Value Chain Analysis of Coffee in Jimma Zone of Oromia Regional State, Ethiopia

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Abstract: *A study entitled value chain analysis of coffee was undertaken in Jimma zone, Ethiopia with the aim of identifying the value chain actors, describing value additions, and estimating the share value of respective actors along the chain. 138 farmers from six kebeles of two districts were sampled using a multi-stage stratified random sampling technique. Other than farmers, respondents from cooperatives, unions, suppliers, large state growers, exporters, domestic wholesalers, domestic retailers, domestic consumers and value chain enablers were also considered. Data were collected from primary source through semi-structured interview schedule, checklists, and focus group discussion; and from secondary sources. Descriptive method of data analysis was used to analyse the data. The value chain analysis result revealed that direct actors identified in coffee value chain were input suppliers, smallholder growers, large scale private and state farms, cooperatives/unions, suppliers, exporters, domestic wholesalers, retailers, and consumers and assumed different functions along the value chain (engaging directly in production, processing/value addition, trading and marketing). Other indirect enabling institutions charging different services were also identified. The computation of value share for participating actors indicated that the contribution of value addition by the smallholder farmers if participated in drying would be increased from that of red cherry selling due to the better relative price offered for dry cheery coffee compared. Furthermore, farmers are better to be encouraged in drying coffee (value additions) as an alternative for better value share contribution, price, and income generation.*
Keywords: *- Value Chain, Value Chain Map, Value Addition, Value Chain Enabler*

Introduction: The emerging trend for processed agricultural products in the global market creates opportunities for smallholder farmers in developing countries to benefit from such opportunities by linking their activities to value chains through vertical and horizontal linkages (Vermeulen *et al*., 2008)[1]. Coffee is the major cash crop and, being a cornerstone in the export economy of the country, is a source of foreign currency for Ethiopia (FAO/WFP, 2008)[2]. It contributed 35.8% of total foreign exchange earnings (524.5 million of USD) in 2007/08 and increased to 744.9 million of USD [1] in 2012/13 (ECEA, 2013). More importantly coffee is providing income for a large number of smallholder farmers. It is estimated that between 7.5 and 8 million households depend on coffee for a considerable share of their income, and provides jobs for many more people in coffee-related activities of processing, transporting or marketing along the value chain (Samuel and Eva, 2008). Although coffee is produced in many parts of Ethiopia, most coffee comes from the regions of Oromia and Southern Regional State. The two regions contribute for about 99% of the total coffee production (64% from Oromia, 35% from SNNP) and the remaining 1% comes from Gambela regional states (FDRE-MOT, 2012). Jimma zone is one of the coffee growing zones in the country, which has a total area of 1.1 million hectares of land. Jimma zone covers a total of 21% of the export share of the country and 43% of the export share of the Oromia Region (JZARDO, 2008). According to the report from the same source, 30-45% of peoples in Jimma zone directly or indirectly benefit from the coffee industry.

For providing the opportunity of substantial economic and income growth for participants from the commodity under consideration, the growing integration of value chain approach in the global economy has part (UNIDO, 2009). Organization of agriculture along the value-chain framework has been conceived as one of the strategies to bring more efficiency in the agricultural sector (Anjani Kumar *et al.*, 2011). The value-chain network may be defined as a range of activities required to bring a product from its conception, through its designing, sourcing of raw materials and intermediate inputs, marketing and distribution, to the final consumer and final disposal after use. As opposed to the traditional exclusive focus on production, the concept stresses the importance of value addition at each stage, thereby treating production as just one of several value-adding components of the chain (Kaplinsky and Morris, 2000). Value addition after production would involve enhancements or additions to a product that result in higher returns to the commodity seller, who is often the farmer (Eathington *et al.*, 2000).

Problems in the coffee value chain hinder the potential gains that could have been attained from the existing potential opportunities due to poor linkage of actors, mistrust among actors, lack of cooperation from exporters and suppliers, limited financial services. Value chain analysis is an interesting and mandatory task to identify the key leverage points for upgrading strategies related with increasing performance and efficiency of smallholder farmers. While Alemu (2010) tried to conduct a study on the impact of input and output market development interventions, nothing was touched in advance about the value chain which would be better to carry out. The present study is important in understanding the policy environment. Generally, this study was initiated to provide recent empirical evidences on coffee value chain for possible value chain development strategies; and aimed to identify the value chain actors, describing the value additions, mapping the value chain, and estimating share value of actors along the value chain.

Methodology

Description of the study area: Jimma zone is located in South-Western part of Ethiopia between Latitude 6^o and 9^o North and Longitude 34^o and 38^o East, and between altitude

[1] However, its share from the total foreign earnings/exchange is 24.2%

ranges of 880 to 3340 meters above sea level (ORG, 2003). The Zone is one of the coffee growing zones in the Oromia Regional State, Ethiopia which has a total area of 1.1 million hectares of land. Currently, the total area of land covered by coffee in the zone is about 0.1 million hectares, which includes small-scale farmers' holdings as well as state and private owned plantations. There are favourable climatic conditions, variety of local coffee types for quality improvement and long history of its production in the Zone. In Jimma, coffee is produced in the eight districts namely, Gomma, Manna, Gera, Limmu Kossa, Limmu Seka, Seka Chokorsa, Kersa and Dedo, which serves as a major means of cash income for the livelihood of coffee farming families (JZARDO, 2008).

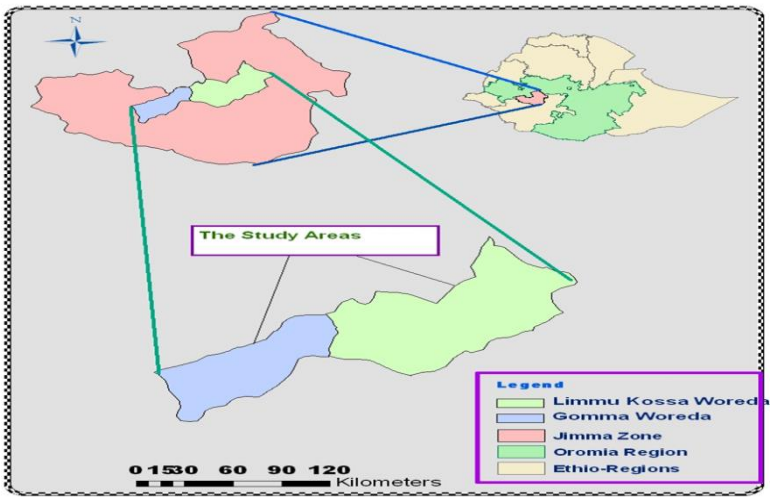


Figure 1: Map of the study area
Source: Adopted and manipulated from Ethiopian map

Data Types, Sources, and Method of Collection: The data, both quantitative and qualitative type were collected from both primary and secondary sources. Semi structured interview schedule, checklist, group discussion tools were used for data collection. Qualitative data about business practices and transactions by value chain actors, the patterns and socio-economic activities of the farmers in the study areas were gathered informally through direct observation of the study areas and informal discussions with key informants like DAs, agriculture sector offices, administrators, and ethnic leaders. On the other hand, secondary data of both qualitative and quantitative such as agricultural inputs and products supplied and consumed, demographic characteristics, population size etc. were gathered through thorough reviewing and examination of reports as well as records of published and unpublished documents.

Sampling technique and sample size determination for farmers: Multi-stage stratified random sampling technique was employed for the study. In the first stage from among eight potential districts, two districts namely Gomma and Limmu-Kossa were sampled randomly. In the second stage, using agro-ecology as an alternative and best proxy for production potential, k*ebeles* in the two districts were stratified into three as lowland, midland and highland production areas. The lowland agro-ecology covers less than 10% in both districts while the highland agro-ecology covers only 8% in Gomma district. Accordingly, a total of six sample *kebeles* were sampled randomly and proportionately, four form Limmu-Kossa district (three from midland and one from highland from category) and two midland *kebeles* from Gomma district. In the third stage, based on the number of coffee growers available, proportional size of sample coffee farmers from each sample k*ebele* were selected randomly.

Then, using Cochran (1963) sample size determination formula, 138 farmers were sampled.

Sampling technique and sample size determination for actors other than farmer: Information from private farms, suppliers (*Akrabi*) and/or processors, primary cooperatives, cooperative union, exporters, domestic wholesalers, and consumers were also needed mainly for the purpose of mapping the value chain, and calculating value share. Accordingly, following the chain of the 138 sampled farmers, the following sample sizes were considered.

Cooperatives/union: Only two unions namely Limmu Innaria coffee union from Limmu_Kossa and Arga union from Gomma districts and five cooperatives (three from Limmu_Kossa and two from Gomma) were linked with the 138 sampled farmers with marketing and other value chain activities. Thus all the two unions and five cooperatives were considered.

Suppliers/processors: From among 110 and 78 operating suppliers in Gomma and Limmu_Kossa districts respectively, 29 suppliers (16 from Limmu_Kossa and 13 from Gomma) were identified along the chain of actors. Thus, 12 sample suppliers (seven from Limmu_Kossa and five from Gomma districts respectively) were proportionately sampled using systematic random sampling technique. The systematic randomization of the suppliers was done based on the volume of coffee they bought from the farmers.

State farm: Limmu coffee plantation farm, [2] was considered to get information having something to do with mapping of the value chain.

Exporters: Among the 50 exporters who frequently buying coffee from Jimma study year, 10 of them were selected by systematic randomization.

Domestic wholesalers: Taking the lists of wholesalers who bought coffee mostly from Jimma ECX warehouse, 10 sample wholesalers were selected randomly.

Domestic retailers: from Jimma and Addis Ababa, 10 (five retailers (shop keepers) from each area) were considered by convenience sampling technique.

Domestic consumers: There are many coffee consumers who have been consuming coffee comes from the study areas in Jimma and out of Jimma; 10 consumers were selected using referral sampling technique.

Value chain enablers: One important representative person from each service provider's and influencer's offices was interviewed with checklist.

Method of Data Analysis: Descriptive analysis was used in mapping coffee value chain, identifying actors, describing the value additions, and estimating actors' share value along coffee value chain. Descriptive statistics like means, frequencies, percentages, and mean were used to describe the descriptive result and summarized with tables and figures. Value chain map is used to present and examine the industry or business activities from the raw components to final product until received by the end user. It helped to systematically map the actors participating in the production, distribution, processing, marketing and consumption of coffee.

[2] Limmu coffee plantation which was then called as Limmu coffee farm is now privatized and changed its name as Horizon coffee plantation

RESULT AND DISCUSSION

Result of Value Chain Analysis (VCA)

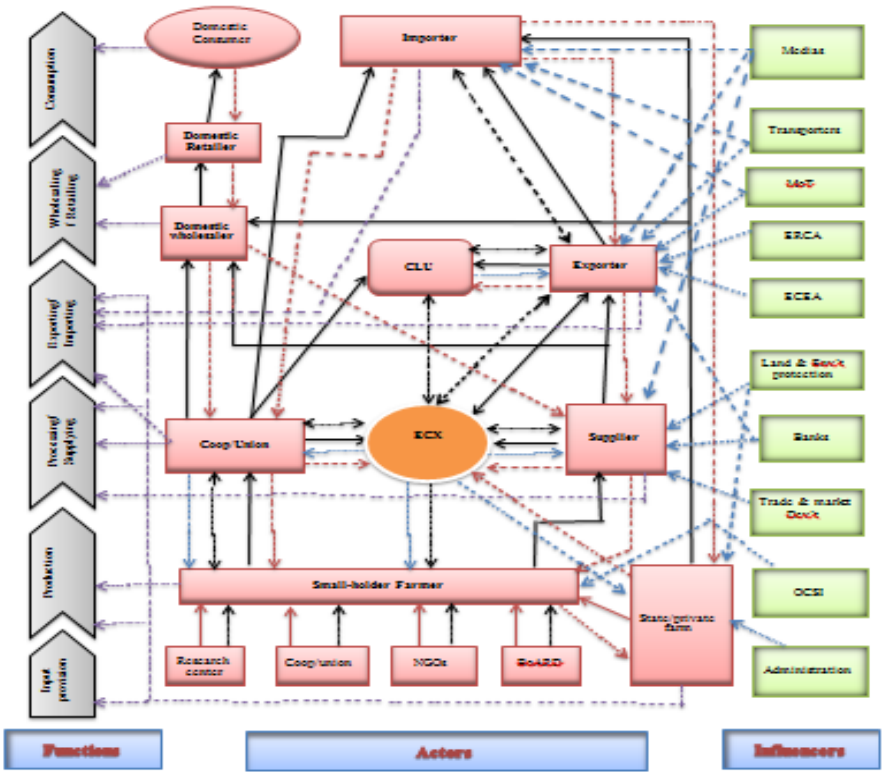
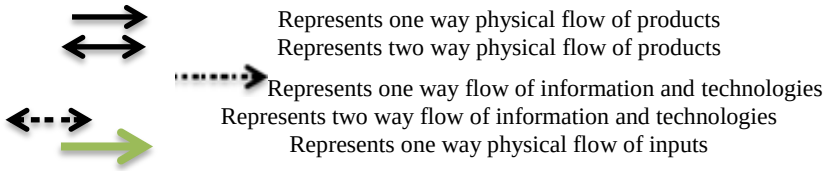


Figure 2: Coffee Value chain map
Source: Authors' sketch from survey result, 2016



The coffee value chain illustrated in Figure 2 depicted that the direct actors identified in coffee value chain were input suppliers, smallholder growers, large scale growers (state and private farms) primary cooperatives cooperative unions, suppliers, exporters, domestic wholesalers, retailers and consumers mainly engaging in production, processing (value addition), trading marketing. Other indirect value chain enabling institutions identified as supporting and/or influencing coffee value chain were banks, cooperatives/unions, NGOS credit and saving institution, office of agriculture and rural development, agricultural research centers, micro finance institutions, university, Ethiopian commodity exchange (ECX), coffee liquoring unit (CLU), Ministry of Agriculture and Rural Development and Ethiopian coffee export association (ECEA), Ethiopian revenue and custom authority (ERCA).

Actors and their value additions in coffee value chain

Input suppliers: Research centers, primary cooperatives, cooperative unions, *Woreda* level agricultural offices, Horizon Coffee Plantation and other private input suppliers were participated in providing these inputs for the farmers. Farmers were also participated at this stage in supplying agricultural inputs for peer farmers. In addition to labour input, coffee farming business requires improved seeds, seedlings, and other. In the study year, a total of 720,000 and 600,000 coffee seedlings were distributed from *Woreda* agriculture office to the farmers in Limmu-Kossa and Gomma districts respectively. In the study year, on average one sampled farmer used 678 coffee seedling and 0.75 kg of improved coffee seed. On average, 25.55%, 25.3%, 20% and 10% of the sample farmers in the zone mainly buy seedlings from agriculture office and coop/union and used their own seedlings, and other private traders respectively. Almost none of the sample smallholder farmers used inorganic chemical inputs for coffee production while the large scale private and state coffee plantations used it.

Smallholder farmers: Smallholder farmers were basically involved in production, harvesting, processing and/or post-harvest handling. The value adding functions at production stage include land clearing, seed bed preparation, seedling rising, planting, fertilizing, spraying, weeding, cultivation, and harvesting/picking. The other main activity done by farmers soon after cherry collection is transporting of

cherries from farm to washing machine (if sold in red cherry form) and to their home (if it is for drying purpose). Besides, farmers have a role in handling, processing and marketing of coffee. The participation of farmers in processing involves sorting and primary grading of the red cherry, drying and sorting, sacking, storing, transportation, loading and unloading. If coffee is sold at the farm gate, most of the aforementioned post-harvest activities are performed by the buyers (traders or collectors).

The survey result revealed that 74.9% and 89.4% of farmers add value on red cherry coffee by sorting and grading respectively to separate and remove impurities/dirt, green and over ripen cherry. The other major farm level value adding functions by farmer was processing/drying. The small-scale farmers' participation in coffee value chain did not extend that much beyond dry coffee due to lack of interest by cooperatives and/or suppliers to buy sundried coffee. Very few farmers processed coffee to sundried bean (hulling). Few farmers (eight farmers) were participated in semi-washed processing before the survey year but reported that they quitted it because of two major reasons; one is lack of hand-pulping machine and the other is due to lack of market demand.

Farmers dried cherries on bamboo bed, mesh wire bed, mats/ tarpaulin, concrete, or cement floors immediately after they have picked and conduct primary sorting and grading. The survey result revealed that 35.06% in Limmu_Kossa and 36% in Gomma of sample farmers reported they encountered problems of drying facilities and forced to sell coffee in red cherry form and/or to follow incorrect drying practice.

Most of the farmers used underground storage and ground floor of their house, sacks and boxes as a store. 30.3% of the sample farmers reported that they had adequate storage house constructed for coffee purpose only. 57.1% of those farmers participated in dry processing stored coffee for more than two months. Farmers considered storing dry cherry for maintaining quality of the coffee for a long, saving mechanism, waiting higher prices and increased bargaining power (unlike of red cherry).

Other important value addition practiced by farmers was marketing. 74 % of farmers in Limmu-Kossa and that of 56% in Gomma district marketed both red and dry cherry coffee. 11.7% and 14.7% of smallholder farmers in Limmu-Kossa and Gomma districts respectively sold dry cherry coffee only. The corresponding numbers for red cherry coffee only were 5.2 % and 20%. From the total sample farmers, those who sold all the three types of coffee are 6 (two from Gomma and four from Limmu-Kossa districts). The result implied that majority of the farmers in both districts sold mostly red and dry cherry coffee. On average, one farmer in Gomma and Limmu_Kossa district sold 3.2 and 4.6 quintals of red cherry. The average amount of dry cherry coffee sold by the smallholder farmer in Gomma and Limmu_Kossa districts were 5.3 and 11.1 quintals respectively. The corresponding figures for that of sun dried coffee bean (*keshir*) in quintal were 4.9 in Gomma and 14.69 in Limmu-Kossa districts. It is thus understood that farmers in Limmu Kossa district sold relatively more amount of red cherry, dry cherry and sundried coffee bean than those farmers in Gomma district.

Small scale farmers forwarded their produce legally either to cooperatives and/or suppliers. However, farmers in both districts preferred supplier to sell dry cherry. The reason suggested by farmers was the relative higher and immediate price obtained from suppliers. Farmers considered only the current relative higher price they got from suppliers than considering the double payment (dividend) and other services they would get from cooperatives. Thus, cooperatives need to aware farmers thoroughly not to focus only on the immediate better price. There were also farmers who sold their coffee (particularly sun dried coffee) to retailers and direct consumers.

Large scale private growers: Large scale private growers are actors involved in production and are permitted to sell their coffee directly to the international market. However, not all private growers have the corporate infrastructure to effectively export their own coffee. They engaged in production, processing (dry and wet processing), and marketing (exporting and/or wholesaling to the domestic market). Under processing, the main value additions performed are primary sorting, washing coffee (pulping), drying, hulling, sorting, polishing, packaging. It was then that they sell to the international market.

Collectors: Collectors are immediate buyers of coffee from smallholder farmers. Unless registered through the account of suppliers, they couldn't transact coffee through the ECX. Their essential value adding function is bringing coffee from very remote areas to suppliers.

Primary cooperatives and cooperative Unions: Primary cooperatives are the other important actors in the coffee value chain purchasing coffee directly from farmers and sell to importers via unions. There were more than but 25 actively operational coffee cooperatives in the two districts and are certified for qualified and organic coffee. Cooperative has a vital role in processing and marketing of coffee. In wet processing, immersions of coffee in water for sorting, pulping, and fermentation, soaking and finally drying are the major activities. In dry processing, the basic value adding functions include collecting dry cherry from farmers, sorting and hulling (processing to sun dried coffee). Packaging, warehousing, and transporting of the parchment or sundried coffee to central market were done by the cooperatives themselves. Beyond this, hulling, polishing, and blending for the parchment and polishing and blending for sun-dried coffee besides other services are the remaining works which unions undergo after the primary ECX grading and before final CLU quality test. Unions then sell coffee (on behave of cooperatives and/or by its own name) to the foreign buyers and paid back the respective cooperatives after deducting some transaction costs, and other service and commission fees. Cooperatives pay farmers the dividend proportionate to their participation.

Suppliers (*Akrabies*): Coffee suppliers are to mean persons who, upon getting the required licence/meeting criteria, buy coffee from farmers, collectors or take from own farm for delivery to ECX. Like coop/unions, private suppliers were also engaged in both wet and dry processing and then finally selling to exporters in an open ECX auction market. However, beyond this stage, unlike cooperative unions, the

hulling, polishing, blending, and other value addition to coffee supplied by suppliers is completed by the exporters.

Exporters: Exporters are those who have their own coffee farm and/or buy coffee from suppliers in an open ECX auction market and sell to international importers. Further processing as hulling and other value adding activities like colour sorting, polishing, blending, storage, and transportation are performed by exporters. It was then that exporters export the green coffee bean to international market.

Domestic wholesalers: These are value chain participants who buy local standard coffee mainly from suppliers and sold to retailers in the country. They buy local designated washed and unwashed Jimma coffee of different grades (from local grade UG 1 up to UG 7 (or 5c)) and sell to those domestic retailers.

Domestic retailers: These are local standard coffee buyers from domestic wholesalers and further retail to local consumers.

Domestic consumers: These are the ultimate actors participated in coffee value chain. Almost all sample consumers (especially those in Jimma) did not preferred the type of coffee rejected from ECX as domestic type, rather preferred to buy coffee directly from farmers. If coffee is assumed to be consumed in home, consumers bought coffee bean and complete the remaining processes of roasting and cupping.

Value chain enablers and service provision

There were actors who provided supportive services as training and advisory services, extension services, information, financial services, research and technology transfer services; and influencers, those who affect the value chain by binding the law and regulations of the business through giving trade licences, controlling quality, protecting environment and other issues. Cooperatives/unions, processors/milling house owners, NGOS (techno serve, fair trade), banks, Oromia credit an saving institutions, OoARD, agricultural research centers, micro finance institutions, Universities and ECX, CLU, MoARD were those supporting and influencing enablers having a crucial role in provision of the aforementioned services.

Processors/milling house: Miller house owners are those who have their own huller machine and involved in providing processing services for farmers and for some suppliers. These are critical component in coffee value chain and mainly consist of private companies participated in processing dry cherry in exchange of cash but not on marketing.

Extension service providers: Cooperatives/union, OoARD, DAs, and techno serve were the main sources for farmers to get extension services in both districts except techno serve in Limmu-Kossa district. The major extension services given to the smallholder farmers were training, technical advisory services, and experience sharing visit to model farmers' site. 65% in Limmu-Kossa and 64% of farmers in Gomma district replied as they were visited by the extension service providers; however only 32.5% and 13% in Limmu Kossa and 24% and 21.3% of sample farmers in Gomma districts considered the extension services on marketing and value addition activities as adequate. It implied that majority of farmers in both districts did not get the important extension services. Extension services were mainly given on production (fertilizer/compost application, seedling rising). However, 73.6% and 68.9% of sample respondents in Gomma and Limmu_Kossa districts reported that the most important extension service they need on was farm level processing and post-harvest value additions. Thus, value chain oriented extension services focusing on farmers' need must be given.

Training and advisory service providers: Most importantly mainly unions and NGOs (techno serve, though it is only in Gomma district) were those which provide farmers with technical value chain oriented and business advisory services. DAs played roles in giving advisory services. 85.7% of sample farmers participated in training for around 15.4 days on average. Most training in the zone focused on production and pre-harvest activities while limited around postharvest and value chain area.

NGOs: NGOs like techno serve, agricultural gross plan (AGP), and fair trade have had role for all actors in the coffee value chain in building the capacities, improving crop management techniques, providing good quality planting materials, creating market linkages, and organising cooperatives.

Information providers: Experts/DAs, and coop/union were sources where majority of the farmers accessed information about input supplies (seed varieties, seedling, and fertilizers), new technologies and practices and product development. Coop/union, techno serve, fellow farmer, mobile/telephone, TV, personal market observation, ECX, brokers, and traders (suppliers) were the main information sources about marketing timing, buyers/demand, quality requirement, market outlet choice, price, and available business services. The study generally showed that most sample farmers used coop/union, media, DAs and mobile/telephone as the most accessible information sources.

Financial service providers: Oromia credit and saving institution (OCSI), coop/union, cooperative bank of Oromia, and private lenders were identified as the potential and available credit sources for farmers. Financial services especially credit for farmers in the study areas were very important for two major reasons; first it enabled them to wait better price than selling soon for urgent needs; and secondly credit enabled farmers to participate in value additions than to sell coffee in red cherry form. Farmers used both cash and in-kind credit from formal and informal credit sources. In the study year, the OCSI in Gomma and Limmu-Kossa districts provided a total of 20,507,600 birr and 10,542,952.38 birr respectively for farmers in group based credit scheme. Most sample farmers were not happy with credit procedure practiced in OCSI and did not need the short term credit to be paid back per a year rather is long term credit. From the survey result, 47 (62.7%) and 49 (63.6 %) of sample farmers in Gomma and Limmu-Kossa districts respectively took credit. Out of 96 sampled farmers who took credit, 24 (25%) farmers got credit from more than one source, 19 (19.8%) farmers got credit from cooperatives only, 40 (41.7) farmers from OCSI only, and 13 (13.5%) farmers took from traders and other sources only. 56

(36.8%) of the sample farmers didn't take credit from which 15 (26.8%), 27 (48.2%), and 8 (14.3%) reported the reasons for not getting credit as lack of interest for a year based credit, restricted criteria/procedure, biased selection respectively. The remaining 6 (10.7%) raised different reasons.

The major problems were; first there was an overall gap between demand and supply (shortage) of financial services in formal credit source; second, informal financial loans were very costly and risky, while those from OCSI and cooperatives often appeared not to be custom-made to farmers' needs in relation to timing, length and amounts. The major problems identified by farmer were small amount, short duration of credit, high interest rate, biased selection, restricted criteria and procedures (Table 1).

Table 1: Major problems of farmers with formal credit source

	Limmu-Kossa (N=77)		Gomma (N=75)	
Problems	Frequency	(%)	Frequency	(%)
No problem	17	22.1	20	26.7
Small amount	51	66.2	48	64
Duration of credit	42	54.5	36	48
High interest rate	9	11.7	6	8
Biased selection	26	33.8	30	40
Restricted criteria	60	77.9	54	72
Combination of either of the above	49	63.6	40	53.3

Source: Own computation from survey result, 2016

Farmers also replied the problem with informal credit source that the interlocked contractual agreement mostly disadvantaged them due to price risk. 49 (32.24%) of the total sampled farmers had in advance contractual agreement with informal creditors to pay back it in kind of red cherry coffee.

The modern value chain finances like out grower schemes, warehouse receipts, and value chain intermediation are lacked in the study districts. None of the sample famers were insured with insurance services like crop insurance. In general, farmers stated their greatest constraint is access to finance, which they view as a constraining factor limiting their scale of operations, achieving lesser efficiency, and discouraging value addition. Commercial bank of Ethiopia had no experience of providing credit directly for smallholder farmers with no reason but with guarantee problem and difficulty of inspecting each and individual farmers. Source of credit for suppliers and unions in the study area is different from farmers with both procedures and amount as big traders (suppliers) and/or unions can get credit from banks. In the survey year, commercial bank of Ethiopia, via Gomma and Limmu branch alone, provided suppliers a total of 18, 630,000 birr and 14,000,000 birr (maximum of 3.5 million and 4.5 million birr respectively) credit respectively.

Ethiopian Commodity Exchange (ECX): ECX is another important value chain enabler incorporating a trading platform for coffee besides dealing with several commodities. The basic function of ECX is to provide a centralized and standardizing service where agricultural goods and futures can be traded. Grading, warehousing, and trading services are the major ones. The rigidity of the auction and export processes including inability of buyers to taste the coffee in advance of sales, however, creates a highly inefficient marketing system. Traceability is not feasible for private traders in the present ECX auction system. Local consumer demand for the higher quality export beans also created an illicit market that yields higher profits than exporting, albeit in local currency, is also another challenge ECX has been facing.

On top this, district level road and transport authority office, trade and market offices (licence issuance), money and finance office, land and environment protection office, administrative and peace security office, gender office, health office and the government (formulation and implementation of policy), ministry of trade, Ethiopian revenue and custom authority (facilitate exporting), and even media (promoting special characteristics and original flavour of Ethiopian coffee) were also identified as potential coffee value chain enablers affecting it one way or the other.

Distribution of value addition along the value chain actors: The value added by a given actor is the difference of the selling price and purchasing costs or production cost and or some material cost. The value addition contribution of actors was computed in a relative term as the ratio of actors' value added and total value added by all actors. Value addition and value share were calculated based on 1qtl of red cherry as a reference commodity and following the chain of actors forward to importers through two selected marketing channels (Table 2).

Table 2: Contribution of value addition by actors along the value chain

Channel	Coffee Type	Actors	Production/ purchasing cost	Selling price	Value added	Value share (%)
		Farmer	160.25	690.85	530.60	24.21
		Coop.	690.85	1034.88	344.03	15.70
	Red	Union	1034.88	2352.00	1317.12	60.09
Channel I		Total			2191.75	100.00

		Farmer	160.25	1038.24	877.99	46.63
	Dry	Coop.	1038.24	1214.00	175.76	9.34
		Union	1214.00	2043.00	829.00	44.03
	Total				1882.75	100.00
		Farmer	160.25	791.98	631.73	35.10
	Red	Supplier	791.98	1248.45	456.47	25.36
		Exporter	1248.45	1960.00	711.55	39.54
Channel I		Total			1799.75	100.00
		Farmer	160.25	1073.06	912.81	59.19
	Dry	Supplier	1073.06	1257.44	184.38	11.95
		Exporter	1257.44	1702.50	445.06	28.86
		Total			1542.25	100.00

Source: Author's computation from survey result, 2016

Table 2 above depicted the computation of value shares for actors in the two selected marketing channels. The contribution of value addition by the farmers while selling red cherry coffee in channel I ranked second (24.21%). When it came to dry cherry marketing, the role of farmers in value addition was increased to 46.63% of the total value addition and ranked first. Besides, for both coffee types, farmers' value share in channel II is greater than that of in channel I. In channel II, the value share contribution of farmers in case of dry cherry type (59.19%) was greater than the case of red cherry type (35.10%). The probable reason for the increase in value share for the farmers was the better relative price offered for dry cheery coffee compared to red cherry coffee. It can, thus, be concluded that farmers' value share if participated in drying would be increased from that of red cherry selling.

Summary, Conclusion, and recommendations: The major actors identified in coffee value chain were input suppliers, smallholder farmers, large scale growers (private and state), cooperatives, unions, suppliers, exporters, importers, domestic wholesalers, retailers and consumers; and assumed different functions as input provision, production, processing, marketing, and post-consumption services. Farmers were basically involved in production, harvesting, drying and other post-harvest handling activities. Large scale private growers are actors involved in very bulky production and are permitted to sell their coffee directly to the international market. Collectors are those who are delegated for suppliers and are immediate buyers of coffee from smallholder farmers. Primary cooperatives are the other important actors involved in purchasing coffee directly from farmers and sell directly to importers via unions. Suppliers are actors who buy coffee from farmers and/or take from own farm and, like coop/unions, were also engaged in both wet and dry processing and finally sell to exporters in an open ECX auction market. Exporters are those who have their own coffee farm and/or buy coffee from suppliers in an open ECX auction market and sell to international importers. Domestic wholesalers are value chain participants who buy local standard coffee mainly from suppliers and sold to retailers in the local country. Domestic retailers are buyers of local standard coffee from the domestic wholesalers and further retail to local consumers. Retailers do packing and arrange the coffee convenient for consumers. Domestic consumers are the ultimate actors participated in coffee value chain.

The major extension services given to the smallholder farmers were training, technical advisory services, and experience sharing visit to model farmers' site. Only few sample farmers in reported extension services on marketing and value addition activities are adequate. Target oriented extension services focusing on farmers' requirement must be given to farmers. Mainly unions and NGOs (techno serve, AGP) provide farmers technical value chain oriented and business advisory services. Experts/DAs, and coop/union were major sources where majority of the farmers accessed information about input supplies, new technologies and practices and product development. Financial services especially credit for farmers was very important for enabling them to wait better price than selling forcedly for urgent needs; and for participating in value additions than to sell coffee in red cherry form. However, it was reported overall shortage, very costly and risky informal financial loans, short duration (a year based) credit, high interest rate, biased selection procedure, and restricted criteria are the problem associated with credit. Financial credits often appeared not to be custom-made to farmers' needs in relation to timing, length and amounts. Besides, the interlocked contractual agreement with informal credit loaners mostly disadvantaged farmers due to price risk. The modern value chain finances like out grower schemes, warehouse receipts, and value chain intermediation are lacked in the study area. ECX is another important value chain enabler incorporating a trading platform for coffee besides dealing with several commodities. The rigidity of the ECX auction and export processes including inability of buyers to taste the coffee in advance of sales however creates a highly inefficient marketing chain. Traceability is not also feasible for private traders in the present ECX auction system. In general, the study recommend strategies and interventions for farmers to be addressed with adequate financial services (credit services), extension services and awareness training, information services, post-harvest facilities and other infrastructures, and fair price payment. Furthermore, it would be better if farmers are encouraged to dry coffee (value additions) as an alternative for better value share contribution, price, and income generation. Thus, provided that it benefits farmers to participate in coffee value addition through dry processing, mechanisms should exist to support small scale farmers in providing drying facilities.

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