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Review Article

Gender Dimension of Fruit and Vegetable Value Chains in Ethiopia: Review

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Abstract

In Ethiopia, fruit and vegetable production, productivity, and marketability increased over time. The fruit and vegetable subsector has a vital role in human nutrition and health, farm income generation, poverty alleviation, and foreign currency earnings through export and foreign direct investment. This paper aims to review the current literature on gendered engagement in and returns from fruit and vegetable value chains. A review of this literature identified three key areas of interest for gender relations in fruit and vegetable value chains such as: gender division of labor, distribution of benefits, access and gender and social norms. The review shows that lack of clear categories of data on employment and income in fruit and vegetable value chains, most of the papers report on gender differences, few of them use gender analyses to explain the observed differences and the impact of gender inequality in fruit and vegetable value chain performance. There is limited literature and evidence. Based on the reviewed results, the researcher calls for placing gender at the core rather than the periphery of fruit and vegetable value chain studies and suggests a conceptual framework for incorporating gender analysis in future value chain studies in the fruit and vegetable sector.

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INTRODUCTION

In Ethiopia, fruits and vegetables are produced mostly by smallholder farmers on small patches of land using traditional farming practices (Aweke, 2017). The production practices are characterized by low input and low output production systems. However, vegetable yields were about the same in 2005 and 2018 since the area increased by 85% and output by 80% and fruits yields given the area increased by 163% and outputs by 91% as well as quantities of vegetables and fruits marketed grew more rapidly (81% and 188%) than the quantities produced (66% and 77%) (Ameye *et al.*, 2021)

With the further development of the fruit and vegetable sector, less laborious and more remunerative employment opportunities will emerge for both men and women. For example, jobs in advisory roles, the retail of agrochemicals, post-harvest grading and sorting, processing, transport and marketing will emerge (Hengsdijk *et al.*, 2021). However, their growth is hindered by poor infrastructure, including transport and storage facilities, inadequate access to

market information, and regulatory and institutional bottlenecks (UNDP, 2018).

Fruit and vegetables have recently experienced an increase in demand because of their excellent nutritional value in both domestic and international markets, and are designated as export commodities that provide significant foreign currency earnings for the country (Wosene and Gobie, 2022). However, there are inequalities in the division of labor and income in the fruit and vegetable sector depending on cultural background, adherence to social norms, and gender awareness. In recognition of these gendered differences, recent literature suggests that including a gender perspective in value chain analysis and interventions is vital, including assessment of power structures, division of labor, welfare effects and empowerment (Schumacher, 2014).

Riisgaard *et al.* (2010) describe the concept of the value chain as the "full range of activities that firms, farms and workers do to

bring a product from its conception to its end use and beyond.” In agriculture, the term value chain refers to “the set of actors and activities that bring a basic agricultural product from production in the field to final consumption, where at each stage value is added to the product” (Msuya & Khasa, 2016). In today’s globalized world, Kaplinsky and Morris (2000) pointed out that the value chain approach is found to be important in three ways: first, it enhances the competitiveness of the business firm in the frontier of increased division of labor and rising production options. Second, it increases the production efficiency of the firm which is believed to be the necessary condition for entry into the global market. Third, it ensures entry into the global market that guarantees sustained income growth. Gender analysis in the value chain is used to understand, chain performance, the contribution of labor, and distribution of benefits between males and women. Gender analysis of inequalities between women and men helps to understand how gender relations intersect with other sources of inequalities of race and class and establish specific gender inequalities based on these differences (Porter & Sweetman, 2005).

Like in the case of other crops, the percentage share of male holders who participate in the production of vegetables is relatively higher than the share of female holders. However, the gender gap, in this case, is much narrower than in other crops, with an average female to male ratio of 0.77 in Ethiopia (FAO, 2019). This is mainly due to the fact that most vegetables produced by the smallholders are cultivated at the homesteads. It is also in line with several other studies that label vegetables as female friendly crops. In general, cereals are mostly field crops unlike other crops grown on homesteads; as a result, cultivating cereal crops by female holders may not be convenient vis-à-vis their busy domestic work (Haile & Kasa, 2015). Women often dominate in the cultivation of horticulture, especially vegetable crops. Such crops are commonly grown on small plots in the vicinity of the house, or in the compound. Many female farmers handle the vegetables and fruits, their production and transport to the market, and may retain these incomes to pay for households’ needs. Therefore, the aim of this paper is to review the existing evidence on gender issues in vegetable and fruit value chains, highlighting the distribution of benefits and division of labor among men and women in Ethiopia.

Methodology

In order to gauge the current state of the literature on gender and fruit and vegetable value chains, the researcher conducted a three-pronged screening process. First, existing literature was identified from two-data bases: Science Direct and Google Scholar. The search terms used were “Gender, Women, Vegetables, Fruit, Ethiopia and Value-chain”. In order to collect the large body of published and grey literature that may not appear online, bibliographic databases, relevant institutional databases and websites were also included in the search. Additional literature was identified through references in pertinent publications. Second, the search strategy privileges the inclusion of studies that mention either the presence or absence of women. Since fruit and vegetable value chains have conventionally been assumed male-dominated, it is possible that studies finding the value chain to be completely

male-dominated may not have been included in the review. In total, 47 papers and reports were screened against two preliminary criteria: first, whether they focus on fruit and vegetable value chain or on one or more nodes; next) whether they provide any empirical information on gender differences and/or relations with respect to the value chain or a specific node. Studies focusing exclusively on fruit and vegetable consumption were excluded. This screening yielded a total of 11 studies. The screening process involved reading through the titles, abstracts, and keywords to judge whether they related to the aim of this study. A review of this literature identified three key areas of interest for gender relations in fruit and vegetable value chains such as: gender division of labor, distribution of benefits, access and gender and social norms. The review focuses on the literature related to the value chain, in particular gender perspective of the vegetable and fruit value chain. Finally, the researcher reviewed the papers based on content analysis.

REVIEW LITERATURE

Gender division of labor in vegetable and fruit value chains

In Ethiopia, the fruit and vegetable subsector has a vital role in human nutrition and health, farm income generation, poverty alleviation and foreign currency earnings through export and foreign direct investment. The total land under fruit and vegetables overall was 347,499 hectares and the overall production of vegetables and fruit was 16, 0489,913 quintals (CSA, 2017). Despite the significance of the sector in the gender division of labor, available data are rarely disaggregated by sex (Hegena & Eneyew, 2020). Understanding gender disaggregated fruit and vegetable value chain is vital to improving the vegetable and fruit value chain. Table 1 shows that an overview of data on women’s roles in vegetable and fruit value chains, from a variety of sources. This shows the contribution of women and men along the different fruit and vegetable value chain nodes. Fruit and vegetable production on smallholder plots is typically diversified, with a mix of cash crops, such as ‘*kchat*’, coffee, and ‘*enset*’. The divisions of labor for these plots are regional differences, and hidden, or unrecognized, labor contributions of older female family members (Ariel *et al.*, 2021). Different literatures indicate that gender division of fruit and vegetable production roles depends on the existing division of labor and gender norms (relating to what work is considered appropriate for women and for men) across the country. For example, Illu Ababora zone and Dale district, women may undertake 88% and 72% of the vegetable marketing respectively and the remaining percent undertaken by men (Hegena & Eneyew, 2020; & Ambelu *et al.*, 2017). The same is true that, majority of women in Ethiopia make huge labour contributions in most agricultural activities such as planting, weeding, harvesting, processing, storage, caring for animals, transportation, and marketing (Abebe *et al.*, 2016; Belay and Oljira, 2016).

Generally, the results of the review indicate that most of the smallholder participation in the fruit and vegetable value chain is dominated by small-sized, family-owned plots in rural areas (Hegena & Eneyew, 2020). However, it is almost impossible to draw general conclusions about the division of labor and the share of the benefits between women and men. There are significant inter- and

intra-regional variations. For example, pepper is exclusively a women's crop in Fogera, yet men dominate production in Alaba. Similarly, while men dominate vegetable activities in Atsbi-Wemberta, the activity and benefits are shared in Bure. In Goma, men dominate the benefit of fruit production in one kebele while women dominate it in the others (Aregu *et al.*, 2011).

The result of the review found out that even though the government tried to stimulate the participation of women in the fruit and vegetable sector and give them a voice in decision-making, women's participation in the large market (whole seller) has been limited by access to finance. For example, the share of women's membership in agricultural multipurpose and seed multiplication

and storage cooperatives in Central-Eastern Oromia ranged from 14-22% and is still below the targeted levels (Brascesco *et al.*, 2019). In contrast, women outweigh men as members of local saving and credit cooperatives, 85% of the members of such cooperatives are women, which may be an indication of women's lack of access to other types of financial institutions (Brascesco *et al.*, 2019). In overcoming women's subordinate position strategic gender needs a more strategic way of integrating gender across organizations in addressing the broader gender inequalities and women's empowerment (Alston, 2016).

Table 1. Gender division of labor in vegetable and fruit value chains

Location	Share of women in %	Activities in division of labor	References
Amhara regional state	26.78	Tomato production	Wosene & Gobie, 2022
Illuababora zone	88	Marketing of vegetables	Hegena & Eneyew, 2020
Rift Valley	90	Retailing	Emana <i>et al.</i> , 2017
Ethiopia	3	Wholesaler	FAO, 2019
Wolaita Zone	90	Vegetable retailers	Honja <i>et al.</i> , 2017
Eastern Hararghe Zone	69.6	Used retailer market channel	Emana <i>et al.</i> , 2015
Wondo Genet	66.7	Used collector market channel	Tamirat & Muluken, 2018
Gurage Zone	57.1	Used consumer market channel	Mengesha <i>et al.</i> , 2019
Ejere district	83	Fruit sale	Hailu, 2016

Source: own computation

Distribution of benefits in the vegetable and fruit value chain and quality of participation

The benefit question is not only a question of whether women farmers have access to key inputs but also whether they have control over resources and benefits (Asmare, 2016). Distribution of benefits and quality of participation in value chains relates to the returns from value chains and the quality of employment (e.g. types of jobs, job security, and wages). This is linked to the gender division of labor as certain roles will also be linked to low-quality jobs (Kruijssen *et al.*, 2018). The review of the literature indicates that the quality of fruit and vegetable value chain returns differs between women and men. There is a general imbalance between workloads and share in the benefits of production. Women work equally or more than men in the fruit and vegetable supply chains, but they rarely benefit from profits and have relatively low decision-making power on earned income (Hengsdijk *et al.*, 2021). For example, the research conducted in Rift Valley and different part of Ethiopia in Table 1 shows that the percentage of women's participation in retailing activities is more than that of men's households (Emana *et al.*, 2017; FAO, 2019)

In observation of the review of the literature, women's households in the fruit and vegetable value chain can broadly be categorized into four stages: pre-production, production, marketing and consumption. However, of the four stages, the consumption stage was the more prominent one related to women's households in Ethiopia. Women usually lead decisions for smaller-sized home garden production that is mostly used for home consumption and petty trading (Hengsdijk *et al.*, 2021). It has been suggested that the intervention must be done thoroughly to foresee the effects it will

have on men's and women's livelihoods and their well-being, and the countermeasures and strategies required to reverse the situation of disempowerment effects (Dale, 2020). Hailu (2016) suggested that increasing women's participation in market-oriented agricultural production and their control over the benefits. However, the problem is not market participation but the participation of the central market as men's households. For example, women and the poor are more likely to sell directly to consumers, whereas men and more wealthy households sell to private traders and cooperatives (Aregu *et al.*, 2011). Because, in most cases, women in Ethiopia are in a distinct disadvantaged position that persistently restrains them from increasing their productivity and improving their market access (Abebe *et al.*, 2016). Previous studies have documented that women in Ethiopia have less access to and control over resources, technologies, and other agricultural support services than men. As Aregu *et al.* (2011) and Kumar and Quisumbing (2014) noted women in Ethiopia have less access to land, productive inputs, modern agricultural technologies, training, and financial services that are critically important for agricultural productivity. This limited access to resources, technologies, and services in turn affects their ability to respond to market signals. In addition to access to resources and technology, in vegetable value chains most women sell their produce to local collectors at farm gates at lower prices, while most male producers sell their produce in zonal or even central marketplaces with better prices through their market networks. It is indicated that women get most market information from men and they often rely on men's market network to sell their produce at a better price. Besides, most market agents, traders, wholesalers, and transporters are men and women who found it difficult to effectively interact with these agencies and make good

market deals and negotiations due to the influence of cultural and religious beliefs and practices (Dale, 2020). It required designing a strategy on how to do that within the existing social system.

Gender and social norms in fruit and vegetable value chains

Men's and women's roles and responsibilities, access to assets and resources, and decision-making power are limited by social and gender norms. Norms are the “collectively held expectations and beliefs of how women, men, girls, and boys should behave and interact in specific social settings and during different stages of their lives” (van Eerdewijk *et al.*, 2017). There is a norm in most communities that women always sell assets at a cheaper price than men do. This opinion reduces the participation of women in markets and economic activities (Nimona & Henry, 2018). Inequalities in the division of labor in the fruit and vegetable sector vary depending on education levels, religious and cultural background, adherence to social norms, exposure to training and good practices, and gender awareness (Hengsdijk *et al.*, 2021). Agriculture is said to be a household enterprise; however social norms sometimes determine labor division based on sex and age (Workalegn *et al.*, 2021). In most cases, land preparation and plowing are men's jobs. Women also take part in this activity in the situation of shortage of labor. Other activities such as seed storage, transplanting, and weeding are undertaken by women only.

Crops grown and the quantities that men and women sold depended on the norms regulating their household roles. For example, *kocho* was sold mainly by women, and men were embarrassed to sell it. Avocado also was mostly sold by women. Men were mainly responsible for selling coffee, khat and maize (Mudege *et al.*, 2019). The above authors suggest that it is appropriate to establish a link between gender norms and gender relations with access to training, knowledge and decision-making means if it is required to benefit women from their contributions in agricultural activities.

Gender and value chain governance and upgrading insights for vegetable and fruit value chains

Value chain governance means the power relation between the value chain actors and the details of how interactions between value chain actors are managed, and how technologies are applied to design, production and the governance of the value chain itself. The governance types comprise a spectrum running from low levels of explicit coordination and power asymmetry between buyers and suppliers, in the case of markets, to high levels of explicit coordination and power asymmetry between buyers and suppliers, in the case of hierarchy (Gereffi *et al.*, 2005). This section therefore presents insights from the broader literature and reflects on the potential insights for vegetable and fruit value chains.

Value chain governance and gender

Most commonly governance in this review is understood as coordination and relates to how activities are coordinated at specific nodes in the chain i.e. between actors performing different functions. The vegetable value chain governance structure is characterized by low coordination among the value chain actors in

information exchange and knowledge transfer and low involvement in changing the rules and regulations that were exercised (Hailu, 2016). Similarly, analysis of the gender gap in value chains shows that men own and use more resources such as land than women, due to socio-cultural, economic, and labor requirement privileges they have over women (Dale, 2020). By participating in the agricultural value chain women have acquired necessary skills and firsthand experiences that build their confidence and sense of capability to do things better than they used to be (Dale, 2020). Women's empowerment involves more than just their participation in value chains and contributions in adding value to the products; it includes issues related to change in power relation within the households and value chain governance in relations to other actors in the value chains which can be explained in terms of gaining control over the value chain process and capacity to negotiate and hold stronger positions in value chains (Morioka & Nicholas, 2014).

The intra-household bargaining power of women is influenced by value chain participation and the distribution of labor and benefits. Women have full control over income raised from women's domain value chain activities, but if the income rose from the women's domain value chain is significant for the household the decision on the income is made jointly (Nimona & Henry, 2018). For example, in Wangene (Hurumu woreda, Southwest Ethiopia), women exchanged knowledge on vegetable farming techniques with each other to fill the gap that was created by male-dominated extension services (Nischalke *et al.*, 2016).

Value chain performance and potential upgrading pathways and gender

Several academics have acknowledged that upgrading agricultural value chains is necessary to improve domestic agricultural produce's quality-based competitiveness, consequently boosting food security and contributing to poverty alleviation (FAO, 2014). In agriculture, FAO (2011) has estimated that at the farm-level, if women had equal access to productive resources to men, they could increase their farm yields by 20–30%, which would raise total agricultural output in developing countries by 2.5–4%. A report by the McKinsey Global Institute concludes that under a scenario in which all countries match the rate of improvement of the fastest-improving country in their region in terms of improving gender equity, \$12 trillion USD, or 11%, could be added to global annual GDP by 2025 (Woetzel *et al.*, 2015). In the same attitude, women exclusions have a negative impact on vegetable and fruit value chain performance. Improving economic performance in returns, benefits and efficiency of value chains is usually described as ‘value chain upgrading’, and they can upgrade in several ways: product, process, functional and inter-chain upgrading (Blazek, 2016). A more recent contribution to the literature, that aligns with reference to economic and social performance, distinguishes between ‘economic upgrading’, and ‘social upgrading’ (Barrientos *et al.*, 2011). Barrientos *et al.* (2010), note that economic upgrading can mean simultaneous social downgrading for workers or for particular categories of workers. Product and process upgrading involves the introduction of new technologies in production, such as irrigation and greenhouses, or in the pack house with more efficient grading, washing, and packing techniques, as well as incorporating the

cultivation of higher-value products (World Bank, 2013). This is evident in some parts of the vegetable and fruit value chain in Ethiopia. The profit margins of irrigated vegetable smallholders are generally higher than those of other actors in the supply chain, which could be related to the higher risk profile of vegetable production compared to other actors (Hengsdijk *et al.*, 2021). In Ethiopia currently, women already carry out many laborious tasks in fruit and vegetable production in Ethiopia (Bazie, 2016). However, there is no guarantee that the situation of women will change in the short term without developing other incentives or enforcing supplementary legislation (Hengsdijk, *et al.*, 2021). Due to the rapid and unconsolidated growth of the sector in recent years and the dominant smallholder structure in fruit and vegetable production, vertical and horizontal integration of the supply chain is still rare (Brascesco *et al.*, 2019).

Conclusion and implications

The review finds support for women's participation throughout value chains, but their participation is different from one node to the other nodes across the vegetable and fruit value chain. Depending on different literature; women's participation tends to be significantly higher in lower nodes of the agricultural value chain such as retail, while decreases when moving from middle to upper fruit and vegetable value chain nodes. Again, the review realized that, in Ethiopia women's households labor contribution for vegetable and fruit production and marketing starts from pre-production up to consumption. Women's problem in the agricultural value chain is not participation in production and local market but participation in central market as men households. The review also finds that social norms were also another bottleneck that hinders women's benefit from fruit and vegetable value chains. The review has highlighted a number of key issues for attention in the fruit and vegetable value chain. First, the lack of clear categories of data on employment and income in vegetable and fruit value chains. Second, the output produced by women for home consumption and women participated to lower steam nodes by some amount left from consumption. Out of the total number of reviewed papers reporting on gender differences in fruit and vegetable value chain participation, only few used gender analyses to explain the observed differences. These review insight policy attentions for double purpose of vegetable and fruit for women and considered the problems that rural women face, women's real needs, rural household dynamics (gender division of labor, headship status, domestic burden), social institutions, and their effects on proposed gender policies and strategies.

Declaration of competing interest

The authors declare no conflict of interest.

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