



Can a cash crop be a women's crop?: Examining gender norms, relations and equity around lentil commercialization in Ethiopia

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ABSTRACT

The benefits of subsistence-crop commercialization may depend on gender norms and relations. In sub-Saharan Africa, crop commercialization has been shown to often have unequal outcomes for women and men due to pre-existing social hierarchies and norms around farm roles, asset ownership, control over crops and income, and local farming practices. Using qualitative methods, this article examines gender norms and relations around lentil commercialization in the Amhara and Oromia regions of Ethiopia, to understand whether the benefits of market-orientated lentil production accrue to women and men farmers equitably. The findings reveal that despite naming lentils a women's crop, women remain marginalized from the sale and use of lentil. The study also found that lentil commercialization is often accompanied by labour commercialization, which has exclusionary effects on farmers of low socioeconomic status and unmarried women. Some policy recommendations are suggested based on these findings.

Introduction

Crop commercialization is increasingly regarded as an important mechanism for promoting development in low-and-middle-income countries that rely heavily on agriculture for food and employment [1,2]. This has led to calls by several state and non-state actors and institutions to leverage crop commercialization as a means to improve food security, employment, poverty, trade/export and national gross domestic product (GDP), especially in sub Saharan Africa (SSA) [3]. Despite these goals, several agricultural/development programmes often fail to consider how gendered social norms and relations shape crop commercialization. The few that factor in gender tend to homogenize the experiences of women and men farmers [4,5]. This is despite evidence that gender norms and relations affect farmers' experiences of commercialization, and that factors such as class, age and marital status may result in within-group differences in farming experiences [3,6–8]. We contribute to this literature by considering how gendered and other intersectional characteristics affect Ethiopian women and men farmers' experiences of lentil commercialization.

Understanding the influence of different norms on commercialization helps to unpack gender-based constraints that affect farmers' abilities to undertake crop commercialization towards building resilient livelihoods. The article begins with a background on gender norms and commercialization, what constitutes a women's and a men's crop, and the importance of paying attention to within-group differences in agricultural commercialization. While changes in gender norms and what constitutes a women's or men's crop are often

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studied separately, in a commercialization context it is important to simultaneously understand the impact of commercialization on both. Next, a description of the commercialization context for the lentil crop is provided, along with the qualitative research tools used and the content of these tools. This is followed by the findings and discussions regarding gender norms and relations as commercialization is sustained, ending with recommendations on how to best ensure equitable gender benefits from lentil commercialization.

Gender norms, relations and crop commercialization

The notion of 'women's crops' has a long history in the study of gender norms and relations in agriculture and the term is still used amongst farmers of both sexes in resource-poor, rural economies, as a rationalization for who does what kind of farm work and controls/benefits from specific crops [7,9]. The literature reveals that a women's crop is defined as a subsistence, low input and labour-intensive crop, and that a men's crop is a cash crop that needs intensive inputs [10,11]. Doss [12] and Orr et al. [8], however, note that women often contribute labour as well as participate in the marketing of so called 'men's crops'. As such, Doss [12] asserts that few crops can be described as 'men's crops'. Along the same lines, this section argues that there are several important deficiencies in the literature interpreting what constitutes a 'women's crop' that must be addressed to understand changes in gender relations when a crop, such as lentils, undergoes significant commercialization.

According to Cislighi and Heise [13], "Gender norms are social norms defining ... acceptable and appropriate actions for women and men in a given group or society. They are embedded in formal and informal institutions... and reproduced through social interaction. They play a role in shaping women's and men's (often unequal) access to resources... thus affecting their voice, power and sense of self" (pp. 415–416). The influence of gender norms on subsistence-crop commercialization is important, given the presumption in development programming that the commercialization of such crops improves women's economic and overall wellbeing. This is partly due to numerous studies which suggest that women are more likely to grow subsistence-crops and thus classify these as 'women's crops', whereas men often grow cash-crops, often classified 'men's crops' [3,6,10,14]. However, Doss [12] found that in Ghana, when cocoyam and cassava (considered women's crops) were grown as a cash-crop, they were more likely to be grown by men, and income accrued from these crops was controlled by men. Further, though tomato and pepper were considered a women's crop, their increase in market value led to increased participation of men in tomato production, marketing and sale [12]. In Kenya, Fischer and Qaim [6] discovered that more men were producing and selling banana, a 'women's crop', due to its transition from a semi-subsistence to a cash-crop. In Zambia, Orr et al. [8] reveal an increasing participation of men in the production of groundnut, even though it was still named a women's crop. These dynamics not only disprove widely held assumptions about what women's and men's roles are with regards to a 'gendered crop', they also emphasize the gendered nature of commercialization. These dynamics further show that gender norms may give men the power to name and control crops, hence the tendency to attribute more profitable crops to men [3,8,14]. However, studies such as Orr et al. [8] and Shibata et al. [3] have found that, where women provide the majority of knowledge and labour in farming, they are able to retain some control over such crops.

Gender norms further determine ownership of land, credit and other assets – all of which are crucial for commercial crop production. These norms also dictate household and farm labour roles for women and men, and their implications on commercialization. In Bangladesh, gender norms have been found to influence perceptions and roles of 'good farmers' and 'good wives' [14]. Good farmers must be knowledgeable about new technologies, and possess good networks and farming information. These expectations inevitably marginalize women farmers, as they contradict what a good wife should be; not wandering far from homesteads, avoiding the company of male strangers, and fulfilling family care roles (ibid). In Ethiopia, despite contributing significantly to smallholder farming, women are not considered farmers, as gender norms designate a farmer as one who can plough, sow and harvest independently, yet ploughing is considered a man's activity and too strenuous for women [15]. Given that women tend to own smaller livestock and fewer technologies/assets compared to men [16], these definitions or expectations of 'farmer' are restrictive for women. In Egypt and Morocco, time-consuming, laborious and repetitive tasks are often considered women's roles, given women's purported patience and nimble fingers [17,18]. In Kenya, women's multiple roles in the farm (e.g., weeding, planting, harvesting) and the household (e.g., cooking, cleaning, and elder/childcare) leaves them with little time to participate in group activities. This reinforces their inability to access resources crucial for commercialization such as credit, information and technologies offered through agriculture-related groups [6]. In fact, some gender norms may actively forbid women's participation in agricultural and commercialization activities/interventions, like in Ethiopia where women were barred from attending traditional community gatherings for irrigation technologies [2].

Given these findings: that cash-crops are more likely to be grown by men, men are likely to move into the production of subsistence-crops that are commercialized, men are likely to retain and control the income from subsistence-crops which transition to cash-crops, and gender norms and roles may relegate women from important activities associated with commercialization despite performing more workloads. Researchers [6–8,12] caution that the commercialization of subsistence-crops may disadvantage women for several reasons. To begin, subsistence-crop commercialization may further subvert women's claims to land, increase men's control over women's labour and turn women farmers into hired labour, as was the case with the commercialization of rice, French beans, banana and hybrid maize in Gambia, Kenya and Zambia, respectively [7]. Doss [19] and Fischer and Qaim [6] also assert that commercialization is often associated with the adoption of new technologies such as crop varieties, fertilizers, mechanization and irrigation systems. However, because gender norms may discourage women's participation in these technologies, commercialization may further reduce women's power and decision making, even around subsistence-crops previously considered women's crops. Lastly, commercialization has been found to increase intra-household conflict and gender-based violence (GBV) (mostly resulting from women's reduced bargaining power), and worsened food insecurity amongst smallholders households [2,6,7,15].

However, in their study on groundnuts commercialization in Zambia, Orr et al. [8] caution against viewing commercialization as a zero-sum game where men reap all the benefits and women are left with nothing. The same authors found that women welcomed the

commercialization of groundnut, and the mechanization and growing involvement of men in groundnut production. Female groundnut farmers appreciated their abilities to negotiate a bigger share of income and gain some relief from the drudgery of processing groundnuts manually, even if this required relinquishing some operational and financial power to men –who oversaw machinery operations. In Uganda, Shibata *et al.* [3] found that women farmers used their labour as a bargaining tool to assert or retain claim over agricultural innovations for which they provided the majority of labour.

Control over the benefits derived from agriculture falls within a cooperative-conflict model which “considers the existence of other individuals in the households that, through a bargaining process, play a complex role in household decision-making” rather than the noncooperative approach “which assumes that spouses have different preferences and depend on bargaining power to allocate household resources” ([20], p.77). These findings echo those from other contexts such as Malawi, Nigeria, Ghana and Kenya, where commercialization did not decrease women’s decision-making over crops and in some cases led to increased dietary quality for women and their households [6,7].

Intersectional considerations

These findings notwithstanding, a nuanced lens that interrogates within-gender differences are crucial when examining commercialization. To illustrate, while the literature widely documents women’s disadvantages in various agricultural spheres, these outcomes have been found to differ based on socioeconomic characteristics. In their study on maize growing areas of Ethiopia, Van Eerdewijk and Danielsen [21] found that female headed households (FHH) are more marginalized than other groups of women. Without access to male labour, FHH were less likely to hire labourers for farming and ended up renting their lands for sharecropping, reducing their levels of productivity and benefits. Tsige [2] also reports that in Ethiopia first wives in polygynous marriages who do not have grown up and supportive sons often experience a decline in household income, as compared to wives with different positioning and those with grown up/supportive sons. In Bangladesh, Aregu *et al.* [14] discovered that older and married women had more freedom and mobility than younger and unmarried women, and thus could participate more in agricultural activities. In Morocco, Najjar *et al.* [18] found that while married women lost access to feed crops for their livestock, women from poorer backgrounds were able to access wage work opportunities in commercial vegetable and fruit production, which replaced feed crops, not available to them before. Finally, Doss [12] found in Ghana that women who engaged in cash-crop farming often had larger landholdings on average than women who did not farm cash-crops. In line with these several studies [2,3,14,22] emphasis on gender norms/relations not being static or linear, but constantly negotiated and evolving with local and broader structural changes, this manuscript explores how gender norms and relations influence the processes and outcomes of lentil commercialization in Ethiopia, and whether the benefits of

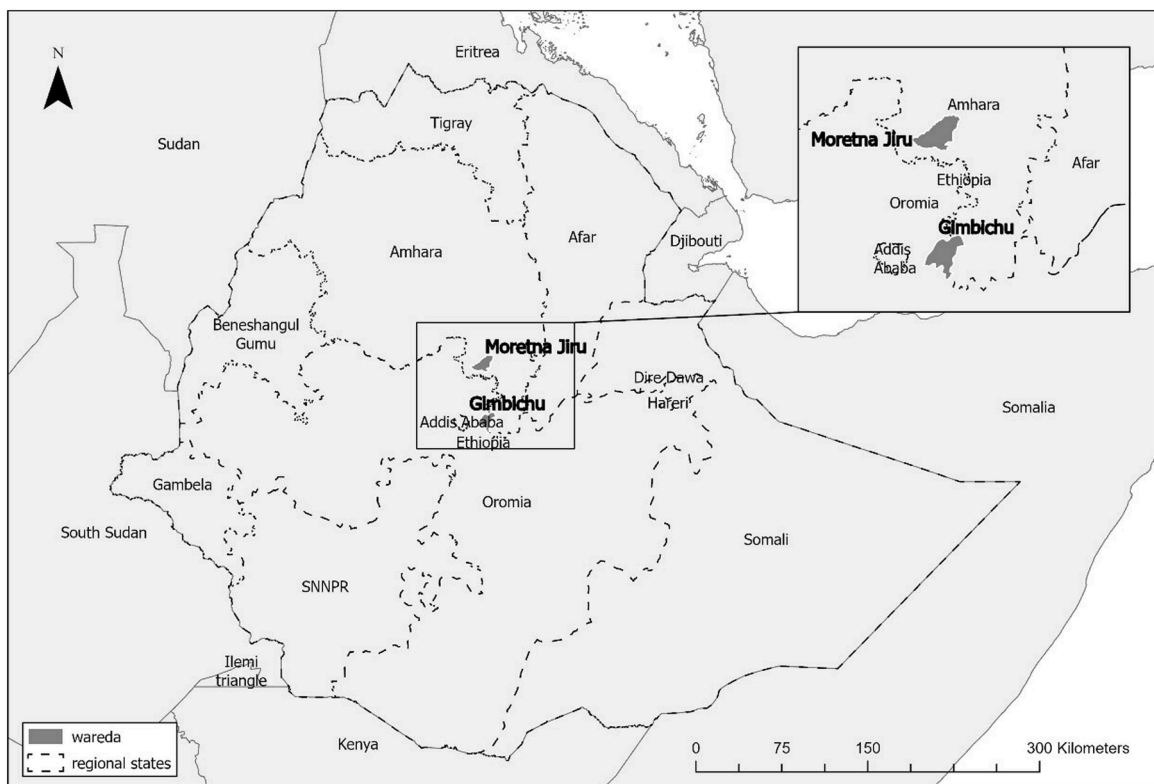


Fig. 1. Research sites, Moretina Jiru (wareda) in Amhara (regional state) and Gimbiču (wareda) in Oromia (regional state) in central Ethiopia.

commercial lentil production accrue to diverse groups of women and men farmers equitably, defined here as acquiring benefits and decision-making power commensurable with related level of efforts and responsibilities [23].

The study context: lentil farming in Ethiopia

Agriculture is the mainstay of Ethiopia's economy, accounting for 40 per cent of GDP and 80 per cent of exports. The agricultural sector is also the country's largest employer, employing about 75 per cent of the population [24]. Given this heavy reliance on agriculture, the Ethiopian government, alongside international development organizations, are increasingly prioritizing market-orientated farming in the country, as a way to improve smallholders' economic dispositions and food security [1,25]. To achieve this goal, the Ethiopian government first instituted the Plan for Accelerated and Sustainable Development to End Poverty (PASDEP), between 2005/06 and 2009/10. As part of this framework, the government committed to promoting agricultural commercialization through supporting the intensification of marketable farm crops on different scales and across different farmer groups [1]. The PASDEP was replaced by the First Growth and Transformation Plan (GTP I) and Second Growth and Transformation Plan (GTP II) in 2010 and 2015, respectively. Like PASDEP, GTP I and the recent GTP II (2015–2020) sought to promote sustainable, rapid and equitable economic growth in Ethiopia by stimulating agricultural productivity and commercialization [26,27]. Given these goals, it is crucial to examine how these policies have been translated at the local level amongst smallholder farmers. However, Tsige et al. [28] note that despite the GTP I and GTP II focus on the need for women's economic advancement through agricultural development, there are neither any clear strategies for implementing these goals nor gender-specific budgets for implementing these ambitions.

This study was conducted amongst lentil farmers in the Amhara and Oromia regions of Ethiopia. According to the last national census [29], Amhara and Oromia are the most populous regions, constituting 23.3 and 36.7 per cent of Ethiopia's population, respectively, and collectively making up 60 per cent of the country's population. The two regions were selected because of their similar socioeconomic and farming systems including lentil cultivation area coverage, proximity to local lentil markets and the significant numbers of lentil farmers in both regions. The selection of study communities was based on prior relationships with researchers in the region as well as where agricultural innovations had been introduced (including new lentil varieties). Fig. 1 shows the two research sites, Moretina Jiru (wareda) in Amhara (regional state) and Gimbichu (wareda) in Oromia (regional state).

Data and methods

This article uses qualitative data gathered from July 2018 to December 2020. The data presented in this manuscript are part of a larger, mixed-methods research project undertaken by ICARDA aimed at exploring women's participation in lentils production and other innovations in Ethiopia. A qualitative approach is best suited to this study because of the interest in understanding the role and nuances of gender norms on lentil commercialization in Ethiopia [30]. A total of 214 in-depth interviews (IDIs) and 24 focus group discussions (FGDs) were conducted in both regions (see Table 1 below). Initially, we aimed to understand how women and men

Table 1
Number of participants in the study.

Method Type	Number of Participants			Total
	Group Type	Women	Men	
12 FGDs	Adopters of improved lentil varies	37	40	77
	Non-Adopters of improved lentil varies	37	40	77
	Divorced	20	–	20
	Married	20	–	20
	Widowed	20	–	20
	Labourer	–	20	20
	Lentil Farmer	–	20	20
	Sharecropper	–	20	20
	Validation	20	20	40
FGD Sub-total	154	160	314	
IDIs	Adopters of improved lentil varies	32	32	64
	Non-Adopters of improved lentil varies	30	30	60
	Divorced women farmers who cultivate lentils	2	–	2
	Married women farmers who cultivate lentils	3	–	3
	Widowed women farmers who cultivate lentils	2	–	2
	Lentil Farmers	18	21	39
	Sharecroppers who cultivate lentils	5	10	15
IDI Sub-total	92	93	185	
Key Informants	State/non-state institutions	2	11	13
	Agro-processors	–	2	2
	Facilitators	1	3	4
	Breeders/Programme Leaders	–	2	2
Key Informants Sub-total	3	18	21	
Traders	1	7	8	
Total	250	278	528	

farmers are able to adopt improved varieties of lentils. However, we found that the most widely adopted improved variety is the Alemaya variety, which has been introduced in 1997, 26 years ago (Ministry of Agriculture, 2019). We also found that the majority of both women and men farmers were growing the local variety as Alemaya is no longer resistant to diseases. The adoption implications are discussed in another paper. In this paper, we focus on the interplay between gender norms, gendered crops and commercialization with a focus on lentils in Ethiopia. Study participants comprised women and men farmers and sharecroppers, and key informants including agro-processors, extension officers, women's and children's affairs officers, community elders, and Kebele administrators. Interviews were also conducted with traders in both regions. An average of 10 people participated in each FGD held with lentil farmers, labourers and sharecroppers, as well as with widowed, divorced and married women who are cultivating lentils but who may or may not have adopted improved lentil varieties. We were more interested in understanding the specific constraints they face as a group. On average, IDIs and FGDs lasted between 15 min and 3 h, and were audiotaped with consent from participants. Interviews were conducted in Oromo, English and Amharic by trained local research assistants fluent in these languages. All IDIs and FGDs conducted in Oromoo and Amharic were translated into English by skilled research assistants, using both literal and contextual translation. Transcripts were thoroughly read to identify the themes in the data, and these were tabulated using an Excel spreadsheet. After this, line by line coding was done to identify the main themes in interviews and FGDs [31]. Data analysis was done both manually and with the help of the QSR software for qualitative analysis, NVivo. Data were coded based on the themes that emerged from the data, and in line with the study objective of understanding how gender norms and relations shape lentil commercialization. The first rounds of data (preliminary findings) were validated with study participants to clarify some issues raised and ensure that nothing was lost in translation. This helped to improve the reliability of the study findings.

Efforts were made in both regions to recruit a representative sample of women participants, including single, divorced and widowed women from FHH, as well as women in monogamous and polygynous households. This was to understand and highlight the differences and similarities in experiences of lentil commercialization amongst various lentil growers and households, and in line with calls by scholars to pay attention to within-group differences amongst women [3,32].

During data collection, it emerged that lentil was the dominant legume and one of four major crops grown, the other three being wheat, teff and barley. Lentil therefore constitutes a main source of livelihood for people in the study sites. Lentil farming in both regions is rain-fed and lentil is only grown during the long rainy season due to the lack of irrigation schemes. In both locations, lentil and wheat are grown in rotation on the same land, with lentil serving as a nitrogen fixer. Fertilizer, herbicides, pesticides, seeds and labour are the major inputs used for lentil production, with this labour often done manually or with animal power particularly for tasks such as ploughing, threshing and post-harvest activities. Farmers in both areas stressed that they mainly rely on their own labour for lentil production. Despite being major lentil producing areas in the country, both sites lack lentil processing chains or value-added activities, necessitating that lentil growers sell their produce directly to local markets – according to key informants and interview respondents.

Several studies (see [2,15,33]; Gebre et al., 2021; Gebre et al., 2021) emphasise that farming systems across Ethiopia are gendered, with women often having fewer rights to farm resources, rights and marketing opportunities than men. For instance, culturally, farming in Ethiopia is done at the household level by both partners, unless the household is headed by a separated, unmarried or widowed individual [34]. However, women are not recognised as standalone farmers, which consequently affects their access to agricultural technologies, inputs and information, as well as their decision making ability regarding what crops to grow, and how much to consume and sell [2,33]. These inequalities extend to the marketing and sale of crops as well, as [33] argue that markets in the country are clearly dichotomised by gender, with men predominantly participating in lucrative markets (e.g., cattle, cash crops, wholesale), whereas women are relegated to weekly markets where food and other produce are sold. Relatedly, Gebre et al., [34] found in their study on gender gaps in maize market participation that men have an advantage (e.g., in market negotiations) in crop sales than women. These gendered dynamics have implications for women's ability to benefit from commercialization in Ethiopia.

The study focuses on the commercialization of lentils in rural Ethiopia for several reasons. First is the widespread assumption amongst smallholders and development circles that lentils (like most legumes) are a women's crop due to their subsistence and labour-intensive nature, and that commercialization of subsistence-crops benefits women [10,11]. Second, despite the studies which examine gender relations around crop commercialization in resource-poor settings, most studies in Ethiopia do not take a gendered approach to understand how commercialization differentially affects farmers. The few which do have focused on extension services [5], with notable exceptions such as Lenjisoet al. [4], who examine gender relations around milk commercialization amongst smallholders in Ethiopia. Third and importantly, women's contributions to agriculture in Ethiopia, like other SSA regions, is still not fully recognised and is thus underappreciated and underpaid. This is largely due to sociocultural norms that position women farmers as 'helpers' to male farmers [2,33]. This lack of recognition is concerning, as women farmers in Ethiopia have been found to be less 'productive' than their male colleagues by up to 35 per cent because of their limited access to land, innovations and inputs [35–37]. In cases where women manage land, these landholdings tend to be smaller (43 per cent) than men's (ibid). Women farmers in Ethiopia also report sharecropping more, although this does not improve their livelihoods due to their weak bargaining positions that usually result in inequitable arrangements [35]. Thus, according to Kasa and colleagues, the inability of Ethiopian women to engage in commercially and economically valuable agricultural activities contributes to the widening of inequalities amongst male and female farmers.

Results

This section presents the results of the study. Findings are organized based on the themes of lentil crop classification and changes in production; gender roles around commercial lentil farming; control over lentil sales and income; and hired labour practices resulting from commercialization. These themes are discussed in relation to the benefits and drawbacks of lentil commercialization amongst

women and men farmers in Amhara and Oromia. Findings are presented using quotes and participants' de-identified sociodemographic characteristics and mode of data collection, where available.

Lentil classification and changes in dynamics of lentil production

Most participants were of the opinion that crops were gendered (i.e. either a man's or a woman's crop), whereas a few believed no crops were solely women's or men's. For those who believed some crops belonged to men and others to women, the main reasons advanced for this were the labour roles, land use, crop use, inputs requirements and labour demands of specific crops. Thus, most participants said that crops which were grown for household consumption; required limited labour or physical strength to produce; and required minimal land tillage/processing were women's crops. On the other hand, crops which required intensive labour; needed high inputs use; were used as the main source of food (staples); and had high market value were considered men's crops. When asked about lentils, an overwhelming majority of participants said they were a women's crop due to their, "easy and non-tiresome attributes, labour friendly nature, and early maturation." Few participants indicated that lentils were both a men's and women's crop, with some emphasizing that gendered differences mainly emerge in the size of area cultivated with lentil crop, with the larger plots being those of men.

Farmers and key informants were also unanimous about the fact that lentils were evolving from a subsistence to cash-crop, leading to a growing participation of men in lentil production. The reasons provided for this observation include the fact that more farmers were producing lentil in larger volumes and allocating more of their farmland to lentil production. Participants also indicated that lentil was being prioritized as an export crop, causing its price to go up and further serving as an incentive to either begin or increase lentil production.

Lentil has become cash-crop over the years, and it is important for a farmer's life. With other crops we are not as successful because of the lower price, but with lentil the farmer is benefiting from his labour a lot. (Married woman, 47, Oromia).

As shown in this quote, investing in lentils is a good way to reap cash profits, and the growing profitability of lentil makes it an important and preferable crop for farmers' livelihoods. The women's and children's affairs' office head in Oromia echoes this importance of lentils to farmers livelihoods due its profitability in relation to other crops:

Lentil is an important cash-crop in our area. The money you get from one quintal of lentil is worth two quintal of wheat, so the farmers prefer lentil. It is a lifeline for farmers and has helped change the lives of many farmers.

A research facilitator adds that despite having always been a profitable crop, lentil prices have gone up in the last few years. The facilitator attributes this increase in market value to its prioritization as an export crop by the Ethiopian government:

The price of lentil has grown in the last 5 years. Previously there was only local demand for lentil but recently the government has started exporting it for foreign market, which explains the change.

This growing commercialization of lentil and men's increasing participation in its production was however marginalizing women lentil farmers:

During our mother's time, lentil was produced in small lands and mostly used for consumption and small amount was sold in the market. Now lentil has become a cash-crop and we use very little lentil for household consumption. Women in earlier time had full right to lentil, now women have no right at all when it comes to selling lentil (Oromia, Married Woman, 45).

Women were, however, not the only group marginalized from lentil commercialization. According participants, the growing incidence of pests and 'wag' or rust meant that more inputs had to be invested into lentil production. However, for poor farmers – mostly women but also some men – the financial means to invest in these inputs was not available, which meant that they could not compete with resourceful farmers and in some cases, were eventually pushed out of lentil production. A male farmer had this to say:

6 to 7 years back, farmers who grew lentil were poor as it was sold for cheap price. In recent years, however, middle- and high-income farmers are the ones growing lentils. As lentil is frequently attacked by disease, those who grow lentils need to have alternative crops and large land. They must have livestock and money to buy chemicals.

These socioeconomic dynamics of lentil production were also affected by marital status, as the inability to afford large scale lentil production was even more pronounced for FHH:

There are differences. Married women work with their husbands and use a lot of manpower. They use their own labour, that of their husband and their children. Married farmers plant a lot of lentils... they use fertilizer depending on how much they plant. Household consumption also depends on their economic class, rich and middle-class people consume more lentils, the poor lentil farmers sell it all (Male Farmer).

In addition to these class dynamics, participants stated that the changes in lentil production, sale and consumption were extending to other facets of farmers' experiences with lentils as well. Specifically, these dynamics were leading to changes in gender relations around farm roles, control over income and hired labour practices for both women and men, as we show in the following sections.

Gender roles around lentil commercialization

Several participants discussed the household and farm roles of women and men in Ethiopia, and how these were evolving in response to the growing commercialization of lentils. Most participants (both women and men) mentioned land preparation, digging channels, applying fertilizer, spraying chemicals, weeding, harvesting and transporting crops as women's roles. Several others mentioned piling and threshing, taking forage to cattle, cleaning leftovers from threshing and processing lentil for consumption as women's jobs. A few mentioned bringing food to farmers as women's roles, and few people mentioned solely ploughing and supervising labourers as women's roles. When asked about men's roles, most participants mentioned tilling, land preparation, fertilizer application, weeding, spraying pesticides/ herbicides, harvesting, transporting produce, piling, threshing, hiring labourers, bagging grains, selling lentil and broadcasting as men's tasks. Few participants mentioned solely ploughing as men's role, and few indicated that sons were responsible for tilling, sowing and supervising farm activities on their parents' farms. These responses show an overlap in the roles that women and men in Ethiopia perform in lentil farming. Thus, apart from tilling, broadcasting and selling lentil, women and men practically engage in the same farm roles.

Although participants did not specify the exact proportion of their labour dedicated to lentil farming, discussions revealed similar patterns of labour allocation for lentils and other general farm products/activities (i.e., the same gender and farm roles outlined above). On average, however, both women and men lentil farmers reported that women's workloads were increasing while men's workloads were either the same or decreasing. They added that this gendered difference in workload was likely a result of women's growing involvement in agriculture (and lentil production in particular) due to changes in gender and cultural norms that previously prohibited women from performing certain farm roles, as well as the introduction of new technologies (often) targeted at men. The women and children's affairs inclusion team leader in Amhara, speaks to this:

Women do most of the activities. Almost 90 per cent of the work, in my opinion, is done by women. One thing that women never do is the tilling. During that time, women are expected to bring food to the farm and help in draining water. Even if farmers are using herbicides now, there are few herbs that withstand the chemical. Women handpick these and it takes time. Women are not involved in spraying the chemicals... Women also participate in harvesting, piling and transporting, as well as threshing. Men bag the produce. All in all there are only very few activities that women are not involved in.

As shown in this key informant's quote, most of the manual labour for lentil and farming in general is provided by women. Furthermore, despite the contribution of herbicides/pesticides to the reduction of tasks such as weeding, this was minimal, and for women, that extra time was invested into other farming/household activities. When asked if these roles have always been the same or if they have changed over time, responses were split in half, with some participants reporting that women's roles were getting easier due to the introduction of technologies such as fuel saving stoves, piped water, use of chemicals, and grinding mills:

In the olden days, our mothers spent a lot of their time weeding. They used to walk on foot to deliver lunch or go to the market. Now we have buses. They used to fetch water from the river far from home, use stones to grind flour by hand, but now we spend little time on weeding, we have water and a grinding mill near to the village (Oromia, Married Woman, 36).

While most of these technologies, apart from the use of herbicide, are not directly relevant to lentil cultivation, freeing up women's time can contribute to engaging in farming activities related to cash and/or subsistence crops, The other half however reported that women were getting busier, as they were now performing farm roles that they previously did not engage in, in addition to their household chores. Most participants attributed women's increasing roles and responsibilities outside of the home to the growing emphasis by statutory/development initiatives on promoting women's agricultural participation (e.g., through the valorization of [women's] crops like lentil). These changes in women's roles required that men assist with domestic work. While some farmers welcomed these changes, others did not:

To tell the truth, now we have more burdens on the farm, but a good wife will never complain about her labour or anything that she does for the good of her own house (FGD, Participant4, Married Woman).

Women used to spend their time sitting around the house without doing much during our grandmother's time. Today, they are equal to men and that means they stay where the man is and do men's work. [chores?] NO! That is women's work. Actually, when she [participant's wife] goes to a meeting, I stay home and watch the children, otherwise, it is her job. They are the ones who said they are equal not us, and by the way, how would working with her in the kitchen (ma'ed bet mermetmet) be considered equality? She is very resourceful, she somehow manages both (Married Man, Amhara, 44).

The above accounts show that gender roles amongst women and men lentil farmers are changing and overlapping as lentil production increases, along with women's participation in it. These changes, according to participants, largely result from structural changes such as the increasing participation of women in various socioeconomic spheres, as well as the growing sensitization about women's economic participation and legal rights. However, as espoused in the quotes above, although changes in norms that afford women the opportunity to participate in market-orientated farming might be beneficial, without the necessary support and cooperation from all partners within the home, women may be left performing more workloads, which may be counterproductive to women's wellbeing. As we show in the next section, women's increased labour investment in lentil farming did not always translate into increased control over lentil crops and income.

Control over lentil produce, sales and income

Participants were unanimous about the fact that lentils were often grown for cash or income purposes, rather than for consumption, as alluded to in some of the earlier quotes. Participants indicated that only about three to 10 per cent of lentil is reserved for sale, while the rest is sold. Often, the decision to sell most of the harvest was men's, as some men considered consuming lentil a misuse of resources. A participant says:

My husband is careful in managing lentil. So he makes all decisions regarding lentil... My husband always thinks we should not waste lentil because it is our main source of finance (FGD, female participant 5, 50).

The decision to prioritize lentil for sale was mostly due to its commercialization and high pricing, but also the growing incidence of pests and rust/wag in lentils and resulting lower yields. However, despite the reported low yields, participants mentioned that more (resourceful) farmers were now growing lentil on larger farms, due to its profitability. The increasing participation of farmers in lentil production and the growing prices of lentils were decreasing women's rights and control over the crop, despite the near unanimous response by both women and men farmers that lentil was a women's crop:

Women in earlier times had full right to lentil, now women have no right at all when it comes to selling... My father and grandfather used to take full responsibility in the farm, now my husband needs me in all the processes but not on the sale and income (Oromia, Married Woman, 45).

As shown in this woman's account, lentils had transitioned from a subsistence-crop (which women decided on and controlled), into a cash-crop (now mostly decided on and controlled by men). Most participants agreed that men were in sole control of lentil income, attributing this to gender/cultural norms which identify men as the heads of households and therefore placed the power of deciding how and when to use income in their hands. This often led to the inability of women farmers to sell lentil on their own or without their partners' permission. Participants indicated that it was rare for women to sell lentil, findings supported by traders in both Oromia and Amhara who estimated that only about five to 10 per cent of their lentil clients were women. Moreover, amongst the small percentage of women lentil sellers, the majority often sold only small quantities to enable them buy household items. Farmers, key informants and traders attributed women's low participation in lentil marketing and sale to the labour-intensive requirements of loading, offloading and transporting lentil, the long distance to lentil markets, cultural/gender norms regarding the safety of women walking/travelling alone, and the low levels of knowledge about lentil pricing and negotiation amongst women. Furthermore, the inability of women farmers to carve time out of their busy schedules to participate in other activities, including trading, was cited as a reason for their low participation in lentil sale. A trader recalls:

Only five per cent of farmers who sell lentil here are women, 95 per cent are men. In my opinion the reason for this difference is: In most cases women are dominated and highly under the influence of men. The other reason is that the traders' shops in the towns are very far from farmlands, making it difficult for women to cope with the ups and downs along the way. Another reason is women have a lot of responsibility in the house and don't have enough time to come to the shops to sell. And we must note that those rare women who brings lentil to the shop are FHH. Even women in many FHH are often accompanied by men when they bring lentil, the men who accompany them negotiate for them.

As shown in this quote, women tend to be less involved in lentil trading. Also, despite a few differences, the gendered dynamics (reliance on male actors) for lentil sale were similar across all household types, with FHH often relying on their sons or male neighbours and relatives to sell lentil. Given this low participation of women in lentil decisions and sales, a few participants in this study reported women's subversion of cultural norms, as a way of coping with their marginalization from the control of lentil produce and income. One of these was what was culturally termed 'stealing' amongst participants. This was especially the case for women in male headed households (MHH) who sometimes had to use or sell lentil without their partners' knowledge, to ensure household sustenance. Although women themselves were understandably reluctant to discuss this trend, some men, few women, and key informants did. The women and children's affairs inclusion team leader in Amhara says:

It is hard to conclude a husband and wife negotiate from equal ground. Women sell small quantities (10–15 kgs) of lentil when they need money to cover household expenses. Women do this without their husband's knowledge. And since they are taking it without consulting their husband it is considered stealing, the saying goes "woman is labelled a thief to feed her husband".

Consequently, women's decision to use or sell lentil without men's knowledge often resulted in intrahousehold conflict, including GBV. A woman farmer recounts her stories of abuse and consequent divorce from her husband, resulting from her decision to use lentil without his knowledge/permission:

I took my husband to court after he beat me almost to the point of death for taking some lentil from the storage and selling it to buy oil. He shared 2 timad from his land for me to raise the children. (Divorced woman, 28, Amhara).

These accounts highlight the fact that women may be benefitting inequitably from the transitioning of lentils into a cash-crop, and in some cases, may actually be experiencing a decline in their wellbeing, as evidenced by this participant's quote of undergoing abuse due to her decision to access lentil, now a market crop, without her partner's consent. These marginalizing effects of lentil commercialization surfaced in farmers' accounts of local labour practices as well.

Hired labour practices and commercialization

According to participants, changes in lentil production extended to local practices around commercial and communal labour arrangements such as sharecropping and reciprocal labour, locally known as *debo*. Participants indicated that farmers historically relied on *debo*, to meet their farming needs. In this arrangement, a group of (usually male) farmers volunteer to work on one person's farm one day, and on another's farm the next day. Participants added that when *debo* was common, women hardly participated in farming. Instead, women were responsible for cooking for farmers. Although this communal farming method helped to ease the drudgery of farming and also sped up the farming process, it was no longer practiced amongst lentil farmers due to the growth in commercial farming, rising costs of market-orientated farming, the growing demand for labour, and the consequent commercialization of labour. These changes were therefore restructuring gendered labour roles:

Our mother's time was different, women had strict roles that bound them to the house. They only came to the farm to provide food for farmers. In that time, there was a reciprocal labour arrangement called "debo" and then, women were responsible for feeding the farmers. They prepared large amounts of food/drink and served farmers. They were also responsible for making their husband feel at home and rested. When he returned from the farm, they received him with open hands and washed his legs. Now there is limited to no 'debo' arrangement, everybody works on his own and therefore women do not serve that much food, and they have stopped washing our legs (married man, 46, Oromia).

As espoused in this participant's accounts, although the end of *debo* arrangements may be considered a benefit to women because they no longer need to spend time cooking, sharing food and washing men's legs, these changing dynamics also imply that farmers who previously relied on communal and non-commercial forms of labour – often women and poorer farmers – are at a disadvantage. Women farmers in the study are particularly marginalized in three ways. First, women farmers often lack the resources to hire farm labour. Second, women were found to experience more challenges in trying to hire male labourers. This is mainly due to cultural/gender norms which place women in subordinate positions, thereby affecting their ability to exert managerial authority over male labourers:

For women, it is difficult to make men work for them. Men have a problem accepting orders from women, they think women do not know enough about farming, so they have difficulty listening... In our grandmothers' time, people used to work together... now we do not do reciprocal labour anymore. (Divorced woman, 42, Oromia).

Third, women had a harder time securing jobs as labourers because many farmers were reluctant to hire them as they perceived women to be weaker and slower. In an FGD with male lentil farmers, some participants indicated that they preferred male labourers over female ones because women were lazy and had poor knowledge of farming, and therefore could not undertake activities such as furrowing, ploughing, and other strenuous activities. Other participants however disagreed, stating that women's reluctance and/or inability to perform these tasks was mainly because traditional gender norms forbade women from engaging in these roles. Nonetheless, although these norms were changing and a few courageous women had ventured into male-ascribed farm tasks and roles, the persisting low representation of women in these roles discouraged other women from engaging in them as well. Participants noted that the few women who did were sometimes mocked. These effects of labour commercialization and marginalization from lentil farming were more pronounced amongst FHH, as highlighted by a research facilitator:

They [FHH] are different. Married women work with their husbands and use their own, husbands' and children's labour. Female farmers, on the other hand, use their own and their children's labour. Married women's land is the full responsibility of men. So they can afford to plant lentil on a large scale. But women headed farmers plant small amounts because they have labour problems.

Instead of lentils, these WHHs can grow tef or wheat which are less labour-intensive crops. Lentils are poor competitors with weeds. Consequently, the few opportunities that women sharecroppers managed to secure were often exploitative. Generally, sharecropping in the region entails an agreement whereby the landowner gives the land to the sharecropper in return for 50% of the harvest. Consequently, the few opportunities that women sharecroppers managed to secure were often exploitative. These exclusionary effects of labour commercialization, coupled with women's inability to navigate local farming systems, often led women in FHH to abandon lentil farming and pursue alternative livelihoods:

... more and more FHH are abandoning farming. They are renting out their land and leaving to the cities to open bars. Because, if a FHH is sharecropping lentil, she will contribute her labour to grow the lentil but she will be paid with tef or wheat. The sharecropper will never give her lentil because lentil is sold at higher prices (Women and children's affairs inclusion team leader, Amhara).

Women labourers' marginalization in commercial lentil production does not end with farm/production work but extends to marketing and sale, as well. For instance, a trader from Amhara says, "I only hire people to load and unload from the lorries. I do not hire female labourers because they cannot carry a quintal of lentil".

As shown in the above quotes, women farmers do not seem to be benefiting from large scale lentil production because they lack the lands, assets, inputs and perceived physical strength or labour, often attributed to men, needed to be competitive. Finally, the findings revealed that the transitioning of lentils into a commercial crop often reinforces wage inequalities between women and men lentil farmers, and amongst farmers of the same gender. These inequitable outcomes largely result from ascribed gender roles which tend to relegate women to farm tasks that come with lower earnings, as well as the women's challenges of engaging in fair sharecropping and

other hired labour arrangements as described previously. A key informant from the women's and children's affairs' office in Amhara notes:

Wages are different for men and women labourers in our area, women from the village are often not hired. Rather, women are hired from Chefe (nearest town). They are paid depending on the work but even then women are given 80–120 birr/day, while men are paid up to 200 birr for similar activities.

Thus, even when women labourers perform work of equal value, they are paid way less than their male counterparts. Furthermore, despite being of closer proximity and willing to work, women labourers within the community are denied wage jobs, as most farmers prefer to hire people from other communities, likely due to the desire to exploit this wage labour which might be difficult to achieve with community members.

Further considerations: within-group differences in experiences of lentil commercialization amongst women farmers

The previous sections have highlighted the ways in which both women and men farmers may experience marginalization regarding lentil commercialization. In this section, we elaborate on some of the differentiated experiences of women lentil farmers in the study based on the intersections of socioeconomic status, marital status and household type, and in relation to the benefits and trade-offs of lentil commercialization.

Socioeconomic status

Lentil growers who participated in the qualitative strand of the study had an average landholding of 1.82 hectares, 1.64 and 2 hectares for women and men, respectively. Most of these lands were jointly owned, as reported by the respondents, with only a few (mostly widowed and divorced) women reporting sole ownership. Given this average, participants who had landholdings of below 1 hectare were categorised as having small landholdings, those with 1–2 hectares as average, and those with 2 or more hectares as large. Overall, participants with large and medium landholding reported higher amounts of lentil with regards to yield, amount of lentil sold and amount of lentil consumed, compared to those with small landholding.

Most women in the study discussed how their socioeconomic status affected their ability to benefit from lentil production in relation to household farming. Thus, very few women described their socioeconomic marginalization from an individual perspective. For instance, many women in MHH with medium and large landholdings mentioned higher incomes and the resulting ability to undertake building projects, pay for their children's education, dowry their children, buy cattle and oxen, afford inputs, and purchase/rent more lands as the advantages of lentil commercialization to their livelihoods. On the other hand, women in MHH with smaller landholdings reported being disadvantaged and reaping little benefits from lentil production due to the increased costs associated with lentil production and competition with more resourceful households.

Marital status and household type

Outside these collective household benefits and marginalization, many female participants –across small, medium and large landholding households – noted that the commercialization of lentils was reducing their individual access to household lentil yields, as men were now processing lentils themselves or relying on the services of agro-processors. Thus, as the participant below states, she is now unable to use lentils or income from lentils compared to before.

He gives me the money to keep and then takes it back after some time. I do not use it [money] because I have no means of replacing it. If we were still processing [lentil], my access may increase because processing was mainly our responsibility as women (Married woman, 30, Amhara).

Similar sentiments around reduced rights and access to lentils were expressed by other participants in MHH who reported that the decision about how much lentils to allocate for household consumption was now mostly made by their male partners. Some women added that these changes not only affected their bargaining power, but further entrenched intra-household inequalities around income and conjugal relations.

In my opinion, the high price for lentil increased men's self-esteem and confidence. Men have managed to get good income and become more powerful... when men are powerful, they tend to abuse their power and the more income they have, they date other women in town and get more children. It is difficult for women (FGD, Oromia, Female).

Other participants in the same FGD echoed this, adding that, "the more pricy lentil is, the more protective the men are", and the less they involve women in decisions around lentil consumptions, sales and accrued income.

These dynamics were quite different for women in FHH, many of whom were either divorced or widowed. Similar to women in MHH, the benefits of lentil commercialization for women in FHH largely depended on their landholding and the resources (economic/social) available to them, rather than solely on their marital status. However, as mentioned earlier, even for women in FHH, some major farming decisions were made by adult sons on their behalf, as shown below:

When my son lived with me, he used to decide on consumption. Now he's married, I decide on consumption. But labour, everything else is still decided by him... production and farming are his decisions, and also processing, except processing what I eat (Widowed Woman, 58, Oromia).

A divorced participant in a FHH noted that since separating from her partner, she has been able to have more control over decisions

around her farming livelihood. However, her resource-poor state meant that she could not invest enough in her lentil farming to reap productive benefits:

I rent land and exchange labour (*debo*) because I don't have oxen. I work on their land for three days for every day they spend on my land... After that I do everything by myself... Yes, now the decisions and costs are mine. I planted lentil on one kirt but got only two and half madaberia, which is a big loss... I also lost last year. I had to brew areqie to pay back the land rent and part of the fertilizer credit I took (Divorced woman, 42, Oromia).

As opposed to their married counterparts, the size of land FHH farmed (being less than the married women) as well as the labour-intensive weeding tasks needed for growing lentils coincided with lack of lentil varieties resistant to rust disease, which is a common problem to all farmers. These findings highlight how the participant's gender, socioeconomic status, and marital status all intersect to disadvantage her in lentil production. Losses in lentil production and an inability to recoup investments, let alone reap profits, in lentil farming was a recurrent theme amongst many women in FHH. Consequently, some women within this group indicated that they were compelled to quit lentil farming and resort to other livelihood opportunities.

Last year I lost completely [due to rust disease, 'wag'], so I incurred debts on fertilizer and inputs... I had to work hard; I brewed areqie, sold my donkey... worked as a labourer, etc. That was a hard time for me, so I decided to give my land for contract this year (FGD, Widowed woman).

The vulnerability of women in FHH in lentil farming are buttressed by key informants, as mentioned in an earlier section. These findings highlight the fact that the type of household women belong to, affects their ability to benefit from lentil commercialization – and this is largely rooted in socioeconomic and resource inequalities.

Consumption and sale of lentils

Women farmers' differentiated exclusion from lentil commercialization benefits extends beyond farming resources and decisions, to include marginalization in other aspects such as the consumption and sale of lentils. For instance, speaking to changes in household consumption of lentils, a female farmer from a resource-poor background says:

In the last two years, a new lentil disease emerged, and we lost our yield. Labour costs have increased, and sometimes we experience labour shortage during harvesting season. Household consumption has also decreased. Because lentil prices are higher, we prefer to sell the lentil and use other crops for household consumption.

The above finding shows that, even though resource-poor households may also be benefitting somewhat marginally from the sale of lentils amidst its growing commercialization and profitability, this comes at a price, as many are now sacrificing their household lentil consumption for sale. Relatedly, another woman from a MHH with small landholding notes that, despite the growing profitability of lentil farming, women are benefitting less from this, compared to other crops.

Lentil is pricier compared to other crops... But for us women, other crops benefit us directly than lentil. As lentil is sold immediately after production, we don't realise its benefits. Other crops such as wheat and teff are sold later so we have better access to them ... I don't manage money from any crop. He does. But at least I can access other crops secretly because they are sold later in the year... if I ask for money to cover some needs, he says, 'you have chickens and the leftovers from threshing; that's enough to run the household'. That is why I access crops secretly; my children get to eat and he himself gets to eat (Married woman, 30, Amhara).

As shown in the above quote, the farming cycle of lentils, coupled with men's increased control over the crop, implies that women farmers can no longer easily access lentils for household consumption. Given this marginalization from lentil production processes, some women in the study admitted that they were clueless about the actual profitability associated with lentils, despite their involvement in the production process. This led a participant in an FGD to say, "I know what it takes to grow lentil but it is very hard for me to decide whether it is profitable or not".

Another woman in a MHH with medium landholding acknowledges that the commercialization of lentils is beneficial to their livelihoods, as it has increased their economic disposition. However, the participant adds that these benefits are minimised by her lack of control in deciding how to use this added income, and her partner's mismanagement of funds and abuse (of power).

One time, I took him to the social court and they tried to counsel him, but he never changed... They could not stop him. And I don't want him to get in gaol if I report his beatings... It [lentil commercialization] has benefited us financially, but the benefit isn't that great due to my husband's irresponsible behaviour. Otherwise, together with the income from wheat and teff, we're able to eat and hold our house together (Married woman, 50, Amhara).

These findings showcase the disadvantages that women farmers across low, average and large landholding, as well as women from different marital statuses and household types, face regarding lentil commercialization. These marginalisations are not helped by the fact that markets in the study areas remain gendered, thereby advantaging men in marketing and sale of lentil, compared to woman. Thus, key informants generally agreed that, although women do engage in lentil sales, they tend to do so with smaller quantities and within their community, rather than in large markets. The plant science team leader in Amhara speaks to this:

The price is smaller if they sell from home. However, in the market, farmers have better option of negotiation. Only men sell in larger quantities. Women sell in smaller quantity and often around the village for lower prices. But still better compared to the price they get for the same amount of wheat.

Other key informants added that apart from being the ones to sell lentils in larger quantities, men are also able to negotiate higher prices for their lentils, than women. Key informants also note that in some instances, male lentil farmers ‘conspire’ with traders to tell their female that they were paid a lower amount for the lentil sales than what they received. These findings highlight the need for women farmers to reap positive outcomes from lentil commercialization. Currently, several gendered, socioeconomic and cultural barriers stand in the way of doing so.

Discussions and conclusions

This study examined gender norms/relations to understand whether lentil commercialization benefits women farmers in Ethiopia. The findings reveal that despite being classified as a women’s crop by both women and men, women in Ethiopia are having fewer rights/control over lentil production, use, income and sale, as the crop commercializes. This is despite the fact that women perform the majority of manual farm labour around lentils due its categorization as a ‘women’s crop’. This marginalization leads some women to subvert cultural norms by using lentils without their partners’ knowledge or consent, resulting in outcomes such as GBV. Women in married households resorted to ‘stealing’ and selling small quantities of lentil in order to reap benefits from their labour investments. These findings are similar to those reported by Scott [38] as strategies or ‘weapons of the weak’ (e.g., deception, passive non-compliance) that the disempowered use to resist injustices. The study further found that, traditional labour practices such as *debo* are fading, leaving farmers who rely mainly on communal and unpaid labour – often the poor and women – with minimal options for securing farm labour. In addition, gender norms affect women’s ability to hire or be hired as farm labour, due to their subordination and perceived weakness. Even when women are hired to work on lentil farms, sharecropping arrangements are exploitative, with women being paid much less than men for work of equal value. Despite the general marginalization of women in lentil commercialization processes, we found that experiences of this marginalization differ based on socioeconomic or resource status, household type and marital status.

These findings highlight several things. First, that naming a crop a men’s or women’s crop does not necessarily translate into commensurate ownership or control of the crop by said gender. This finding supports those of Doss [12] and Orr et al. [8] who argue against the strict labelling of crops as men’s or women’s crop due to the complexities of smallholder farming. It also supports Orr et al.’s [8] assertion that the power to name crops often rests in the hands of men (due to social norms/hierarchies), subsequently resulting in two scenarios in crop commercialization. One is that a crop may continue to be called a ‘women’s crop’, although it will be managed and controlled by men. Two, as a women’s crop commercializes, it may be renamed a men’s crop. We found the former in our study. Thus, despite understanding or naming lentils as a women’s crop due to its labour requirements and other characteristics, these classifications are called into question based on participants’ responses to follow up questions on control over lentil production, income from lentil sale, as well as other marketing and labour dynamics.

Second, the findings emphasize that, providing the majority of farm labour for certain food crops may not always result in the ability to decide on or control produce or income from the crop. This finding is inconsistent with those of Shibata et al. [3], who show that women’s labour serves as a bargaining tool for retaining control over a crop, as this study found that despite contributing the majority of labour in lentil production, women had minimal power/control over the crop. Thus, we found that as commercialization increased, men became more reluctant to use lentils for household consumption, despite women’s preferences for using lentils as food. These findings support those of studies such as Geleta et al. [33] and Aregu et al. [14] who report that women often prefer to direct more farm produce towards household food needs, in line with the gendered and cultural expectations of good wives/mothers. This is sometimes not supported by men who may prefer to sell more crops, given their roles as household heads/breadwinners, and the associated expectations of paying bills and making large household purchases – which require disposable income. This study found that even in cases where women owned their own lands (e.g., widowed or divorced women), they still often relied on male sons, relatives or neighbours to manage lentil production and sale on their behalf due to entrenched gender norms that discourage women from partaking in commercial farming activities. Lastly, our findings contradict those of Shibata et al. [3] who show that married women in richer households are more disadvantaged, as they often cannot trade their labour for better bargaining power since their husbands tend to hire external labour for farming. Even for married women in households with larger landholders, women undertook most of the farming work related to lentils. Yet, women in MHH tended to have better opportunities at commercial lentil production as they can rely on household assets and labour, and face fewer cultural barriers, whereas labour and assets in FHH tend to be insufficient, yet they lacked the economic and cultural resources to hire labour. However, as we also found that women in MHH still had little control over lentils, it may be fair to say that they are only slightly better off than their FHH counterparts regarding commercialization.

Third, this study highlights that the commercialization of subsistence or ‘women’s crops’ may not always improve women farmers’ economic and overall wellbeing and, in some cases, may exacerbate their vulnerabilities for several reasons. To begin, women were found to be performing the same farm roles as men, in addition to being solely responsible for all household chores. This buttresses Muñoz Boudet et al.’s [39] assertion that gender norms are constantly evolving in response to structural changes leading to the restructuring of the gendered fabric of households and communities. They also support Orr et al. [8], Doss [12] and Geleta et al. [33] who found an increasing convergence in roles that women and men undertake on the farm, with women engaging in complex and multifaceted agricultural responsibilities. However, given that women’s increased participation on the farm does not reduce their domestic work, or increase support from their male partners’, these changing gender roles may be counterproductive to the goals of

leveraging commercialization as a means to improve women's wellbeing. Similar arguments are made by Ganguly *et al.* [22] and Aregu *et al.* [14] who reveal that such initiatives may leave women overburdened with work. Yet, the norms and expectations of a 'good wife' imply that women must endure these increased labour burdens without complaint.

These marginalizing effects of the growing market value of lentils on women farmers extend to other aspects such as labour and wage dynamics, as we found that women experience challenges hiring labour, or being hired as labour. These findings support those of Fischer and Qaim [6] and Nakazi *et al.* [7] who show that the transition of food crops to cash-crops often increases the vulnerability of women farmers, as cultural norms continue to inhibit women's participation in various farming spheres, including marketing, hiring and sale arrangements. Our findings also corroborate those of Badstue *et al.* [15] who report that despite relying on reciprocal labour (*debo*) more, FHH are often excluded from such communal labour dynamics once labour starts to get commercialized. Finally, this finding reinforces those of Ganguly *et al.* [22] and Nchanji *et al.* [40] who also demonstrate a consistent gender wage gap in the agricultural sector, particularly in low-income countries.

Importantly, our findings reveal that despite the general marginalization of women farmers, characteristics such as socioeconomic status (e.g., landholding), marital status, and household type, all interact to shape women's experiences of lentil commercialization. While we found that women's socioeconomic challenges of engaging in commercial lentil production were often in relation to the household collective, our findings also show that in some cases – particularly in MHH – women may benefit differently/less than their male partners, mainly due to social norms that hinder their ability to assert themselves. Overall, although women in FHH enjoy more control over commercial lentil processes, those with larger landholding reported better outcomes than their resource-poor counterparts. These findings support those of earlier studies which observed that farming in Ethiopia is done at the household level, with sociocultural hierarchies often advantaging men in farming outcomes [8,34]. They also align with research that highlight the importance of examining within-group inequalities in agricultural processes, including commercialization, as women's social identities inevitably lead to different farming outcomes [3,7,8]. As our study findings show, for some women, their inability to benefit from lentil commercialization is not based solely on either their gender, socioeconomic status, or marital status, but a combination of two or more.

Our findings echo calls by scholars such as Doss [12] and Orr *et al.* [8] who argue for a nuanced interrogation of crop distinctions based on gender, and those of Fischer and Qaim [6] and Nakazi *et al.* [7] who question whether the commercialization of food crops is always advantageous for smallholder women. This study highlights that commercialization devoid of specific interventions may leave women and resource-poor farmers marginalized and widen inequalities between these groups and resourceful farmers. It is thus important for agricultural interventions aimed at leveraging commercialization to target the most vulnerable and increase their access to resources such as lands, credits and inputs, to ensure that they are competitive in commercialization trends. It is also important for local governments in the study areas to work towards breaking the gendered dichotomies that currently characterise market systems in the area. For instance, in addition to addressing the sociocultural barriers that affect women's negotiation and market participation, it may also be helpful to have dedicated lentil sale quotas for women farmers. This could help to ensure that women lentil farmers have equitable access to selling lentils. Finally, and importantly, there needs to be widespread sensitization campaigns – targeted at men – at structural, local and individual levels about the need for men to be supportive of their partners. These sensitization campaigns should be aimed at removing the economic, social and gendered barriers that inhibit the ability of women farmers to be recognized as standalone farmers who are able to offer infinite labour hours. Such sensitization campaigns should also aim to encourage actual joint decision-making and sale of lentils within households, to provide women farmers with a better opportunity to direct lentil commercialization processes and outcomes. As our study has shown, commercialization initiatives that continue to target only women may increase scepticism amongst male actors resulting in an unwillingness to support women farmers, and consequently increasing women's workloads without improving other aspects of their wellbeing.

This study is not without limitations. The use of a qualitative approach implies that our findings are not easily generalizable to other contexts. Furthermore, the nuances of the influence of some findings (e.g., decision-making) on commercialization, as well the intersectional intricacies of commercialization could not be engaged with in-depth due to space constraints. Nonetheless, this study has highlighted that gender norms and relations play a significant role on the ability to benefit from crop commercialization. Hence, the commercialization of subsistence-crops, devoid of targeted initiatives to reduce gendered barriers to production, access, use and sale of crops, may be widening gender and resource gaps amongst women and men farmers in rural Ethiopia.

Credit author statement

Dina Najjar: Conceptualization, methodology, writing, editing. **Jemima Baada:** Writing-original draft preparation, Data Analysis. **Mahlet Hailemariam:** Methodology and exploration.

Declaration of Competing Interest

We the authors declare that there is no financial/personal interest or belief that could affect our objectivity.

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