

INSTITUTIONAL ACTORS AND THEIR IMPACT ON POSTHARVEST COFFEE VALUE CHAIN PERFORMANCE IN ETHIOPIA

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Abstract. The study intends to examine the impact of actors on the performance of the postharvest coffee value in Ethiopia. The article employed a mixed-methods design which is quantitative and qualitative sources collected and analysed sequentially. A total of 355 respondents were selected both clustered and simple random sampling technique and applied the value chain analysis, thematic data analysis, descriptive analysis and followed by inferential statistics. The study attempted to analyse different factors that hinder coffee value chains in the study area. The long value chain is associated with higher prices at each stage of the value chain until the coffee reaches the final consumer. As the value chain becomes longer, the complexity of the value chain also increases, and it becomes sophisticated for producers and consumers. This is associated with increased bureaucracy and competition, which decreases efficiency among actors while increasing the efficiency of the sector. In general, the concentrations of value chain inhibitors are high, making the postharvest value chain inefficient. It is recommended that the Ethiopian coffee market introduce alternative value chains, such as injecting efficient, advanced market-led channels and developing competitive business models allowing producers and exporters to work closely and improve the postharvest coffee value chain.

Keywords: coffee value chain; coffee actors; market margin and descriptive statistics.

INTRODUCTION

Ethiopia is the tenth-largest coffee exporter in the world and the fifth-largest coffee producer in world, behind Brazil, Vietnam, Columbia, and Indonesia. Coffee is the primary export and the country's largest industry, accounting for 10% of all agricultural output and 5% of GDP on average (Adugna, 2021). The origin of Arabica coffee is Ethiopia. Worldwide, coffee is a cash crop that is consumed as a beverage. Twenty-five million Ethiopians, or approximately 25% of the total population, are said to rely on coffee in some capacity for their livelihood. Coffee is therefore essential to Ethiopia's economy, generating up to 5% of GDP and more than a third of the nation's foreign exchange (Bayu, 2017).

Ethiopia offers ideal natural conditions for producing coffee, and these constitute a fantastic opportunity for both farmers and traders. It is mainly produced in the southwest parts of Ethiopia, making the country the fifth biggest coffee producer in the world (Gizaw et al., 2022). The southwest part of Ethiopia has the highest concentrations of coffee production. There are an estimated 800,000 coffee growers in the major and medium growing regions, with approximately 520,000 acres of land planted with the crop, 63.3% of which is in Oromia, 35.9% in SNNP (South Nation Nationality People), and 0.8% in Gambella region. Collectively named the

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southwest coffee growing regions, approximately 95% of the production comes from smallholder farmers, with state-owned plantations and private coffee producers making up 5% (Amamo, 2014). According to Alemayehu (2014), Ethiopian coffee is mainly exported to 53 destination countries in the world, and its source is 95% from private companies and 5% from coffee-growing farmer cooperative unions. Coffee processing adds value and price in the chain, whereas its value chain actors are collectors, local traders, primary cooperatives and unions, exporters, importers, domestic wholesalers and retailers, service providers and consumers.

Even though coffee is crucial for generating better incomes, smallholder farmers in the region still face a number of marketing-related difficulties. Limited access to market facilities, low exposure to market information, infrastructure issues, insufficient support services, and issues with transportation services are just a few of the issues causing smallholder farmers to sell their products with low frequency (Bayu, 2017). The smallholder farmers in Ethiopia, including those who are members of the coffee cooperative union, have said that they face difficulties due to a lack of funding, poor access to risk management services, low levels of output, and inadequate postharvest processing.

The coffee value chain is affected by poor postharvest handling and processing procedures. This is due to several reasons, such as dryness on bare ground and improper storage and transportation in rainy weather, especially during a drought. Degaga (2020) witnessed that coffee growers in the Jimma area of Ethiopia chose to send their harvested red cherries to wet processing centers instead of providing incentives at the farm level because of fear of the high rate of coffee defects in dry cherry coffee (Meskela and Teshome, 2014).

The postharvest value chain process in general and handling, grinding, packaging, storage, transportation, and distribution, in particular, have discouraged coffee production and trade in Ethiopia. Crucial domestic policy reforms over the past decade have impacted the structure and performance of Ethiopia's coffee value chain. Ethiopia produces approximately 4.5 percent of the world's coffee, maintains its dominance as the top export, and generates approximately one-third of the nation's export revenues. Nevertheless, this percentage is falling rapidly due to exporters' shifting towards other products, such as gold, cut flowers, textiles, leather goods, and khat. Approximately 60% of the quality of

green coffee beans is contributed by postharvest processing (pulping, processing, drying, hulling, cleaning, grading, storage, roasting, grinding, and cupping) activities (Haile et al., 2019).

The postharvest value chain process, encompassing crucial stages such as handling, grinding, packaging, storage, transportation and distribution, has exerted a negative influence on coffee production and trade in Ethiopia, deterring potential market opportunities (Haile and Kang, 2019). Over the course of the past decade, Ethiopia's coffee value chain has experienced significant structural and performance-related modifications owing to the implementation of essential domestic policy reforms. This study will therefore contribute to the body of theory and the body of practice research institutions, retailers, policy makers, producers, and government and nongovernment organizations that intend to revisit their coffee business strategies. Finally, the study will provide a useful set of data for future researchers who aspire to continue to examine the various dimensions of the Ethiopian coffee market.

METHODOLOGY

The purpose of the study is to examine the impact of coffee actors on the performance of the postharvest coffee value chain in Ethiopia. The methodology describes variables such as the study setting, data distribution patterns, and applied statistical techniques. Additionally, this section presents a description of how the best research methodology was selected for the study, the research design, and the specific research methodology philosophies and techniques employed to meet the study's objective.

Description of the study area

The scope of the study focused on the postharvest coffee value chain in coffee producers, collectors, cooperative unions, wholesalers, and exporters in southwest Ethiopia, particularly in the Gomma, Limu Kossa, Gera, Dehub Bench, Diecha, and Anderacha districts. The coffee-producing areas for this study are located at 100 0' 33.1''N 350 1' 57''E to 70 16' 4.45''N 360 51' 46.92''E and 80 13' 11.96''N 360 48' 16.02''E to 60 50' 57.2''N and 350 2' 47.31''E, respectively. These are coffee-growing areas with altitudes ranging from 900 to 2300 meters above sea level. Due to the extensive distribution of coffee-growing areas, the researcher selected them as target and sample frameworks for the study based on geographic characteristics, as displayed in Fig. 1.

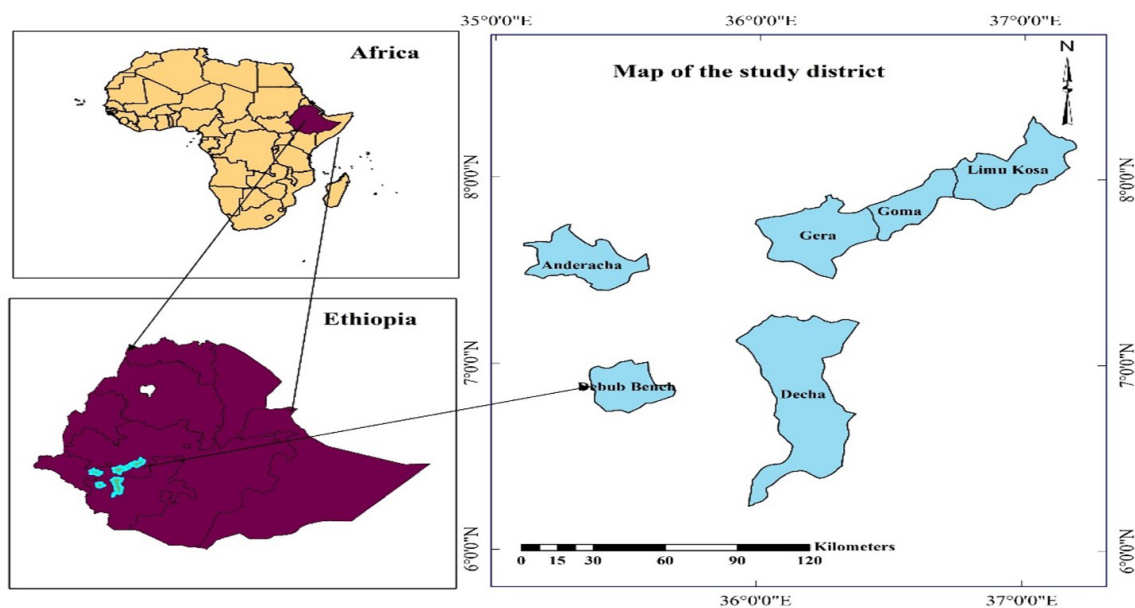


Fig. 1. Location and sketch of study areas of Southwest Ethiopia (Source: Agriculture office survey result, 2022/23)

Data sources, techniques and procedures

Data types and sources: Data were collected from both primary and secondary sources. The primary data sources were generated by the researcher to measure the independent variables. Data were collected through questionnaires, key informant interviews, and focus group discussions. For this study, both quantitative and qualitative data were collected. Data included demographic characteristics of the household head, volume of coffee supplied to the market, coffee production, prices of coffee, distance to district market, frequency of market information, land size, and so on. For the purpose of value chain analysis, information on the volume of coffee sold/bought, data about cost and price, actors' linkage, and value-adding activities were collected and used. The data sources for this study were primary. The primary data involved the responses of the respondents to questions in the questionnaire survey, interviews, and FGDs. Secondary Data Collection: Tools of data collection for qualitative and quantitative research design (secondary data source) were obtained from the office of the southwest agricultural and natural resource office, cooperative and promotion agency, plan and economic development office, and NGOs. The data collected from them concerned coffee production

and its contribution to economic development, coffee cooperative activities in the study areas, the major opportunities and challenges facing coffee cooperatives in the value chain, and so on.

Data collection techniques: A mixed method of diverse data collection and analysis tools was used. Specifically, a structured questionnaire was employed as an instrument to gather primary data from the respondents, which was first prepared in English and then translated into the local language to facilitate communication. The open-end and closed-end questionnaires were pretested to identify and avoid vague and sensitive questions. Further focus group discussions (FGDs) and key informant interviews were also used in the data collection process. Enumerators who were acquainted with the local language and the culture of the local people were selected, trained and employed for data collection. In addition, under the close observation of the researcher, the data collection process from traders, promoters, local consumers, and private traders from the district was undertaken by using trained enumerators. The remaining primary data, such as production profiles, private exporters' data, cooperative union staff and secondary data were collected by the researcher.

Sampling, sample size determination, and procedures

The majority of Ethiopia's coffee is processed by small-holder farmers (who account for 95% of the total coffee production). However, the remaining coffee processing is performed by private coffee companies and state-owned farms (Duguma, 2017). Six focus group discussions were held in the southwest regions of Ethiopia in order to comprehend the institutional actors and their influence on the performance of the postharvest coffee value chain based on their function as Ethiopian coffee producers. Twelve coffee actors were chosen for Gomma district, sixteen were chosen by Limu Kossa, and eight were chosen by Gera, six coffee actors from Debub Bench, six from Diecha, and eight from Anderacha were chosen, according to the district. These were districts that were formerly recognized as coffee-producing ones because they were chosen by exporters, cooperative unions, distributors, collectors, and producers of coffee, in that order.

Furthermore, a household questionnaire was administered to 355 individual farmers, randomly sampled from 56 of the six clusters of the scheme, bringing the total number of respondents to 355. Thematic qualitative analysis evaluation of institutional performance was performed to draw conclusions. The sample size in this study was determined by using a simple random sampling technique according to Kothari's (2004) formula, as shown below:

$$n = \frac{N}{1 + N(e)^2}$$

$$n = 3156 / 1 + 3156(0.0025) = 355$$

where n is the sample size, N is the number of coffee producers, and e is the acceptable sampling error; hence, it is 5% in this study. Due to various reasons, such as incomplete responses, delays, and instability in the areas, the response rate was limited to only 355, which accounts for 92.45% of the 384 questionnaires that were distributed. In other words, 7.55% of the respondents in the originally planned sample size did not respond.

METHODS OF DATA ANALYSIS

The data were analysed using descriptive statistics, inferential statistics, including tests and chi square correlations, and regression tools by employing IBM SPSS

version 20 software packages. The study employed a mixed-methods design in which data from both quantitative and qualitative sources were presented sequentially and applied a clustered sampling technique, and data were collected from coffee producers and actors residing in southwest regions using a structured questionnaire. Focus group discussions and key informant interviews were also conducted.

Descriptive statistics

This method of data analysis refers to the use of percentages, means, standard deviations, value chain maps and government policy and regulation environments in the process of examining actors and describing marketing functions, facilities, services, enablers and supporters, and it is used in analysing household and trader economic characteristics and the overall coffee value chain, where necessary, including opportunities and constraints.

Inferential statistics

Inferential statistics such as the t test and chi-square test were used to undertake statistical tests on different continuous and categorical or discrete variables. ANOVA was also computed to examine differences between groups, that is, a statistical comparison of the profit margins between five groups was computed using one-way ANOVA. This helped to see the market margins of each of the actors, i.e., producers, local collectors, cooperatives and unions, wholesalers, and exporters.

Qualitative data analysis

The qualitative data analysis was performed in such a way that major themes were identified from the data gathered through one-on-one interviews and FGDs. Data from these sources were read, and themes were identified as major categories.

These categories were identified by the researcher working in collaboration with another senior researcher so that the reliability was checked. Once the major categories (themes) were identified, the examples, instances and quotations that could help to explain the themes were chosen. Then, the analysis was presented under each thematic category.

CONCEPTUAL FRAMEWORK

According to Kaplinsky and Morris (2012), a value chain describes the whole range of actions necessary to

move a good or service through the many stages of production, including physical transformation, the input of different producer services, and the response to customer demand. The postharvest coffee value chain actors suggested that the value chain map should be simple, easy and clear. However, the real world can be much more complex due to the involvement of different actors and channels. To understand the ground situation, the map should simply describe the flow of inputs, products and information among the actors.

The conceptual framework of coffee value chain integration of horizontal and vertical value chain actors that are jointly aimed at providing products to a market includes direct actors who are commercially involved in the chain (producers, collectors, wholesalers, cooperative and union, exporter) and indirect actors who provide services or support the functioning of the value chain. Financial and nonfinancial service providers such as banks and credit agencies, business service providers, public research, transportation, extension agents, and nongovernmental organizations (NGOs) are among them (Gelaw et al., 2016).

Value chain analysis is highly relevant to agriculture because agriculture value chains are critically dependent on environmental resources. Despite the diverse origins of the literature reviewed, spanning various fields and disciplines within the framework section, attention is directed towards the impact that actors and business models exercise on the coffee postharvest process (Vliet, 2023). The extent of the postharvest coffee value chain in Ethiopia is subject to numerous variables that may exert a discernible influence on its operation and efficiency. To provide a brief discussion of the postharvest coffee value chain, this section attempts to frame these concepts within the current postharvest coffee value chain that highlights the three dimensions. As a result, concepts related to the complete postharvest value chain were used to fill the knowledge gap and continue to implement the new business model.

The conceptual framework in Fig. 2 illustrates the interrelationships of the variables in the study. The key variables involved and how they were interrelated socio demographic characteristics are the background factors, and information access factors influence the market surplus. This market surplus is a crucial element for the value chain, which in turn increases the producers' benefit from the chain. The postharvest coffee value chain is viewed as a network of horizontally and vertically

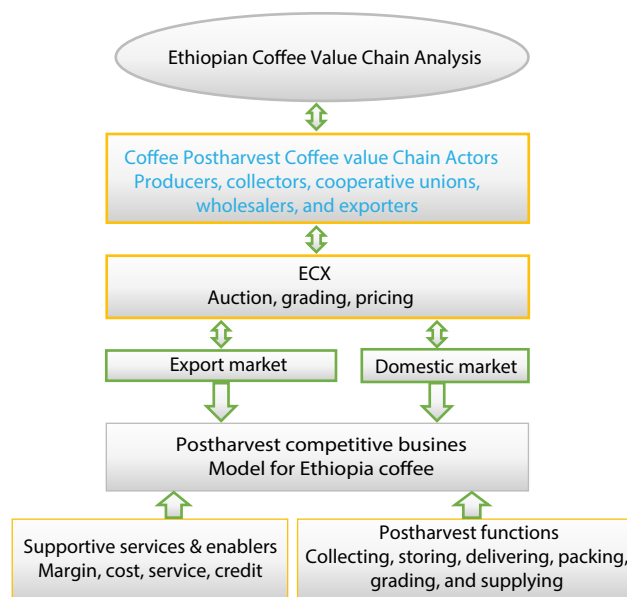


Fig. 2. The conceptual framework (developed by the researcher)

integrated value chain actors that are jointly aimed at providing products to the market. Fig. 2 below depicts the conceptual framework for the postharvest coffee value chain adopted as follows:

RESULTS AND DISCUSSION

Coffee marketing channels

Many coffee producers have changed their lives. In the area where this study was conducted, coffee is marketed by individual farmers, private companies, cooperative unions, local collectors, wholesalers and exporters. However, the issue of the value chain was overlooked by almost all actors in the coffee chain. Actors are those individuals and organizations who participate in the transfer of coffee directly or indirectly from one to another until the product reaches the final consumers. Competing with the stiff competition on the world coffee market, protecting the market position they had already secured and ensuring their members a good return on their product value addition became the key activity for coffee actors.

This can be achieved by building an effective postharvest value chain approach, in which every actor benefits according to their participation in the chain.

A review of the literature on the Ethiopian coffee value chain indicates that the sector has enormous potential, opportunities for growth, and scope for significant improvements in its number of areas (Pancsira, 2022). However, despite the progress made in the last two decades, the Ethiopian coffee value chain faces many challenges due to limited market outlets, limited efforts in market linkage activities and insufficient market information among actors (Girma, 2021). Similarly (Gelaw et al., 2016) argued that small-scale, dispersed and unorganized producers are unlikely to exploit market opportunities, as they cannot attain the necessary economies of scale and lack bargaining power in negotiating prices.

According to Mujawamariya et al. (2013), free riding, noncompliance, underinvestment, poor management, membership desertion and heterogeneity among members influence the effectiveness of the postharvest value chain. However, it did not address the effect of market information, access to credit, storage facilities, technology, government intervention, etc. on coffee producers. In light of this, this study examines the impact of coffee actors on the performance of the postharvest

coffee value in Ethiopia, and investigates the degree of linkage between producers and other actors in the coffee value chain. The percentage implies that one farmer has two alternatives or a market outlet and sells their produce to both consumers and collectors. It is described in the following table.

Table 1 shows that the coffee growers in Limu Kossa and Diecha districts sell their coffee cherries to local collectors and consumers at 66% and 67%, and 23% and 24%, respectively, on the village market and district market, implying that an individual farmer has the alternative of selling his produce both for consumers and local collectors simultaneously in Limu Kossa and Diecha districts. However, coffee growers in Gomma, Gera, and Debub Bench districts have four alternative buyers in the coffee market. Anderacha district sells its coffee products to consumers, local collectors, and wholesalers of the coffee market.

Accordingly, 16%, 63%, and 55% of the coffee producers in Gomma district sold their product to consumers, local collectors, and wholesalers, respectively, whereas 15%, 48% and 59% sold their products to

Table 1. Buyers of coffee directly from farmers (respondents: $n = 355$)

| Name of district | Answer | To whom did you sell your product (coffee) in 2022/2023 production year? | | | | | | | |
|------------------|--------|--|------------|------------|------------|-------------|------------|--------------------|------------|
| | | Consumers | | Collectors | | Wholesalers | | Cooperative unions | |
| | | Freq | Percentage | Freq | Percentage | Freq | Percentage | Freq | Percentage |
| Gomma | Yes | 15 | 16 | 59 | 63 | 53 | 55 | 29 | 29 |
| | No | 81 | 84 | 34 | 37 | 44 | 45 | 70 | 71 |
| Limu Kossa | Yes | 13 | 23 | 43 | 66 | 0 | 0 | 0 | 0 |
| | No | 44 | 77 | 22 | 34 | 55 | 100 | 56 | 100 |
| Gera | Yes | 9 | 15 | 27 | 48 | 36 | 59 | 0 | 0 |
| | No | 51 | 85 | 29 | 52 | 25 | 41 | 59 | 100 |
| Debub bench | Yes | 10 | 16 | 39 | 64 | 36 | 55 | 19 | 29 |
| | No | 54 | 84 | 22 | 36 | 29 | 45 | 46 | 71 |
| Diecha | Yes | 9 | 24 | 29 | 67 | 0 | 0 | 0 | 0 |
| | No | 29 | 76 | 14 | 33 | 37 | 100 | 37 | 100 |
| Anderacha | Yes | 6 | 15 | 18 | 49 | 24 | 60 | 0 | 0 |
| | No | 34 | 85 | 19 | 51 | 16 | 40 | 39 | 100 |
| Total | | 355 | | 355 | | 355 | | 355 | |

Source: own calculation from survey results, 2022/23 of the study area.

consumers, local collectors, and wholesalers, respectively. In a similar manner, growers in Diecha districts sell their coffee cherry to local collectors (67%) and to consumers (24%), both at the village market and district market, implying that an individual farmer has the alternative to sell his product to consumers and local collectors. However, coffee growers in Debub Bench and Anderacha districts have three alternative buyers of coffee. A total of 16%, 64%, and 55% of the coffee producers in Debub Bench district sold their products to consumers, local collectors, and wholesalers, respectively, whereas 15%, 49% and 60% of the producers in the Anderacha district sold to their produce directly to consumers, local collectors and wholesalers, respectively. The percentage implies that one farmer has two alternatives or a market outlet and sells their produce to both consumers and collectors.

Government policy and regulation

According to the respondents, regulatory obstacles and governmental policies have a detrimental effect on the efficiency of coffee actors in the postharvest coffee value chain in the southwest. As shows in Table 2 below.

According to the survey’s analysis, 59% of respondents concur overall that state politics and regulations impede the coffee industry’s ability to export its products. However, 4% of respondents do not feel that regulations and government policies are to blame for the barriers to businesses’ ability to export. Of all responses, fifteen had a neutral opinion about how regulations and policy

affect export performance. The survey’s detailed results indicate that the export performance of coffee actors has been harmed by every government policy and regulatory restriction that the researcher discovered.

Performance of coffee value chain actors along the marketing channels

The main marketing channels identified from the point of production until the product reaches the final consumer through different intermediaries are presented in the following way. The performances of coffee postharvest value chain actors were also measured. These also showed some variations. The results are presented in Table 3.

Channel I: Producer → consumer

Channel II: Producer → collector → wholesalers → exporters

Channel III: Producer → wholesalers → exporters

Channel IV: Producer → cooperative unions → wholesalers → exporters

Channel V: Producers → cooperative unions → exporters

Table 3 demonstrates how Channel I links local coffee buyers and producers directly. Because there is no middleman and producers do not get a purchase price, producers receive 100% of the GMM. In Channel II, local collectors and wholesalers (suppliers) in the study region buy coffee from producers and ship it to exporters. This is the channel in the research region, coffee dealers such as collectors (8.77%), wholesalers

Table 2. Government policy and regulation questions

| Questions | SA | A | N | D | SD | Total |
|--|-------|-----|----|----|------|-------|
| Government incentives and financing export activities is inadequate | 80 | 209 | 44 | 22 | – | 355 |
| Inconsistency of government policy | 66 | 196 | 67 | 26 | – | 355 |
| Government policies that support the market linkage of the coffee trade are ineffective. | 62 | 205 | 76 | 12 | – | 355 |
| Ethiopia’s coffee export performance is impacted by the illegal coffee trade. | 78 | 230 | 40 | 7 | – | 355 |
| Government and foreign direct investment in the production and sale of coffee is little. | 97 | 206 | 44 | 8 | 6 | 355 |
| Response in percentage (%) | 22.00 | 59 | 15 | 4 | 0.30 | 100 |

SA – strongly agree; A – agree; N – neutral; D – disagree; SD – strongly agree.
Source: survey result, 2022/2023.

Table 3. Performance of coffee value chain actors along the marketing channels

| Items | Gross Marketing margin of actors along the marketing channels (%) | | | | |
|----------------------------|---|------------|-------------|------------|-----------|
| | Channel I | Channel II | Channel III | Channel IV | Channel V |
| GMM _{collectors} | | 8.77 | | | |
| GMM _{coop unions} | | | | 8.42 | 8.42 |
| GMM _{wholesaler} | | 10.77 | 10.77 | 10.77 | |
| GMM _{exporter} | | 25.73 | 25.73 | 25.73 | 25.73 |
| GMM _{producers} | 100 | 54.73 | 63.50 | 55.08 | 65.85 |
| TGMM | 0.00 | 45.27 | 36.50 | 44.92 | 34.15 |

GMM – gross marketing margin.

Source: calculation from survey results, 2022/23.

(10.77%), and exporters (25.73%) receive 45.27% of the total gross market margin (TGMM), while coffee producers receive the remaining 54.73% of the GMM. Producers receive little profit from the coffee they grow, since there are several middlemen between them and the final consumer. About 36.50% of the TGMM in Channel III goes to coffee dealers, including exporters (25.73%) and wholesalers (10.77%), with coffee growers receiving the remaining 63.50% of the GMM.

This outcome showed that it is recommended for producers and wholesalers to interact directly with market participants. In the research region, Channel IV links producers with wholesalers through primary cooperatives. Of the total GMM, 55.08% goes to farmers, while 44.92% goes to buyers of coffee, including primary cooperatives (8.42%), wholesalers (10.77%), and exporters (25.73%). Through primary cooperatives (8.42) and exporters (25.73), Channel IV connects coffee growers with growers; around 34.15% of the TGMM flows to district-level primary cooperatives and unions. After Channel I, Channel V, Channel III, Channel IV and Channel II rank in terms of the good intentions of coffee farmers, respectively.

Table 4 shows that producers obtained the highest share or market margin at a final cost of 14,610 Ethiopian birr per quintal, which accounts for 56.83%. This is followed by exporters' market margin, which is 6,117.65 (23.80%). Other intermediaries, local collectors, cooperatives and unions, and wholesalers had 8.13%, 7.24%, and 4.01% profit margins, respectively.

These producers are individual farmers whose production of coffee is limited to only a few tons, thus

Table 4. Profit margin of actors

| Actors in coffee postharvest value chain | Profit margin | Profit margin |
|--|---------------|---------------|
| Coffee producers | 14,610 | 14,610 |
| Local collectors | 2,090 | 2,090 |
| Cooperative unions | 1,860 | 1,860 |
| Wholesalers | 1,030 | 1,030 |
| Exporters | 6,117.65 | 6,117.65 |
| Total | 25,707.65 | 25,707.65 |

ultimately leading to them receiving very little money. Others, such as local collectors, cooperative unions, and wholesalers normally purchase an enormous amount of coffee produced by individual farmers, thus giving them a much higher profit. What can also be seen in Table 3 is the market margin analysis that is used to show the distribution of the various actors as coffee moves from farmers to different value chain actors. This was calculated by subtracting the purchase price from the sale price of the commodity as a percentage in the 2021/22 production and marketing year.

Impact of actors on the performance of the postharvest coffee value chain

Based on the data presented in Table 5, the coefficient of determination or R^2 is a measure that provide coffee actors information about the goodness of fit of model. One can understand that actors such as cooperative unions

Table 5. Impact of actors on coffee postharvest value chain performance analysis

| Actors in coffee postharvest value chain | Correlation coefficient (r) | r ² (%) | Impact on performance of coffee postharvest |
|--|-----------------------------|--------------------|---|
| Coffee producers | 0.3470 | 0.12 (12) | Positive impact |
| Local collectors | 0.0321 | 0.001 (0.1) | Positive impact |
| Cooperative unions | 0.8082 | 0.65 (65) | Positive impact |
| Wholesalers | 0.0270 | 0.0007 (0.07) | Positive impact |
| Coffee exporters | 0.4910 | 0.24 (24) | Positive impact |

($r = 0.81$) and coffee producers ($r = 0.34$) have a positive impact on the performance of the coffee postharvest value chain, followed by coffee producers. Primary cooperatives and unions had a 65% have high correlation function and r-square values revealed the cooperatives union’s variability as observed in the target variable among coffee actors. In terms of impact on the performance of the postharvest coffee value chain, coffee exporters had a 24% impact, making them the second most important actors in terms of impacting performance. This result is supported by Bali et al. (2020), whose findings reveal that cooperatives have a positive impact on the coffee value chain. Similarly, coffee exporters ($r = 0.49$) have a positive impact (24%) on the performance of coffee postharvest value chain analysis.

This finding is strongly supported by a previous study by Netsanet (2021), whose findings show that coffee exporters have an insignificant short-term impact on economic growth but a significant positive impact in the long term. Other actors, such as the ECX and coffee authorities, have a positive impact on the performance of the coffee postharvest value chain, even though they have only a limited impact. This seems to be in congruence with the results of Bali et al. (2020), who observed that the government determines coffee prices and security from producers to the destination of dry ports as supportive enablers that have a positive impact on the coffee value chain. Generally, our findings show that actors such as cooperatives and unions and government institutions have a positive impact on the performance of coffee postharvest value chain analysis in the study area.

Qualitative Thematic Analysis of Interview and focus group discussions data

As outlined earlier, this study employed two other data collection tools apart from the survey questionnaire.

These were one-on-one interviews with producers and focus group discussions (FGDs) with top management from each of the actors and bodies concerned. The questions raised in both instruments could be grouped into four dimensions. Below are discussions under each thematic category: institutional actors and their impact on postharvest coffee value chain performance in Ethiopia. Six focus group discussions were conducted across the southwest areas, based on the number and role of coffee actors: Gomma selected 12 actors, Limu Kossa 16 actors, and Gera 8 actors. Debub Bench 6 actors, Diecha 6 and Anderacha 8 actors from 56 of the six clusters of the scheme, bringing the total number of respondents to 355. This was based on their coffee producing potential, market access and investment opportunity, selecting FGDs by using t- test and chi square group selection.

Map of the postharvest coffee value chain

It was evident from the producer interview that the participants had similar opinions on how the postharvest coffee value chain should be organized. One of the respondents had the following ideas about the group and the team player:

When I think of the overall structure of the postharvest value chain of our coffee product, I think of its complicated channels. We are usually approached by local collectors and coffee wholesalers who then transport it to Addis Ababa [the capital city] to the exporters.

(Interviewee 07, Limu Kossa district)

A man who took part in one of the FGDs highlighted that they did not have direct contact with producers, who mainly sell their coffee to merchants very close to them. Similarly, a producer, 45, mentioned that local

buyers collect coffee in a timely manner so that there is no wastage of the coffee they harvest.

We harvest and sell it to cooperative unions or to nearby collectors and wholesalers. Regardless of how we sell, all we need to do is collect the coffee right away, whether it's wet or dry, and be paid before there is any waste due to bugs or other issues.

(Interviewee 02, Dehub bench district)

One can understand that the data revealed through the interviews and FGDs also confirmed that there are intermediaries between exporters and producers. These actors appeared to have played a key role in coffee transactions. The results seen here are in agreement with the results collected and reported through the survey questionnaire.

The role of actors in the coffee value chain

The qualitative data revealed a great deal about the nature of actors in the coffee value chain. In the coffee value chain of the postharvest phase, many parties are involved, making the coffee postharvest value chain slightly complicated. The question raised both in the interviews and the FGDs allowed respondents to discuss the actors they know and their roles in the value chain.

Bekele (A pseudonym), 44, said:

There are delalas [brokers] who approach the farmers [coffee producers] and purchase the coffee from farmers. These people collect and bring it to the wholesalers. Primary cooperatives are also key players because they are close to the producers. Private businesses and wholesalers on the one hand and cooperative unions that largely purchase the coffee in the hands of farmers' cooperatives on the other hand sell the coffee to exporters who are responsible for adding value and making the coffee ready for export.

(FGD, Bekele)

Bekele's thoughts show who the operators are and how they do the operations. Others stated similar ideas. An interviewee, while discussing the nature of the structure, also added that '...the coffee we produce has many actors between us and the final recipients – local collectors, wholesalers, cooperatives, and unions are just a few examples (Interviewee 03, Gomma district).

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Coffee producers in the study area have five main coffee marketing channels (cooperative, local collector, wholesaler, exporter, and consumer). However, the channel that connects producers directly with consumers and wholesalers is the most important compared to the other channels. This would have at least two positive consequences. Firstly, it would provide a chance for the producers to show some degree of competition in price and quality. Secondly, producers would have a better chance of choosing who they should sell their coffee to. In the same way, private coffee producers can gain the greatest benefit for themselves by supplying their coffee directly either to the Ethiopian Commodity Exchange (ECX) or to exporters.

The performance of actors along the market channel in coffee marketing indicated that the gross market margin (GMM) of producers with a marketing channel that connects producers to wholesalers is more significant than the channel along local collectors and primary cooperatives, indicating that creating a market linkage directly with coffee wholesalers is a better option. Channel III, Channel V and Channel IV are the most effective channels for coffee producers.

Generally, in terms of the proportion of margins in the coffee value chain revealed that producers (64.44%) take the largest share, followed by exporters (15.80%) and wholesalers (11.61%), while primary cooperative and local collectors are poorly positioned in the postharvest coffee value chain in the area studied. Moreover, the profit share of actors in the postharvest coffee value chain showed that coffee producers and exporters shared the highest net profit margins, with respective values of 56.83% and 23.80%, followed by local collectors (8.13%) and primary farmers' cooperatives (7.24%), while wholesales/suppliers took the lowest value (4.01%), these being poorly positioned compared to the actors who participated in the coffee value chain in the study area of the marketing year.

Therefore, this greatly affects the coffee market share of actors legally involved in the coffee business. However, some collectors are working illegally in the villages and towns under the name of legal traders as an agent that significantly affects actors. Thus, the government should introduce legal measures that limit

such trades from engaging in the market. Actors such as cooperatives and unions has a strong positive impact ($r = 0.8082$) on the performance of the coffee postharvest value chain, which means that it impacted approximately 65.

However, primary coffee-producing companies also have a weak positive impact ($r = 0.0270$), which may be related to organizational issues, financing and marketing. Additionally, government or institutional actors also have a positive impact on the performance of coffee postharvest value chain analysis. Therefore, maintaining the positive impact of actors and institutions in coffee postharvest on the performance of the coffee postharvest value chain must be taken into consideration.

Based on the study conclusions, the researcher makes the following recommendations: give coffee producers access to market facilities and work with the government to decentralize the heavily centralized centres for coffee inspection and grading along with modern processing and storage facilities.

Recommendations

Based on the results of this study, the following recommendations are made. In improving Ethiopia's coffee export performance, government institutions play a crucial role; therefore, attention should be given to formulating a conducive policy environment and enhancing the service delivery reliability of export support institutions. Since the source of the country's main exportable raw materials is the agriculture sector, the government should facilitate conditions of access to agricultural inputs that help produce exportable raw materials in that sector.

The government should also bolster the competitiveness of the coffee exporting sectors by combining imports of foreign high technology and domestic independent research. The empirical findings of this study suggest that it is necessary for policy makers to care about all dimensions of the process of development of the external sector to minimize the effect of export market barriers on coffee exporters. Finally, as most of the export performance of firms is hampered by infrastructural challenges, the government should improve infrastructure, including telecommunications transportation and electric power infrastructure, as the lack or poor performance of infrastructure increases costs and hinders exporters.

Based on the findings discussed in the previous section, the following recommendations are proposed.

It is recommended that the Ethiopian coffee market introduce alternative value chains, such as injecting efficient, advanced market-led channels and developing competitive business models, allowing producers and exporters to work closely and improve the postharvest coffee value chain.

The actors involved in the postharvest coffee value chain include producers, local coffee collectors, cooperative unions, wholesalers, and exporters. It is also seen that the government intervenes on behalf of the Ethiopian commodity exchange authority, which is an important factor in determining coffee prices, regulating, grading and setting standards via either the domestic or export market chain in Ethiopia. However, these parties did not seem to be efficient and effective in exercising their roles at the grassroots level. Therefore, it is recommended that each party attempt to enhance and improve the postharvest coffee value chain and thereby contribute their share to the macro economy.

The research results show that the existing postharvest coffee value chain appears to have caused problems among coffee producers, actors, and other institutions, lending itself to lengthy bureaucracy and inadequate productivity. Hence, it is possible to recommend that the postharvest value chain system should allow flexible chains that would allow free market and competition among all actors involved in the process.

This study tries to assess most issues involved in the postharvest value chain of the Ethiopian coffee market. Hence, researchers in the postharvest coffee value chain should continue to examine the issue by employing alternative methods of research and employing other variables. In doing so, they should contribute to the knowledge and practice of the coffee value chain in Ethiopia.

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