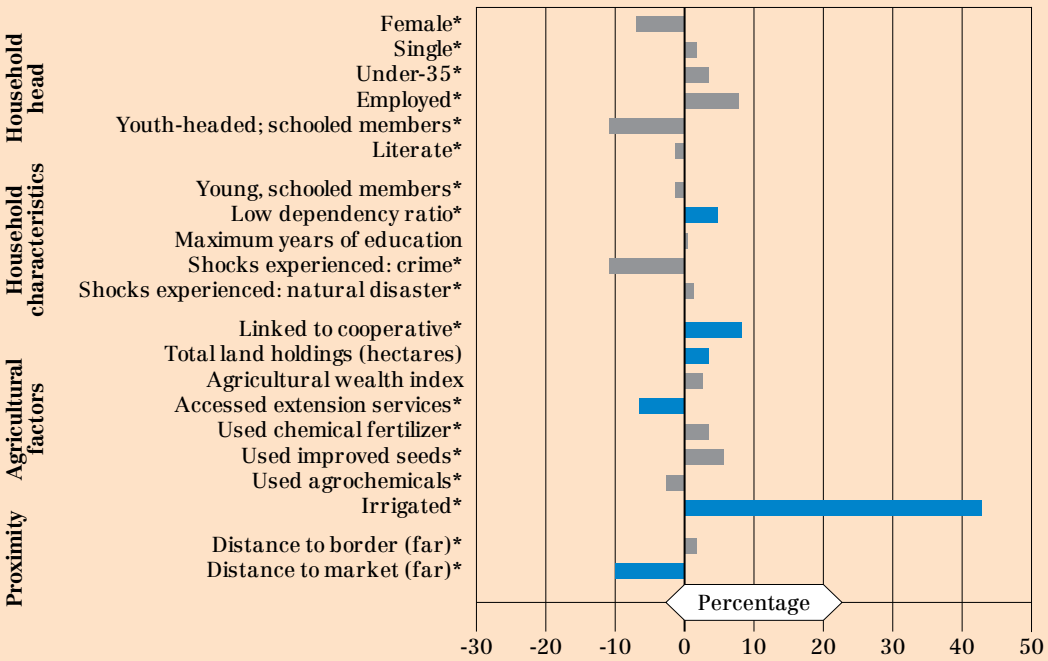
When considering the importance of certain crops for local diets, an obvious challenge illustrated by the findings above is the trade-off households face when making utilization decisions. A maize-producing household, for example, must select between using maize output for household needs (e.g. food or fodder), or commercializing a crop that is within the household's basic consumption basket. When the scale of production is insufficient to meet household needs and generate a market-oriented surplus, commercialization might not be a rational decision. Relaxing the opportunity cost of commercialization relies in part on obtaining sufficient surplus output – through mechanisms such as irrigation and improved seeds – such that commercialization becomes an attractive alternative that does not compromise household needs.

FIGURE 23 Correlates of commercialization among crop-producing households, by crop type (rural only)

A. LIKELIHOOD OF SELLING ANY CROP OUTPUT



B. LIKELIHOOD OF SELLING ANY ACPZ CROP OUTPUT



Significant effects at the 90 percent confidence level

Insignificant effects

Notes: The graphic reports marginal effects from the survey-weighted maximum likelihood estimation of the commercialization of any agricultural output (a) and commercialization of any ACPZ-crop output (b), with region and agro-ecological zone fixed effects and cluster robust standard errors. Asterisks denote binary variables.

Source: Authors' own elaboration based on ESS 2018/19.

6.3 Agricultural livelihoods: livestock

Whereas almost all rural households reported some access to agricultural land, a significant share also reported access to livestock. Eighty-eight percent of poor households and 85 percent of non-poor households indicated holding livestock (Table 38).

Holdings

On average, poor and non-poor households reported similar access to animals in terms of tropical livestock units (TLUs), with average holdings between 2.7 and 2.9 TLUs. Disaggregating by type of animal demonstrates that animal holdings are comparable across poor and non-poor households, except in the case of goat ownership. Poor households are more likely to own goats, and among goat owners, poor households hold a greater number of goats than non-poor households.

TABLE 38 Household ownership of livestock, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Holds any livestock (%)	0.88	0.85		2 760
Owns any livestock (%)	0.85	0.84		2 760
Total livestock holdings (TLUs)	2.85	2.67		2 227
Total livestock ownership (TLUs)	2.67	2.50		2 227
Share of households holding (%)				
Cattle	0.87	0.87		2 227
Horses	0.07	0.09		2 227
Mules	0.01	0.02		2 227
Donkeys	0.39	0.42		2 227
Goats	0.37	0.31	**	2 227
Sheep	0.41	0.42		2 227
Chickens	0.63	0.61		2 227
Camels	0.02	0.01		2 227
Bee colonies	0.12	0.10		2 227
Number held				
Cattle	4.67	4.58		1 699
Horses	1.58	1.24		102
Mules	1.01	1.05		30
Donkeys	1.59	1.46		868
Goats	7.55	5.10	***	965
Sheep	4.99	4.81		804
Chickens	5.79	5.68		1 217
Camels	4.49	3.07	*	155
Bee colonies	3.03	3.19		200

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*). "Livestock holdings" are the number of animals managed by the household, whereas ownership pertains to those held and owned by the household.

Source: Authors' own elaboration based on ESS 2018/19.

Exploring the purpose for holding livestock reveals that goats are disproportionately held for trading and for family consumption, pointing to their importance for rural livelihood strategies. Also notable is the use of goats for savings or insurance, reflecting a risk mitigation strategy among both poor and non-poor households (Table 39). Overall, the relative accessibility of goats to poor people, given the significantly higher number held on average, may make their utility greater for these purposes than other animals, among poor households.

For other animals, the purpose of livestock holdings across poverty status is significantly differentiated for cattle – with trading more prevalent among non-poor households – and for horses, which non-poor households are significantly more likely to hold for social status and poor households as draught animals in crop production.

TABLE 39 Main purpose assigned to livestock holdings, by poverty status (rural only)

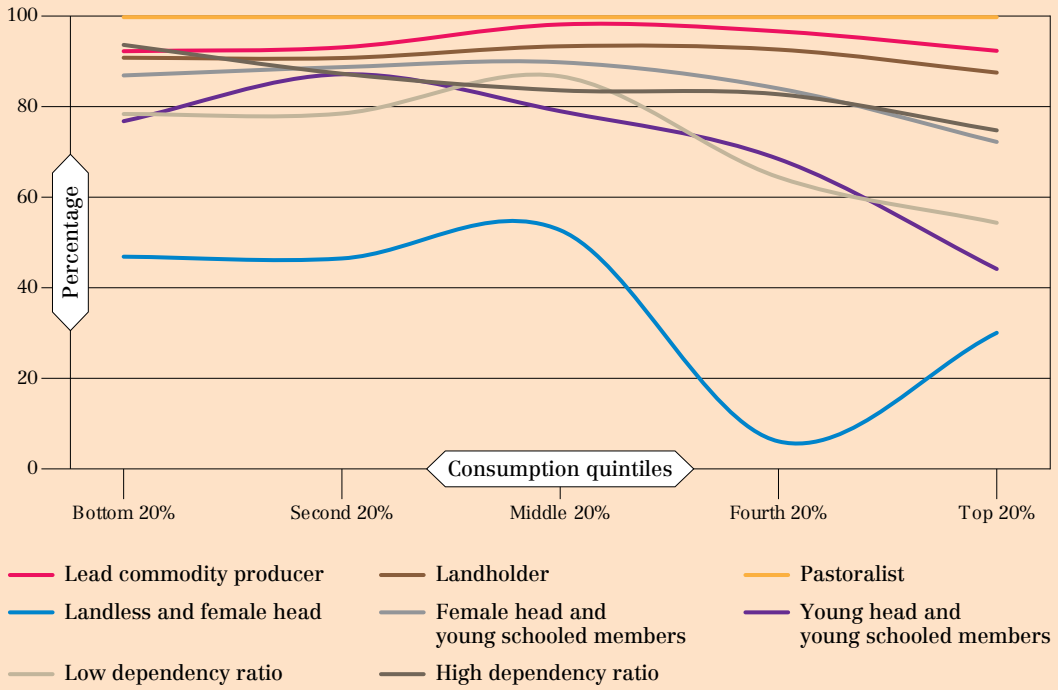
		Cattle	Horse	Mule	Donkey	Goats	Sheep	Chicken	Camel	Bees
Trading	Poor	0.32	0.06	0.00	0.05	0.85	0.84	0.76	0.68	0.43
	Non-poor	0.44	0.03	0.08	0.02	0.80	0.83	0.75	0.37	0.43
	Significance	**								
Sell by-products	Poor	0.49	0.00	0.00	0.00	0.06	0.07	0.85	0.15	0.35
	Non-poor	0.58	0.03	0.00	0.00	0.08	0.08	0.80	0.63	0.32
	Significance									
Family consumption	Poor	0.78	0.00	0.00	0.01	0.36	0.35	0.55	0.48	0.36
	Non-poor	0.68	0.00	0.00	0.02	0.42	0.34	0.66	0.37	0.33
	Significance									
Savings, insurance	Poor	0.79	0.00	0.00	0.01	0.57	0.67	0.33	0.39	0.32
	Non-poor	0.84	0.00	0.06	0.04	0.68	0.68	0.41	0.44	0.30
	Significance									
Social status	Poor	0.83	0.00	.	0.06	0.43	0.54	0.44	0.00	0.18
	Non-poor	0.79	0.29	0.00	0.04	0.45	0.41	0.55	0.00	0.18
	Significance		**							
Crop agriculture	Poor	1.00	0.41	0.00	0.05	0.02	0.00	0.01	0.00	0.51
	Non-poor	1.00	0.13	0.06	0.03	0.02	0.02	0.02	0.00	0.49
	Significance		**				**			
Transport	Poor	0.01	0.88	1.00	1.00	0.00	0.00	0.00	0.61	0.35
	Non-poor	0.00	0.94	1.00	1.00	0.00	0.00	0.00	0.33	0.41
	Significance									
Other	Poor	0.84	0.00	0.00	0.10	0.01	0.06	0.31		0.07
	Non-poor	0.79	0.00	0.00	0.04	0.09	0.31	0.48	0.00	0.06
	Significance						**			

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Across target groups, the share of households holding livestock rises with consumption quintiles for agriculturally oriented households (e.g. lead commodity producers); however, it tends to decline among those with higher education levels (e.g. those with young, schooled members). This reflects an orientation towards off-farm or labour activities. A relevant share of female-headed landless households hold livestock, as do those in the bottom three quintiles of the consumption distribution. This observation is suggestive of the reliance of that subgroup on agriculture and calls into question the type of landlessness experienced – in particular, whether communal access to land may exist, which may go unmeasured by a typical survey instrument (Figure 24).

FIGURE 24 Share of livestock-holding households, by target group and expenditure quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

Commercialization

As in the case of livestock holdings, the characterization of livestock as a commercially oriented livelihood activity only exhibits minor differences across poverty status (Table 40). Poor and non-poor households are equally likely to commercialize live and slaughtered animals, with **approximately half of all households having sold live animals and around 1 percent selling slaughtered animals**. The commercialized value of animals sold is greater among non-poor households, suggesting that higher-value animals are commercialized, or that commercialization takes place at a greater scale.

In terms of animal by-products, the commercialization of processed milk takes place among 40 percent of poor households and 34 percent of non-poor households, though the difference is not statistically significant. However, **fresh milk sales are significantly more likely among non-poor households, with 7 percent engaging in this activity, compared to 2 percent of poor ones**. This difference could be indicative of production scale factors and potential differences in linkages to dairy value chains.

TABLE 40 Household commercialization of animals and milk products, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Sold live animals (%)	0.52	0.52		2 533
Sold slaughtered animals (%)	0.01	0.01		2 533
Value (birr) of animals sold	6 284	8 828	***	1 273
Sold fresh milk (%)	0.02	0.07	***	1 250
Sold processed milk (%)	0.40	0.34		1 250
Value (birr) of fresh milk sold	6 890	4 597		92
Value (birr)/litre of fresh milk sold	1 178	974		92
Value (birr) of processed milk sold	25 864	26 231		318
Value (birr)/litre of processed milk sold	124	384		318

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

With limited differences across poverty status in terms of the commercialization of milk, the question arises as to whether rural households engage in milk production to different extents. As demonstrated by Table 41, participation in milk production does not vary significantly across poverty status. Furthermore, only for goats is there a significant difference in the number of animals that households use for milk production, which is in line with the differences in terms of goat ownership.

TABLE 41 Household participation in milk production, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Household milked (%)				
Any livestock	0.51	0.52		2 484
Cattle	0.48	0.47		2 484
Goats	0.06	0.07		2 484
Sheep	0.03	0.01		2 484
Camels	0.00	0.00		2 484
TLUs milked				
Any livestock	0.81	0.76		1 250
Cattle	0.80	0.78		1 009
Goats	0.33	0.24	*	382
Sheep	0.21	0.24		71
Camels	1.50	1.63		72

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

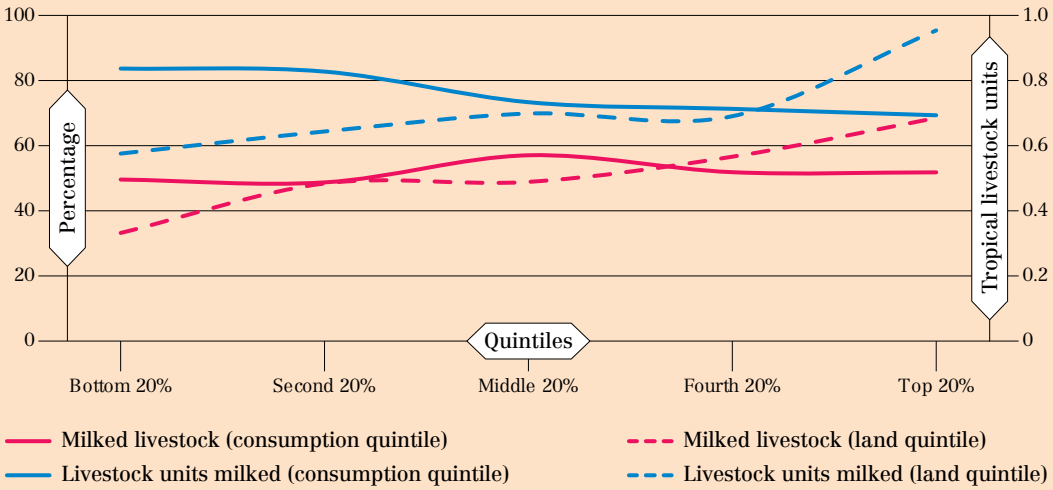
Milk production trends do not vary considerably across consumption quintiles, as shown in Figure 25. The share of rural households milking animals is relatively constant over consumption quintiles and the number of animals milked declines from around 0.8 to 0.7 TLUs with rising consumption. Instead, both the share of rural households milking and the stock of TLUs milked rises concomitantly over the land quintile distribution. The largest landholders milk almost 40 percent more TLUs than the smallest holders, and more than twice as many households in the top quintile milk animals than those in the bottom quintiles.

Commercialization of fresh or processed milk is less variable across the consumption versus land distribution. For both distributions, the share of rural households commercializing milk production is comparable across the distribution, with only a minor upturn at the top quintile.

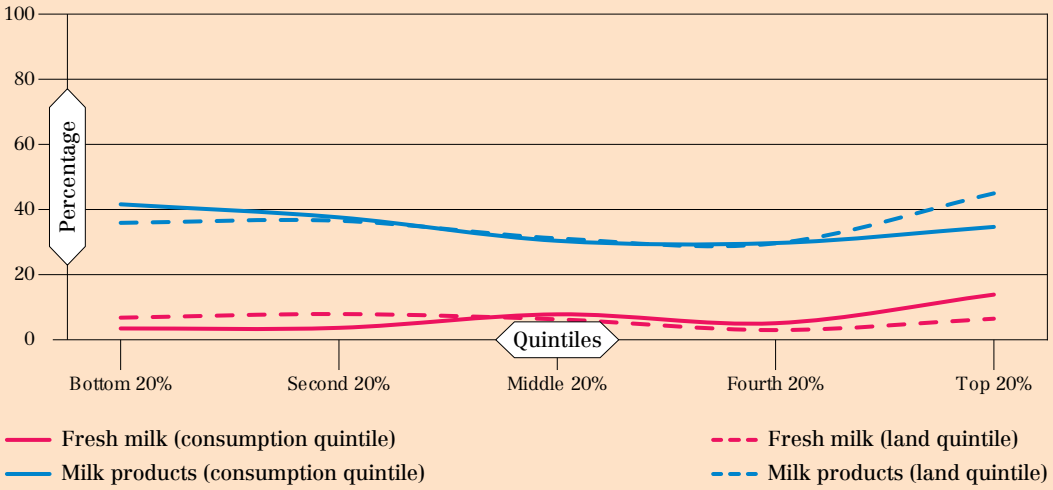
An absence of economies of scale in commercialization is observed. The underlying factors of this phenomenon must be defined.

FIGURE 25 Dairy production and commercialization, by consumption quintile (solid lines) and land quintile (dashed lines) (rural only)

A. SHARE OF HOUSEHOLDS MILKING ANY LIVESTOCK (LEFT AXIS), AND NUMBER OF TROPICAL LIVESTOCK UNITS MILKED (RIGHT AXIS)



B. SHARE OF HOUSEHOLDS SELLING FRESH MILK OR PROCESSED MILK PRODUCTS



Source: Authors' own elaboration based on ESS 2018/19.

Access to inputs and services

The resources environment in which households raise livestock is relatively standard across poverty lines. Similar shares of poor and non-poor households report keeping animals in sheds, in the dwelling or in an open space, and hiring labour to care for animals is not practiced (Table 42).

The watering of animals takes place with common property water resources; only 3 to 4 percent of households reported paying for water for their animals. The majority of animals are fed by grazing, which is slightly more prevalent among poor households, and around one-third of households reported feeding animals mostly or uniquely with fodder.

The purchase of fodder is more likely among non-poor households, with 17 percent reporting purchase. Only 10 percent of poor households purchase fodder for their animals. The use of improved fodder is even less common, with only 2 percent of poor households and 7 percent of non-poor households reporting use of this input.

TABLE 42 Household access to animal infrastructure, services and inputs, by poverty status (rural only)

	Poor	Non-poor	Significance	No. households
Infrastructure				
Keeps animals in no specific structure	0.51	0.47		2 227
Keeps animals in sheds or paddocks	0.23	0.21		2 227
Confines with fences	0.01	0.00		2 227
Keeps animals in dwelling or other location	0.53	0.56		2 227
Inputs and services				
Hired workers to help care for animals	0.00	0.00		2 227
Paid for water for animals	0.04	0.03		2 227
Animals feed mostly or only by grazing	0.84	0.80	*	2 227
Animals feed mostly or only from fodder	0.29	0.33		2 227
Purchased fodder for animals	0.10	0.17	***	2 227
Fed improved fodder to animals	0.02	0.07	***	2 227
Vaccinated animals	0.47	0.52		2 227
Gave medicine to animals	0.23	0.26		2 227
By products				
Produced and used dung	0.75	0.76		2 227
Sold dung	0.01	0.02		1 326

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

6.4 Agricultural diversification

Across poor and non-poor households, diversification strategies in agriculture are nuanced, in terms of the types of crops produced. Table 43 reports a typology of agricultural portfolios, which demonstrates that 48 percent of rural agricultural households only produce crops, such that more than half of agricultural households engage in portfolios containing both crop and livestock activities. Very few households – poor and non-poor – report specializing only in production of livestock commodities. Red meat production, one of the ACPZ priority commodities, represented as the sale of slaughtered meat, occurs among a negligible share of poor and non-poor households, reflecting the savings/insurance and labour use assigned to livestock holdings, as noted in Section 6.3.

Instead, the manner in which ACPZ lead crops appear in the agricultural portfolio differs across poverty status. A greater share of non-poor (34 percent) than poor households (28 percent) engage in a crop portfolio that includes lead commodities and milk production, suggesting a greater capacity to diversify across various agricultural sectors (Table 43).

TABLE 43 Agricultural portfolio diversification typology, by poverty status (rural only)

	Overall	Poor	Non-poor	Significance	No. households
Crop production only (non-ACPZ crops)	0.20	0.21	0.19		2 105
Crop and milk production	0.18	0.21	0.17		2 105
Crop and ACPZ priority crop production	0.28	0.28	0.28		2 105
Crop production, ACPZ priority crop production and milk production	0.32	0.28	0.34	*	2 105
Other combinations	0.02	0.02	0.02		2 105

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Table 44 reports a typology of the agricultural commercialization portfolio, reporting the shares of agricultural households that commercialized different combinations of commodities: ACPZ lead crops; non-ACPZ crops; and milk (fresh; processed). Commercialization of production is weakly associated with poverty status; a widespread engagement in the value chain for any combination of ACPZ and non-ACPZ commodities is not observed. Especially in terms of animal agriculture, few of the households that commercialize dairy also commercialize other commodities. These patterns are not differentiated by poverty status and point to the need to support engagement in the value chain.

TABLE 44 Agricultural commercialization diversification typology, by poverty status (rural only)

	Overall	Poor	Non-poor	Significance	No. households
Crop (non-ACPZ) sold only	0.24	0.19	0.26	***	2 052
ACPZ crop sold only	0.03	0.06	0.02	***	2 052
Milk sold only	0.06	0.05	0.06		2 052
Crop sold and ACPZ crop sold	0.30	0.31	0.30		2 052
Crop sold, milk sold	0.08	0.09	0.07		2 052
ACPZ crop sold, milk sold	0.01	0.01	0.00		2 052
Crop sold, ACPZ crop sold, milk sold	0.07	0.07	0.06		2 052
No sales	0.22	0.22	0.21		2 052

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

6.5 Social assistance

Vulnerable household livelihoods receive support from additional sources, such as public pensions and social protection systems including the PSNP, as well as other social assistance benefits, such as food aid and non-food assistance provided by the Government, NGOs and international organizations.

In rural areas, 18 percent of poor households report benefiting from PSNP, which is significantly greater than the 12 percent of non-poor households identified as beneficiaries (Table 45). The public works components of PSNP accounts for most of this participation, with 16 percent of poor households and 9 percent of non-poor ones as PSNP labour beneficiaries. The cash disbursement of PSNP extends to around 4 to 5 percent of households in rural areas.

At an individual level, adults in poor households are more likely to participate in the PSNP public works component, with 5 percent from poor households reporting participation, as compared to 4 percent in non-poor households. Participation is disproportionately higher among male adults, with 7 percent of men in poor households providing labour under PSNP, as compared to 3 percent of women.

The receipt of non-PSNP social assistance is reported by 12 percent of poor households, and 10 percent of non-poor households report benefiting. These shares are not significantly different across poverty status.

TABLE 45 Sources of household public and social assistance, by poverty status (rural only)

	Poor	Non-poor	Significance	No.
Share of households (%)				
Receives pension income	0.00	0.00		2 760
Receives social assistance (not PSNP)	0.12	0.10		2 760
PSNP beneficiary	0.18	0.12	***	2 760
PSNP cash beneficiary	0.04	0.05		2 760
PSNP labour beneficiary	0.16	0.09	***	2 760
Share of adult individuals (%)				
Adult is PSNP labour beneficiary	0.05	0.04	**	7 548
Male	0.07	0.04	***	3 700
Female	0.03	0.03		3 848
Adult is PSNP direct support beneficiary	0.01	0.01		7 548
Male	0.01	0.01		3 700
Female	0.02	0.01		3 848

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

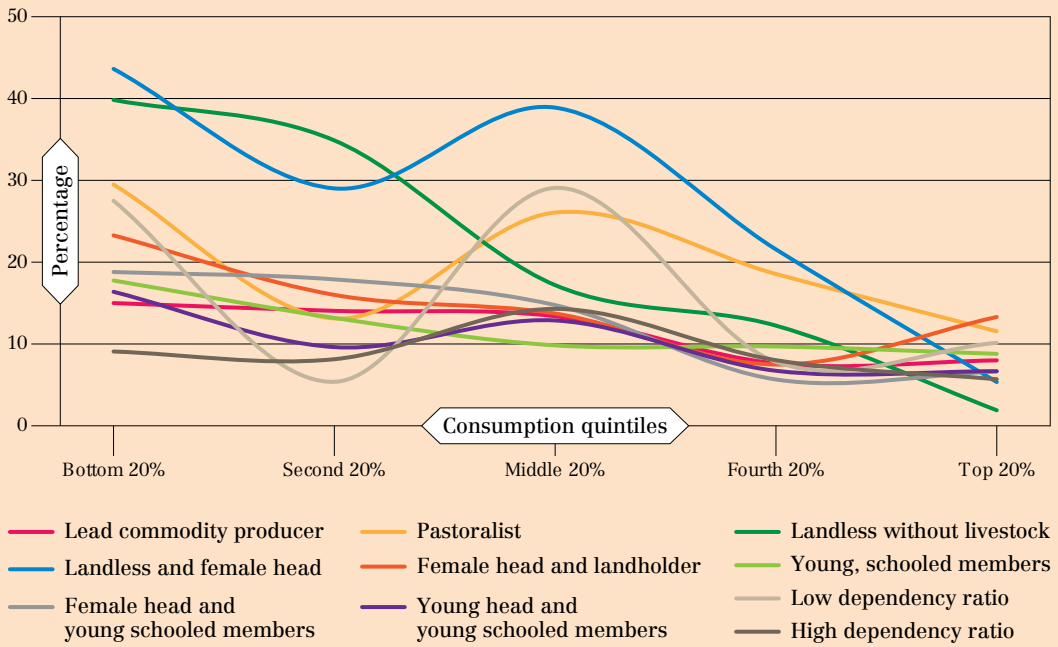
Source: Authors' own elaboration based on ESS 2018/19.

Participation in PSNP varies considerably across consumption quintiles, but generally reflects the targeting criteria employed by the programme, which seeks to prioritize women and the asset-deprived (Ministry of Agriculture, 2014). Whereas for all target groups, around or below 10 percent of households in the top quintile report PSNP benefits, the share of target group households in PSNP ranges from around 10 to over 40 percent at lower levels of household consumption. Landless and female-headed households tend to report greatest participation in PSNP. Lead commodity producers, youth-headed households and those with young, schooled members are less likely to report having benefited from PSNP (Figure 26).

The participation of non-poor households in PSNP does not necessarily reflect inclusion errors of the programme. A first reason could be the diverse set of targeting criteria operationalized by PSNP, which require more complex processes than setting a threshold level of consumption expenditure, as in the case of this report's poor/non-poor characterization. It is also possible that some non-poor PSNP beneficiaries are clustered among the lower end of the non-poor consumption distribution.[24] Furthermore, if a household graduated from PSNP in the reference period captured by the ESS survey, some misalignment could exist between the poverty classification and beneficiary status. Also, while PSNP may effectively lift some households out of poverty, their status may not be necessarily sustained without the programme, as in the case of labour-constrained households.

[24] Tabulating the share of beneficiaries by poverty status and consumption quintiles demonstrates that even among non-poor households, the bulk of participants are within the bottom three quintiles. It is also likely that non-poor households in the ESS sample report PSNP beneficiary status, as the PSNP targeting criteria comprise multiple dimensions, not solely consumption expenditure.

FIGURE 26 Household participation in the Productive Safety Net Programme, by target group and consumption quintile (rural only)



Source: Authors' own elaboration based on ESS 2018/19.

7 Conclusion

This report investigated different dimensions of inclusion and vulnerability within the rural population of Ethiopia, from the perspectives of poverty, food insecurity and the livelihood strategies employed by households in rural areas. The objective was to analyse those dimensions to identify the barriers and constraints households face, which in turn can provide an overview of the potential avenues for inclusion and pro-poor targeted actions when considering forthcoming investments in Ethiopia's ACPZs.

7.1 Summary of results

The analysis contained in this report documents a broad set of trends that reveal the heterogeneity of the rural space and the challenges faced by rural households in securing basic livelihoods.

Poverty and food insecurity

- Approximately 25 percent of rural households in Ethiopia fall below the national poverty line in terms of consumption expenditure, with considerable variation across regions. In terms of household characteristics, a high dependency ratio and a low ownership of agricultural assets emerge as strong correlates of poverty.
- Food insecurity affects an important share of rural households, with 55 percent of rural households reporting concerns about not having enough food to eat. Consumption patterns are differentiated along poverty lines only in terms of protein sources, of which poor households report lower intake.
- Although food insecurity is overall higher among poor households, it affects the rural space overall. Almost 40 percent of non-poor households report some type of food insecurity, in terms of concerns about accessing food (40 percent), skipping meals (30 percent) and running out of food (20 percent).

Access to resources

- Poor households are relatively deprived in terms of access to resources, especially regarding human capital (education and workforce), financial capital (saving accounts and insurance products), physical capital (infrastructure and assets) and social capital (interaction with local organizations).
- Land ownership is not particularly different between poor and non-poor households. However, land is relatively unequally distributed among rural households, with the average holding among producers in the bottom land quintile at only 0.1 ha, compared to 2.3 ha among those in the top land quintile.

Livelihoods

- Agriculture is by far the main economic activity in rural Ethiopia; however, a notable share of households complements their livelihoods with off-farm activities, primarily by engaging in temporary labour. Participation in wage labour and non-farm self-employment is somewhat rare, but relatively higher among non-poor households.

At the individual level, men are relatively more likely to engage in a productive activity, reflecting the domestic burden faced by women.

- Crop cultivation and crop portfolios do not differ significantly over poverty status. While poor households are less likely to utilize hired and free labour to cultivate land, access to other agricultural inputs is relatively similar between poor and non-poor households. In contrast, input access is strongly correlated with land size, as large landholders are much more likely to use fertilizers, agrochemicals or non-household labour. Slightly more than 65 percent of households commercialized some crop production, with a similar prevalence among poor and non-poor households. However, close to 80 percent of producers intended to commercialize, suggesting that they faced market bottlenecks or lower yields than expected.
- Most rural households hold some livestock, but very few report livelihoods activities such as milking animals or selling processed milk. In contrast, livestock is primarily held for draught labour, family consumption or as a saving or insurance mechanism.
- In addition to productive activities, rural households also benefit from social assistance. Non-PSNP social assistance is equally received by poor and non-poor households. In contrast, PSNP benefits are more likely to be received by poor households, reflecting the targeting criteria of the programme. Especially, landless and female-headed households in the bottom expenditure quintile are most likely to be beneficiaries of PSNP.

7.2 Synthesis and recommendations

The heterogeneity analysis by target group presented in this report explored trends along consumption levels and landholdings, in order to extract information about the dimensions of vulnerability for specific subcategorizations of rural households. The analysis pointed to a series of general observations about these groups and the different constraints they face.

- Vulnerable farmers are characterized by constraints on access to resources, especially in terms of labour constraints (high dependency ratio), physical capital (low ownership of agricultural assets) and social capital (limited interaction with local organizations). These different constraints could potentially be overcome by providing better connections with producers' organizations and by leveraging exchange labour networks in favour of poor farmers.
- Market-oriented farmers seem to face bottlenecks in actually selling their crop output, or in selling significant shares of output. The exact reasons for non-commercialization (or sub-commercialization) remain inconclusive; however, the small scale of production engaged by the vast majority of producers, paired with the low uptake of improved inputs and mechanization, suggest that productivity constraints may be one of the main underlying reasons. Other reasons include the risk-aversion of producers to sell output that could otherwise be consumed by the household, and possibly challenges in engaging with a diverse set of sales outlets. Still other reasons, as yet unobserved, should be defined, in order to ascertain whether targeted support to productivity, to sales outlets, or to both are necessary.
- Livestock holders seem to face barriers in terms of the production and commercialization of animal by-products, including dairy products and red meat. The low uptake of improved inputs, the absence of dedicated hired labour for livestock, and the limited prevalence of protective infrastructure could represent challenges to animal productivity. Liquidity constraints are a challenge in accessing improved feed, while scale factors in terms of landholdings are related to by-product commercialization. Other constraints, such as animal age and health, remain unobserved, while those related to aggregation

(in terms of dairy collection centres) and to storage (in terms of refrigeration) may affect the broader by-product supply chain.

- Youth in rural areas face difficulties in supporting their own livelihoods: they are more likely to have small landholdings and, despite having relatively higher educational qualifications, are affected in significant proportions by unemployment and inactivity. Employment creation in post-harvest activities – storage, processing, milling, packaging, transportation, etc. – has the potential to successfully leverage this skilled and available labour supply.
- Women, and especially female heads and female youth, face gender-specific constraints in terms of limited access to resources (land, financial services, assets, etc.), and in terms of the burden of domestic tasks. The underlying reasons in terms of social norms and expectations (versus economic factors) for these constraints must be understood, to discern whether and in what ways female labour is available for remunerated employment and how this depends on poverty status. Supporting the formation of common interest groups for female producers and the targeting of job or enterprise skills training to women could serve as productive avenues to address their specific challenges.

From a sectoral perspective, the analysis also pointed to several broad-based issues affecting the rural space, and which will be instrumental in affecting the potential inclusiveness of investments in ACPZ areas. The main findings of the analysis point to the following areas for further research and eventual interventions and investments.

1. **Agricultural commercialization.** The on-farm sector forms part of the livelihood strategies of around 95 percent of rural households, with household agricultural activities occupying over three-fifths of rural adults. However, most of these production activities take place at a small scale, with the average area cultivated reported at 0.9 ha and the median at 0.6 ha. Furthermore, while almost 70 percent of households commercialize crop output, less than one-fifth of total crop output is sold on the market. Among dairy producers, only around 35 percent report commercializing any fresh or processed output. Commercialization is generally not significantly related to poverty status, household expenditures or cultivated area. The lack of production and commercialization economies of scale points to constraints not only at the household level, in terms of productivity bottlenecks, but potentially also in terms of markets, the scale of demand, and linkages to the value chain and post-harvest infrastructure and services.
2. **Unemployment and the diversification of the rural economy.** Participation in non-agricultural activities is scant in the rural space. Few households engage in off-farm labour activities, and few maintain non-farm household enterprises. Inactivity affects almost one-quarter of rural adults, and this state is significantly more prevalent among rural women. Most jobseekers point out that employment opportunities are scarce and that a mismatch in skills or age profiles is a key impediment to finding work. By contrast, those that do engage in non-agricultural wage labour, or that report managing a non-farm enterprise, are significantly more likely to be non-poor, and are thus more likely to hold more human, physical, financial and social capital. Investments that encourage the growth and diversification of the rural economy garner potential to encourage the reduction of rural poverty, inasmuch as they also seek to sustainably build the multidimensional asset base of poor households.
3. **Nutrition-sensitive interventions.** A diverse picture of food insecurity and poverty was mapped out by indicators such as the FCS, the FIES and the HDDS. However, little variability was observed across poor and non-poor households in terms of their staple food consumption patterns, and in terms of the diversity of the production portfolio, which often serves household consumption purposes. Consumption of protein is, however, differentiated across poverty lines, with access to food groups such as meat,

eggs and dairy constrained among poor households. Given the widespread ownership of livestock, targeted nutrition interventions could address improving animal productivity and by-product production. Targeted support to producers of nutrient-rich crops through investments – for example in equipment that improves irrigation access, critical to vegetable and fruit production – could also enable the scaling up of production of these cultivars. With almost 25 percent of rural poor households reporting food shortages in at least one month of the year, supporting production outcomes and market access to food can also be paired with improved household access to storage infrastructure.

4. **Local institutions and support networks.** A rich set of local institutions – including cooperatives, organizations, associations and informal networks – populate the rural space, each with different membership requirements. The objectives of these institutions are diverse, including financial services, input access, commercialization channels and extension services. While this offering complements formal, private or market-based providers, the membership requirements of these institutions vary and may not be inclusive of the poorest households. Even among traditional networks, such as *iddir*, membership is more prevalent among households with higher levels of education. *Iqqub* participation emerges as pro-poor; however, the widespread relevance of this institution in rural areas is unclear. The formation and recognition of common interest groups among vulnerable groups may serve to strengthen their networks, foster inclusion, enhance access to resources and build capacity in ways that would otherwise be inaccessible for their members.

Combining sectoral and target group perspectives can facilitate understanding which interventions should be prioritized for specific groups. Vulnerable groups may be streamlined into ACPZ-relevant interventions, according to the nature of their livelihoods orientation. Namely:

1. Lead crop commodity producers are best suited to engage in interventions that enhance their crop productivity and aggregation potential. This group may also gain from interventions in the livestock sector, according to their livestock orientation.
2. Other commodity producers are likely to hold livestock and could potentially gain from interventions that support livestock productivity, by-product production and commercialization.
3. Among land- and livestock-less households with adequate labour and skills supply (particularly youth), interventions that focus on labour markets and small and medium enterprise development could serve as a livelihoods-enhancing channel. Such interventions may well be linked to existing social protection programmes such as the PSNP livelihoods packages and capacity-building programmes such as Technical and Vocational Education and Training (TVET).
4. For households that are both resource- and labour-constrained, social protection pathways, such as cash transfers, may be the most appropriate avenue to reduce vulnerability. Equally important are key public services such as schools, crèches and clinics; these can also help relieve the labour constraints faced by rural women, enabling them to engage more intensively in their farm production or in off-farm activities. While these "pathways" are based on livelihoods and resource orientations, the targeting of vulnerable households within those pathways is based on gender, age, and asset characteristics that shape the vulnerability profile.

An enhanced understanding of these topics at the local level will provide necessary inputs for the design and targeting of investments in context such as the ACPZs. Adequate attention to the issues raised in this report, complemented with territorial-level investigation, will serve as a basis for developing a knowledge base and scalable tools that can be operationalized by stakeholders in these investment areas.

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Annexes

Annex 1. Supplementary tables

This annex presents additional tables offering complementary insights into the analysis conducted in the main report, and which are referenced in the text.

TABLE A1 Accessibility and proximity of communities

	Poor	Non-poor	Significance	No.
Community accessible by vehicle the entire year	0.62	0.70	***	6 679
Rural	0.52	0.56		3 039
Urban	0.97	0.94	**	3 640
No. months the community is accessible by public transport	9.11	9.66	***	6 679
Rural	8.32	8.57		3 039
Urban	11.80	11.55	***	3 640
No. months the community is accessible by lorry	8.81	9.59	***	6 679
Rural	7.98	8.47	*	3 039
Urban	11.65	11.52		3 640
Kilometres to the nearest major road	17.91	16.73		6 680
Rural	19.34	20.35		3 115
Urban	12.53	10.02	*	3 565
Kilometres to the nearest market	71.97	64.72	***	6 680
Rural	78.28	76.58		3 115
Urban	48.33	42.71	*	3 565
Kilometres to the nearest population centre with over 20 000 people	29.32	26.56	***	6 680
Rural	30.92	30.54		3 115
Urban	23.31	19.18	***	3 565
Kilometres to the capital of the region of residence	0.19	0.16	***	6 680
Rural	0.20	0.18	**	3 115
Urban	0.15	0.12	***	3 565

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

TABLE A2 Land use patterns by poverty status (rural only)

	Poor	Non-poor	Significance	No.
Cultivated land in past 12 months (%)	0.932	0.906		2 758
Cultivated (hectares [ha])	0.750	0.900	***	2 145
Used land for pasture (%)	0.390	0.388		2 758
Used for pasture (ha)	0.222	0.310	**	650
Left land fallow in last year (%)	0.147	0.127		2 758
Left fallow (ha)	0.437	0.318		304
Left land fallow in last five years (%)	0.176	0.163		2 758
Left fallow in last five years (ha)	0.478	0.376		368
Irrigated land (%)	0.061	0.081		2 759
Irrigated (ha)	0.093	0.198	**	233
Fully irrigated (%)	0.347	0.174		233
Fully irrigated (ha)	0.059	0.040		233
Irrigated and rainfed (%)	0.739	0.870		233
Irrigated and rainfed (ha)	0.034	0.159	***	233
Use agrochemicals (%)	0.305	0.341		2 124
Under agrochemicals (ha)	0.690	0.806		526
Used improved seeds (%)	0.349	0.379		2 124
Under improved seeds (ha)	0.366	0.358		601

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

TABLE A3 Share of individuals borrowing or accessing credit, by poverty status (rural only)

	Overall	Poor	Non-poor	Significance	No.
Accessed loan in last 12 months	0.09	0.10	0.09		7 288
Female	0.08	0.09	0.08		3 732
Male	0.10	0.10	0.10		3 556
Loan from private individual	0.59	0.55	0.60		560
Female	0.56	0.53	0.58		266
Male	0.60	0.57	0.62		294
Loan from SACCO	0.19	0.22	0.17		560
Female	0.20	0.24	0.18		266
Male	0.18	0.20	0.17		294
Loan from microfinance institution	0.14	0.15	0.14		560
Female	0.15	0.14	0.15		266
Male	0.14	0.16	0.13		294
Loan from bank	0.00	0.00	0.00		560
Female	0.00	0.00	0.01		266
Male	0.00	0.00	0.00		294
Loan from other source	0.09	0.10	0.09		560
Female	0.11	0.11	0.10		266
Male	0.08	0.09	0.08		294
Borrowed to finance					
Investment	0.32	0.32	0.32		560
Female	0.33	0.35	0.32		266
Male	0.31	0.30	0.31		294
Inputs	0.55	0.62	0.52	*	560
Female	0.57	0.57	0.57		266
Male	0.53	0.66	0.48	**	294
Consumption	0.12	0.08	0.13		560
Female	0.09	0.09	0.09		266
Male	0.14	0.07	0.16	**	294

Notes: The "Significance" column reports the results of the *t*-test of difference in means across poor and non-poor households. Asterisks report significance at the 99 percent level (***), the 95 percent level (**) and the 90 percent level (*).

Source: Authors' own elaboration based on ESS 2018/19.

Identifying the pathways through which agricultural investments can be sustainable and inclusive requires assessments of the poverty, livelihoods and food security situation of the populations likely to be affected by such investments. This technical study provides the first in-depth look at rural areas in Ethiopia using the 2018/19 Ethiopian Socio-economic Survey, analyzing the national trends in poverty among rural households along the dimensions of economic inclusion and social sustainability. The study offers an initial characterization of poor and food-insecure people in the country and gives indications of key characteristics that may identify the poorest and most vulnerable groups, analyzed through the lens of the key features of the investments in Ethiopia's newly developed Agro-Commodity Procurement Zones (ACPZs).

The profile complements existing poverty analyses undertaken for Ethiopia, providing an analysis of poverty that is relevant to the investments in ACPZs and agriculture more broadly. Specific emphasis is placed on agricultural production regimes, especially those related to the priority commodities of the ACPZs and their relevance in terms of food and nutrition security. The constraints faced by specific population groups of interest, including rural women and youth, are also identified to inform questions concerning the inclusiveness of investments in ACPZs. Adequate attention to the issues raised in this technical study, complemented with territorial-level investigations, will serve as a basis for developing a knowledge base and targeting tools and interventions that can be operationalized by stakeholders in these investment areas.

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Food and Agriculture Organization
of the United Nations (FAO)

Rome, Italy

ISBN 978-92-5-135488-9 ISSN 2521-7240

9 789251 354889

CB7980EN/1/12.21

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FAO AGRICULTURAL DEVELOPMENT ECONOMICS TECHNICAL STUDY