



Assessment of coffee production and marketing system in East Hararghe zone of Oromia region, Ethiopia

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ABSTRACT

The study was conducted in coffee production potential districts of East Hararghe zone of Oromia region, with objectives to assess and describe coffee production and marketing systems, coffee market performance and identify coffee production and marketing constraints and opportunities in the study area, and three-stage sampling procedures were used to select a total of 164 sample coffee producers and 32 traders. Primary data were collected from the farmers and traders through household survey, and the collected data analyzed using descriptive statistics. The result of the survey indicates that on average, 0.26 hectares of land were allocated to coffee farm in the area. The result also indicated that the average productivity of coffee was 4.68 quintals per hectare, and about 97.52% of the farmers were growing local varieties in the study area. The survey result indicated that the main receivers of coffee from producers are primary cooperatives and assemblers/collectors and they take 40.6% and 30.5% from the producers, respectively. The most important constraints identified by coffee producers in the study area are coffee diseases, lack of access to improved coffee varieties and limited coffee extension services, lack of transparency in the coffee market and illegal traders hindering fair price were the main market constraints in the area. Based on the findings, the following recommendations are given as introducing high yielding and disease resistant improved coffee varieties, promoting improved coffee agronomic practices, supporting multiplication and distribution of coffee planting materials, Strengthening coffee research extension linkage, efforts should be need to aware and train coffee farmers and extension agents about coffee diseases management through practical training, enhancing extension services to improve farmers skill and knowledge on coffee production and marketing system, improving market information delivery to the farmers and traders, and improving transportation facilities and road infrastructures can increase the accessibility of producers and traders market coffee outlet in the area.

Keywords: Coffee production, Coffee marketing, Market channels, East Hararghe zone, Coffee agronomic practices

INTRODUCTION

Coffee is one of the most important export commodities in the international agricultural trade, representing a primary source of income and livelihood for many farmers of several countries including Ethiopia. Coffee is one of the leading traded commodities on the global market in both volume and value. Ethiopia remains the largest producer of coffee in Africa and is the fifth largest coffee producer in the world next to Brazil, Vietnam, Colombia, and Indonesia contributes about 4.2% of total world coffee production. Coffee remains a valuable export commodity in Ethiopia as it is means of foreign exchange earnings

for the country. Thus, coffee is a strategic commodity to Ethiopia that covers 24%-26% of the total income of its earning and it is a source of livelihood for 25% of the population (Birhanu T, 2017).

Ethiopia is known for producing premium quality Arabica coffee in Africa and is the third largest producer in the world. The country has suitable environmental conditions for coffee production which is first rate opportunity for the producers as well as traders. In addition, Ethiopia is endowed with enormous genetic diversity and different coffee types with unique tastes and flavors. In a global market, the change in consumer behavior and the

increasing consumption of high quality coffee is an opportunity for Ethiopia. Improving coffee quality is a key prospect for increasing coffee exports and maybe a good strategy to get better prices for the coffee producers, and the government is continuing in supporting the coffee sector. Regionally, the national production of coffee comes from Oromia region. The region is one of the largest coffee producers in terms of total coffee area cultivated and total production, and coffee production comes from the Oromia region shared about 64%. The report indicates that in the region, about 3,435,447.12 quintals of coffee were produced from 531,702.73 hectares of land and creating means of livelihood for more than 2,047,360 households. East Hararghe zone is one of the major coffee growing areas from the region. The Zone has favorable agro-ecological and it is endowed with vast genetic diversity with unique taste and flavor and the area is also accessible to the export outlet, that is, Djibouti port (CSA, 2017).

As a result, in the area coffee production is a major source of cash income and livelihood for a large number of farm households in the area. The type of coffee grown in this area is popularly known as "Harar coffee". In 2016/17 production year, a total of 37,224.94 quintals of coffee was produced on 7584.32 hectares in the zone (CSA, 2019). Having all the importance of coffee, and the opportunity for the coffee in the country, coffee production and marketing system continues to face multiple challenges such as disease and low price. In addition, despite the importance of coffee production, there was an information gap on existing coffee production and marketing systems, market performance and producers' benefit share in the area. Despite the importance of the crop and its need to expand by the government, previously there is no study conducted to assess coffee production and marketing systems, identify and prioritize constraints and opportunities for wide research and development intervention in the zone. Hence, considering these gaps into consideration, this study was designed to conduct with the objectives to describe the status of coffee production and marketing systems, examining coffee market performance and identifying coffee production and marketing constraints in the study area (CSA, 2020).

MATERIALS AND METHODS

Description of the Study Area

The study was conducted in coffee production potential districts of East Hararghe zone. The Zone is located at the eastern part of Oromia regional state and at a distance of about 525 km from the capital city of the country and geographically situated between 7°32' to 9°44' North latitude and 41°10' to 43°16' East longitudes with the total area of about 26311 km². Its altitude ranges from 500 m.a.s.l to 3405 m.a.s.l. Agro climatically; the zone is divided into three major agro-ecological zones.

These are lowland, midland and highland which constitute 60.32%, 32.24% and 7.44% of a total area of the zone respectively. The altitude ranges from 500 m to 3,400 meters above sea level. The annual rainfall of the zone ranges from 400 mm to 1010 mm, and the temperature also ranges between 14°C to 25°C.

Agriculture is the dominant economic activity and the base for livelihood of the majority of the residents of the zone. The agricultural activities in the zone are characterized by a peasant farming system that involves mixed farming *i.e.* crop and animal production. Different types of crops from cereals such as sorghum, maize, wheat, barley, pulses, oil seed, vegetables, fruits and cash crops such as coffee and chat are produced in the zone. However, various impediments such as market problems, disease, drought and poor infrastructure development have hampered the development of the sector in the area (Figure 1) (Duguma T, 2017).

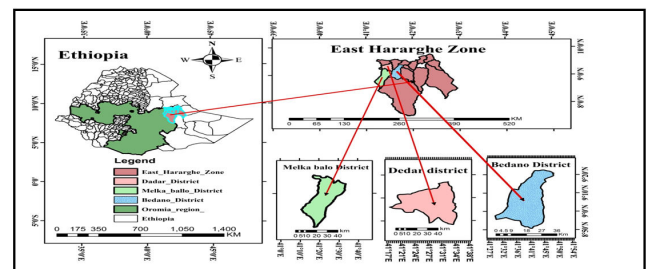


Figure 1: Map of the study area.

Sampling Method and Sample Size

Three stage sampling techniques were used to select districts, kebeles, coffee grower farmers and traders from the study area. In the first stage, three districts (Bedeno, MelkaBalo and Deder) were purposively selected based on coffee production potential. In the second stage, coffee growing kebeles and coffee market centers in each district were listed and identified. Once coffee growing kebeles were identified, six kebeles from MelkaBalo and Deder districts (three kebeles from each), and four kebeles from Bedeno district were selected using a simple random sampling technique. This resulted in a total of ten coffee growing kebeles being selected from three districts for this study. Meanwhile, a total of six coffee market centers were purposively selected based on coffee supply and market. In the third stage, a total of 164 coffee producer farmers, and 32 coffee traders were randomly selected and interviewed. This also resulted in a total of 196 respondents being interviewed for this study. In addition, about 100 coffee producer farmers, experts and farmers' cooperatives were also participated in this study through key informant interviews and focus group discussions in the area (ECX, 2016).

Sources of Data and Methods of Collection

The study used primary and secondary data sources to collect data. Primary data were collected through

individual interviews using semi-structured questionnaires from selected coffee grower farmers and traders of the area. The primary data collected from farmers include demographic and socioeconomic characteristics, coffee production; the quantity of coffee produced and sold sales price, varieties grown, and constraints and opportunities. Primary data from traders include socio-demographic characteristics, type of trade, experience in the coffee trade, cost of transport used, selling and buying price of coffee, quantities purchased and sold, source and destinations of coffee and, constraints and opportunities of coffee. In addition, key informant interviews and focus group discussions were held with the farmers, development agents and experts by using checklists to support primary data collected through individual interviews. Secondary data required for the study were taken from central statistical agency's website, and district agricultural and natural resource offices (Alemu K, et al., 2016).

Method of Data Analysis

Descriptive statistics such as frequencies, percentages, means and standard deviations were used to examine the socioeconomic characteristics of sampled coffee producer farmers, and coffee production and marketing systems of the study area. In addition, trend analysis, ranking and preferences were used to analyze coffee production status, preference, and coffee production and marketing constraints in the study area. The collected data were analyzed by using SPSS statistical software package version 26 (Bekeko Z, 2013).

RESULTS AND DISCUSSION

Socioeconomics Characteristics of Households

The survey result shows that the family size of the respondents ranged from 2 to 13 with an average family size of 7.4 persons in the study area. Concerning the age of coffee grower farmers, the average age of the sample coffee grower farmers was 39.84 years with the minimum and maximum ages of 20 and 70 respectively in the study area. The average coffee farming experience was 26 years with a minimum and maximum of 6 and 50 years respectively (Table 1). This shows that farmers have a good experience in coffee production, and the majority of coffee farmers during the focus groups discussion reported that coffee production practices were learned from their families and other farmers in time through experience. Landholding is one of the factors that affect farm productivity, and the farmers in the study area use their land for all farming activities which include the production of food crops and cash crops. The average land holding in the study area is 0.52 hectares with a minimum and maximum of 0.125 and 2 hectares of landholding respectively; which is small as compared to the holdings in other parts of the country (Ameyu MA, 2017).

Table 1: Socioeconomic characteristics of households (continuous variables).

Variables	Min	Max	Mean	SD
Family size (numbers)	2	13	7.4	2.46
Age of the farmers (years)	20	70	39.84	12.12
Farming experience in coffee (years)	6	50	26.02	9.59
Total land holding (hectare)	0.125	2	0.51	0.34

Major Crops Grown

As shown in Table 2 coffee, maize, sorghum, wheat, potato, onion khat and banana are the major crops grown in the study area for cash and family consumption. The survey result indicates that on average, 100% and 68.29% of the farmers grew coffee and chat as a source

of cash respectively, and most of the farmers produced maize (91.46%), sorghum (58.54%) and wheat (20%) for home consumption in the study area (Gemechu F, et al., 2016).

Table 2: Major crops produced in the study area during 2019/20 production season.

Major crops grown	Proportion of farmers		
	Frequency	%	Rank
Coffee	164	100	1
Sorghum	96	58.54	4
Maize	150	91.46	2
Wheat	33	20.12	5
Onion	24	14.63	7
Potato	22	13.41	8
Khat	112	68.29	3
Banana and others crops	28	10.66	6

Coffee Production and Productivity

The result of the survey indicates all of the sample coffee producer farmers practiced backyard or garden type coffee production systems with sole planting of coffee, and others are practiced intercropping coffee at an early stage with annual and perennial crops in the study area. The result of the survey indicates that on average, 0.26 hectares of land were allocated to coffee production by coffee grower farmers in the study area. This implied that about 51% of the total area was allocated to coffee

production by coffee farmers in the study area. The result of the survey also indicated that the average productivity of coffee in the study area was 4.68 quintals per hectare with a minimum and maximum of 2.36 and 6.90 quintals per hectare respectively (Table 3). As a result, the average yield of coffee in the study area is lower than that of the average national coffee yield which is 5.78 quintals per hectare (Dinkale T, et al., 2021).

Table 3: Land allocated, production and productivity of coffee in 2019/20.

Variables	Minimum	Maximum	Mean	Std. D
Average land holding(ha)	0.125	2	0.51	0.34
Average land allocated to coffee (ha)	0.063	0.75	0.26	0.146
Average productivity (qt/ha)	2.36	6.9	4.68	2.1

Coffee Varieties Grown and Farmers Preference

Coffee varieties grown by sampled farmers in the study area are local. The result of the survey indicated that about 97.52% of coffee producer farmers were growing local coffee varieties in the study area. The focus group discussion participant farmers reported that the farmers are growing low yielding local coffee varieties in their coffee fields, and the products obtained from local varieties depend on climatic conditions and the severity of diseases in the study area. The farmers reported that

low-yielding local cultivars and lack of improved varieties were the most important problems to coffee grower farmers in the study area. The most frequently grown coffee varieties were Fendisha, Shenkuye, Abadiro, Torbi and Cherchero in the study area. The result of the survey indicated that about 19%, 17%, 15%, 14% and 13% of the farmers grow Muyira, Abadiro, Shenkuye, Cherchero, and Fendisha varieties, respectively (Table 4).

Table 4: Major local coffee varieties grown by the farmers in study area.

Coffee varieties	N=164	
	N	%
Fendisha	27	14

Muyira	40	19
Shenkuye	32	15.09
Abadiro	36	17
Torbi	15	7.08
Cherchero	30	14.15
Black coffee	14	6.6
Shek-Hussien	7	3.3
Unknown	11	5.19

Coffee Trees Owned, Age, and Yield of Coffee

The survey result indicates that the average number of trees of coffee varieties planted in the study area was 247 per household head with a minimum and maximum of 60 and 350, respectively (Table 5). As to the age of coffee trees, the average age of coffee trees was 38.52 years with a minimum and maximum of 12 and 70 years,

respectively. The farmers reported that low-yielding of local cultivars, lack of improved cultivars, and diseases lead to low productivity of coffee which is less than 5 quintals per hectare in the study area.

Table 5: Number of coffee trees owned, age and productivity of coffee in the study area.

Variables	N=164			
	Minimum	Maximum	Mean	SD
Number of coffee trees grown	60	350	247	230
Age of coffee trees (in years)	12	70	38.52	37.98

Sources of Coffee Seedlings

As it can be seen from Table 6, the sample coffee grower farmers have been getting coffee seedlings from government organizations/government nurseries and fellow/other farmers and from their own sources. The survey result revealed that on average, about 41.46%, 24.39%, 21.95% and 12.20% of the sample farmers in

the study area accessed coffee seedlings from government nursery/agriculture office, other farmers who raised seedlings, family/own seed and government nursery/agriculture office and other farmers, respectively.

Table 6: Sources of coffee seed/seedling in the study area.

Sources	Frequency	%
Family/own	40	24.39
Government nursery/agriculture office	68	41.46
Agricultural research centre	16	9.76
Agricultural office and farmers	20	12.2
Farmers (in form of seed/seedlings)	36	21.95

Coffee Management Practices

Coffee planting method: The survey result showed that about 94% of farmers were found planting coffee seedlings by using row planting (Table 7). However, coffee tree planting densities, distance tree to tree and distance row to row are varied in the areas that use wide inter-row spaces, and this allows them to intercrop their coffee with other crops such as maize, onion and fruit trees.

Organics fertilizer use: coffee farmers usually use farmyard manure to improve the productivity of coffee grown in the study areas. The survey result revealed that about 92.68% of the coffee grower farmers are used organic fertilizers in coffee fields in the study areas. Organic fertilizers are usually prepared by mixing animal manure and leaves of grasses and crop leaves left after animal feeding and transporting them to coffee fields.

Use of inorganic fertilizers and pesticides (fungicide, insecticide): The result indicated that no one is using any inorganic fertilizers and pesticides in their coffee farms in the study areas. This makes coffee produced and delivered to the market as organic coffee. However, the farmers noted that the productivity of coffee decreased from time to time, due to soil fertility problems, diseases occurrences, and a lack supply of input in the study area. Hence the farmers requested and need to apply appropriate balance and rates of inorganic fertilizers and chemicals that can boost coffee productivity by controlling diseases without losing their organic nature.

Mulching/soil mulching and conservation: The survey result showed that about 58.54% and 87.80% of the coffee grower farmers are practiced mulching/soil mulching and conservation/earthling, respectively in the study area (Table 7). The farmers reported practicing soil mulching on the coffee farms and around individual coffee plants gave better yields. Shading: the survey result showed that about 73.17% of the farmers are used shade trees in the coffee fields in the study area. Trees such as *Cordia africana*, *Acacia albida*, and *Croton mycrostachs* are commonly used for coffee shade by coffee farmers in the study areas. The farmers preferred these trees which are holding their leaves for a long time, cooling/regulating temperature and soil fertility.

Pruning: The results of the survey revealed that only 4.27% of the farmers were practiced coffee pruning, and farmers prune older coffee trees to rejuvenate (Table 7). The culture of old coffee stumping and pruning is not practiced by the coffee farmers in the study area. Instead, the farmers want to manage old-aged coffee trees in their farm fields, and this may also create favorable conditions for the occurrence of coffee diseases and pests which is a severe problem in the study area. The farmers and DAs during the survey noted that the practice is introduced recently in the area and some farmers have already started to use the practice, but lack of awareness and shortage of materials are limiting factors to addressing more farmers in the area.

Table 7: Farmers coffee management practice in the study area.

Practices	Frequency	%
Row planting	155	95
Organic fertilizers use	152	92.68
Mulching/soil mulching	96	58.54
Earthling/tie ridging	144	87.8
Shading	120	73.17
Pruning	7	4.27

Coffee Marketing

The result of the survey showed that the coffee producer farmers sold their coffee produce mainly to primary cooperatives (46.34%) followed by assemblers/collectors

(37.80%), suppliers (25.61%) and processors (15.24%) in the study area (Table 8).

Table 8: Proportion of coffee farmers sold their coffee to different traders.

Market actors	N=164	
	Frequency	%

Assemblers (collectors)	62	37.8
Suppliers/wholesalers	42	25.61
Processors/suppliers	25	15.24
Primary cooperatives	76	46.34

Coffee Market Channels

In coffee, the government has been established a market system called the Ethiopian commodity exchange market through which only wholesalers are made to buy coffee from the producers and sell it to the exporters through the ECX market. As can be seen in Figure 2, there are assemblers, suppliers/wholesalers, cooperatives, unions and processors which perform a linking function between producers and exporters. The survey result indicated that five major marketing channels were identified for coffee in the study area, and the total volume of coffee which would follow to market by the sampled coffee producer farmers through all channels was estimated to be 1230 kg in the study area. The main receivers of coffee from producers are primary cooperatives and assemblers/collectors and they take 40.6% and 30.5% of the total coffee sales conducted by farmers, respectively. Following primary cooperatives and assemblers/collectors, suppliers and processors are the third and fourth actors that share 18.35% and 10.55 % of coffee sold by farmers in the study area.

Coffee Market Performance

The major coffee market participants and gross marketing margins are presented. The coffee suppliers and processors are taking the largest gross margin in all the cases followed by the assemblers/collectors in the study area. The suppliers and processors obtain relatively highest gross marketing margin (69.02%) and (69.68%) of exporter price in channels 4 and 5 followed by assemblers/collectors which were 30.44% and 31.27% in channels 1 and 2 respectively among coffee traders in the study area. The result of gross margin analysis also shows that coffee producers are not benefiting from the final price paid by the exporters as compared with the other actors in the study area. The result in Table 9 shows that the producers obtain the lowest market margin (21.89% in channel 1) and relatively obtain a high market margin (31% in channel 3) in the study area. This indicates that there should be an improvement in the coffee market chain which makes the coffee producers benefit more from the coffee market in the area.

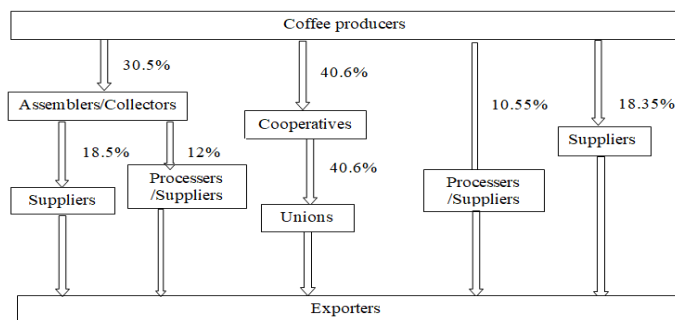


Figure 2: Market channel of coffee in the study area.

Table 9: Coffee marketing margin for different channels in the study area.

Actors of coffee market	Value of gross marketing margins (%) for each channel				
	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5
Producers	21.89	20.16	31	30.32	30.98
Assemblers/collectors	30.44	31.27	-	-	-
Cooperatives	-	-	33	-	-
Unions	-	-	36	-	-
Suppliers	48.56	-	-	-	69.02
Processors	-	48.57	-	69.68	-

Coffee Production Constraints

Coffee is produced predominantly by smallholder farmers in the study area. The survey result showed that the average yield of coffee was 4.8 quintal per hectare, which was lower than the national average yield. The most important constraints identified by coffee producer farmers in the study area include coffee diseases, lack of access to improved coffee varieties, climate change (rainfall, high temperature), limited extension services, inadequate services and support and irrigation water shortage in the study area (Table 10). Out of those coffee production constraints, about 96.34% of sampled coffee producer farmers reported that coffee diseases as the major constraint faced by farmers and it ranked first in the study area.

The results of these findings is in lined with the findings of Tesfaye, and USDA reported that high incidence of coffee berry disease and shortage of improved cultivators as major constraints to coffee producers in Southern Ethiopia. Despite the presence of a high incidence of disease and pests, no one uses pesticides on their coffee farms to control coffee disease and insect pests in the study area, and this is related to producing organic coffee to market in the study area.

The result of the survey also shows that the shortage of access to seeds of improved coffee varieties with (95.73%) was identified as the second most important constraint to coffee production followed by climate change (86.59%) and limited extension services (76.22%) in the study area. The farmers participated in the focus group discussion and key informants reported that lack of access to high yield and disease resistant coffee improved varieties are the main factors responsible for low coffee productivity in the study area. The farmers also noted that limited farmer access to extension services, inadequate services and supports related to the use of improved coffee production technologies and inadequate coffee research extension were perceived by coffee farmers as important constraints to coffee production and they ranked fourth and fifth level in the area (Table 10). The finding of this study is in lined with the findings of revealed that weak linkage between research, extension services and producers are a major problem to coffee farmers in Ethiopia.

Table 10: Major constraints of coffee production in study area.

Constraints	N=164		
	Frequency	%	Rank
Lack of improved coffee varieties	157	95.73	2
Diseases	158	96.34	1
Climate change (rainfall, high temperature)	142	86.59	3
Inadequate services and supports	92	56.1	5
Limited extension services	125	76.22	4
Low soil fertility	55	33.54	8
Land shortage	86	52.44	7
Irrigation water shortage	104	63.41	6

Other coffee production constraints such as traditional cultural practices of coffee production, shifting to other crops, low capacity of government organizations/institutions in providing quality services and support for

coffee actors, promotion of improved coffee management practices, farmers growing coffee intercropped with other food crops, harvest and post-harvest handling problem, mixing high quality coffee with low quality and weak

regulatory and controlling system on coffee harvesting, storing, transporting and processing activities reported by the farmers as major problems to the coffee sector in the area.

Coffee Market Constraints

The major marketing constraints raised by farmers and traders of the study area were low price of the coffee, lack of transparency in coffee market, problems in market information flow (lack of timely market information flow), absence of price premium for quality, transportation problem, coffee price fluctuation and illegal traders hinder fair price were the main market constraints to producers the in the study area (Table 11). The survey result indicated that the low price of coffee (96.95%), lack of transparency in the coffee market (85.98%) and coffee price fluctuation (84.32%) were major market constraints encountered by coffee producers in the study area and they ranked first, second and third level respectively in the study area.

The result also indicated that illegal traders hinder producers fair price (82.93%), transportation problems (64.63%) and absence of price premium for a quality product (51.83%) was reported by the majority of producers and ranked fourth, fifth and sixth as the most important constraint in coffee marketing (Table 11). The survey result indicated that majority of the farmers pointed out transportation as a key factor that is adversely influencing the marketing of coffee due to the absence of roads and lack of access for vehicles to producers in the study area. The results of this study was in line with prior study by Zewdu that market inefficiencies, excessive margins from traders over producers, high transport and marketing costs are the main constraints to coffee markets in Ethiopia.

Table 11: Major coffee market constraints to producers in study area.

Coffee marketing constraints	N=164		
	Frequency	%	Rank
Low price of coffee	159	96.95	1
Lack of transparency in coffee market	141	85.98	2
Problem in market information flow	75	45.73	7
Absence of price premium for quality	85	51.83	6
Transportation problem	106	64.63	5
Coffee price fluctuation	138	84.32	3
Lack of storage facilities	62	37.8	8
Illegal traders hinders fair price	136	82.93	4

CONCLUSION

The study was conducted in coffee production potential districts of East Hararghe zone of Oromia region, with objectives to assess and describe coffee production and marketing systems, coffee market performance and identify coffee production and marketing constraints and opportunities in the study area, and three stage sampling procedures were used to select a total of 164 sample coffee producers and 32 coffee traders. Primary data were collected from sampled producers and traders through a household survey using questioners, focused group discussions and key informant interviews, and analyzed using descriptive statistics.

The result indicates that on average, 0.26 hectares of land were allocated to coffee production by coffee grower farmers in the study area. The result of the survey also indicated that the average productivity of coffee in the study area was 4.68 quintals per hectare with a minimum and maximum of 2.36 and 6.90 quintals per hectare respectively. Coffee varieties grown by sampled farmers in the study area are local varieties, and the result of the survey indicated that about 97.52% of coffee producer farmers were growing local coffee varieties in the study area. Coffee berry disease, coffee wilt disease, bacterial blight of coffee, coffee leaf blight, coffee leaf rust and coffee stem drying being identified by the farmers as the major coffee disease types in the study area. The survey

result indicated that five major marketing channels were identified for coffee which coffee follows to market by the sampled producers in the study area. The main receivers of coffee from producers are primary cooperatives and assemblers/collectors and they take 40.6% and 30.5% of the total coffee sales conducted by farmers, respectively.

The most important constraints identified by coffee producer farmers in the study area are coffee diseases, lack of access to improved coffee varieties and inadequate services. Low price of coffee, lack of transparency in the coffee market, problem in market information flow, coffee price fluctuation and illegal traders hinders fair price were the main market constraints to producers in the area. The survey result also revealed that major coffee market constraints such as the decline of coffee supplied by producers, low quality of coffee products, involvement of illegal traders, lack of transparency on coffee price setting, lack of proper information flow and transport problems were reported by traders as major coffee market constraints in the area. Based on the findings of this study, the following recommendations are given: The majority of the sample producers indicated that low productivity of coffee is the main constraint in coffee production, introducing high yielding and disease resistant coffee varieties and supporting multiplication and distribution of coffee planting materials and introduction and promotion of improved coffee agronomic practices.

Strengthening extension service provisions and coffee research extension linkage to increase coffee productivity, improve access to inputs, and strengthen farmers cooperatives. Therefore, strong efforts should be needed to aware and intensively train coffee farmers and extension agents about coffee diseases management through practical training, enhance extension services to improve farmers' skills and knowledge of coffee production and marketing systems, and establishment of coffee markets places in the near producers and traders. Strengthening coffee seed-producing institutions is vital to motivating coffee producers in the area. Strengthening coffee extension services should be considered an important input for improving coffee productivity in quantity and quality, facilitating and improving the quality and types of market information delivery used by coffee producer farmers and traders shall take policy attention,

improving ownership of transportation facilities and road infrastructures can increase the accessibility of producer, traders and processors market coffee outlet in the area.

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