Factors Affecting Farmers' Coffee Market Outlet Preference in Southwest Ethiopia: Survey Result of Coffee Potential Districts of Jimma Zone

Solomon Asefa[1]   Wondaferahu Mulugeta[2]   Jibril Hadji[3]   Samuel Diro[4]
1.Jimma university; Lecturer: college of business and economics: Jimma, Ethiopia
2.Jimma university; Assistant professor: college of business and economics: Jimma, Ethiopia
3.Jimma university; Lecturer: college of business and economics: Jimma, Ethiopia
4.Ethiopian Institute of Agricultural Research, Jimma agricultural research center, Jimma; Ethiopian

Abstract
The aim of the study was to show determinants of coffee farmers' preference of coffee market outlet in south west Ethiopia/Jimma zone. Cross-sectional data was collected from 156 randomly selected rural households of three districts. The study used multinomial logistic regression model to determine factors affecting coffee market outlet preference of coffee producers. Informal buyers, formal traders, brokers and cooperatives were four main coffee market outlet exist on the study area. Regression result shows that number of extension visit has positive and significant effect on the preference of formal red coffee markets and transport cost to the main market has negative and significant impact on formal traders preference relative to informal buyers. Distance to cooperatives has negative and significant effect on the preference of farmers for cooperatives and number of visit by extensionists has negative and significant effect on formal dry coffee markets and brokers and positive and significant effect on cooperatives as compared to informal markets. Based on the main findings, the study recommends extensionists to aware coffee producers to choose good market outlets such as cooperatives for efficient and profitable marketing of coffee and suggests the government to increase the access of cooperatives and the improvement of the infrastructure to enhance coffee marketing.
Keywords: Broker, cooperative, Cross sectional, Formal trader, Informal buyer, Marketing outlet, Multinomial logistic

BACKGROUND

Coffee sub sector is continues to be the pillar for Ethiopian economic development as it accounts over 35% of agricultural foreign exchange earnings and about 4% of agricultural gross domestic product. It also provides income to over 15 million people in the country through provision of jobs for farmers, local traders, processors, transporters, exporters and bankers (Ministry of Trade, 2012). It is also an important source of government revenue through various taxes levied on the crop (ICO/CFC, 2000). Market volatility and declining terms of trade, systemic poverty; and environmental degradation are threats to the sustainability of coffee sector. Emphasis given to efficient management of the markets and efficient management of supply chains are the sustainable remedy for the sustainability of the sector. The natural interdependence between market and supply chain efficiency suggests that systemic treatment of both aspects at a policy level is imperative to the effective implementation of sustainability in the sector (Potts, 2006).

Though efficient agricultural marketing is a tool to improve farmers income and livelihood, farmers faced barriers such as insufficient and inadequate physical infrastructure, lack of basic education and marketing knowledge, lack of organizational support and institutional barriers in marketing (Kherallah and Kirsten, 2001). This has an implication on the choice of marketing channels that farmers prefer in marketing their produces.

Choice of a marketing channel is one of the key ingredients to successful marketing of both agricultural and non-agricultural products as different channels are characterized by different magnitude of profit and costs. Market development commonly parallels the development of a region's or a nation's economy.

The most frequently used coffee markets in Jimma zone include informal buyers, formal coffee traders, brokers and farmer groups/cooperatives. Informal coffee buyers include farm gate buyers and local consumers while formal coffee traders include village and urban coffee traders who are licensed and officially known in coffee market chain. Although farmers of the zone is prominent coffee producers, literature regarding determinants of farmers' coffee market outlet preference for the study area even for the countries coffee producing zones is very scant and limited.

Thus, the study is aimed to show determinants of coffee farmers' preference of coffee market outlet in south west Ethiopia/Jimma zone and the specific objectives of the study are:
* To identify coffee market outlets exist on the study area and proportion of coffee suppliers (farmers) used those market outlets.
* To analyze factors determines coffee market outlet preference among the small holder farmers.
The rest of this study is organized in to four sections. Section two embraces some theoretical and empirical

literature on marketing channels or outlets. Section three included data collection and data analysis methods and section four discussed the result and its interpretation and finally section five concluded and gave policy recommendation based on the core findings.

Review of literature: Marketing and determinants marketing outlet preference

Market is a particular group of people, an institution, a mechanism for facilitating exchange (Solomon, 2002) and marketing is a societal process by which individuals and groups obtain what they need and want through creating, offering, and freely exchanging products and services and value with others (Kotler, 2003).

Marketing outlets or channels are sets of interdependent organizations involved in the process of making a product or services available for use or consumption. The sequence of intermediaries and markets through which goods pass from producer to consumer is known as marketing channel. Marketing channel decisions are among the most critical decisions facing management (Kotler, 2003).

The importance of the distribution function in marketing is apparent when one considers the magnitude of goods and services that are transported and sold at millions of locations throughout the world. Many experts believe that the distribution decision is the most important marketing decision a company can make. The design of an organization's distribution system is a key factor in creating customer value and in differentiating one company's offering from that of another (Anderson and Vincze, 2000). They noted that the field of distribution is made up of two distinct branches: channels of distribution and physical distribution. Channels of distribution consist of a network of intermediaries that manages a flow of goods and services from the producer to the final consumer. The success of this network depends on relationships among manufacturers or producers, wholesalers, retailers, sales representatives, and others. As products move from one intermediary to the next, exchange takes place exchange of physical goods, intangible services, and value added dimensions. Physical distribution activities include the actual movement of goods and services, with a focus on transporting and warehousing them. A number of well tried and tested channels have been used throughout generations by farmers, and the most important of these will be considered from the point of view of their use for particular commodities and their individual advantages and disadvantages (Barker, 1989).

Limited empirical studies exist regarding factors affecting farmers channel choice decision. Agarwal and Ramaswami, (1992) have identified factors related to price, production scale and size, farm household characteristic, behavioral aspects such as (trust, risk, and experience), and market context (distance and purchase condition) affect producer market outlet choice. Furthermore, Zuniga-Arias (2007) found out that factors such as price attributes, production system, farm household characteristic, and market context could affect market outlet decision of farmers in mango supply chain in Costarica. Hobbs, (1997) also found out that age, education, farm profit and transaction cost are some factors that influence farmers channel choice decision in livestock marketing. The study also indicated that the mode of payment, long standing relationship with the buyer, and the price received as the most important reasons for selling to a particular buyer in the livestock sector.

Magogo et al., (2015) on their study on the market outlet preference for African indigenous vegetables using multinomial logistic regression model found that education level negatively affects farmers preference to sell their the vegetables for farm gate buyers and quantity of the vegetable to be sold, marketing cost and level of value addition positively and significantly affects the preference of the farmers for farm gate market. On other hands household size, extension visit and off farm income affects the preference of local open market negatively and market cost and level of value addition affects the preference of local open market positively. The finding also witnessed the positive relation between education level and marketing cost with the preference of farmers to sell for brokers and negative relation between agricultural market distance and the preference of brokers.

Multinomial regression model was also used by Berhanu et al., (2013) on their study on determinants of milk market outlet preference. The result indicated compared to accessing individual consumer milk market outlet, the likelihood of accessing cooperative milk market outlet was lower among households who owned large number of cows, who considered price offered by cooperative lower than other market outlets and who wanted payment other than cash mode. The likelihood of accessing cooperative milk market outlet was higher for households who were cooperative members, who owned large landholding size, who had been in dairy farming for many years and who received better dairy extension services. Compared to accessing individual consumer milk market outlet, the likelihood of accessing hotel/restaurant milk market outlet was lower among households who were at far away from the nearest distance to the nearest urban center and higher among households who accessed better dairy extension services and who owned large number of dairy cows.

Tobit model was used by Anteneh et al., (2011) to identify factors determine choice of coffee market channel. Accordingly, level of education, proportion off farm income to total income, proportion of land allocated to coffee cultivation, index of cooperative performance, amount of the second payment (dividend) and satisfaction on cooperatives performance had significantly influenced the market out-let choice of member coffee farmers in the study area. Except land allocated to coffee production, all other variables do have a negative relationship with the proportion of coffee sold to private traders by members. On other hands, they

identified age of the respondent and proportion of off-farm income to total income have a negative relationship with the proportion of coffee sold to cooperatives by non-members, while access to training has a positive relationship. They also indicated that age of the household head, education, proportion of off-farm income to total income, and coffee productivity positively influence the proportion of coffee sold to private trader by members and respondents' age and proportion of off-farm income to total income negatively influence the proportion of coffee sold to cooperatives by members.

Theoretical Framework

The base for market outlet choice is the theory of rational choice which assumes that farmers are rational and will rank alternative marketing outlets in order of utility. The choice of the marketing outlet was based on farmers' socio-economic characteristics and relevant factors. A farmer's marketing outlet choice was conceptualized using the random utility model. Random utility model is particularly appropriate for modeling discrete choice decisions such as between marketing outlets because it is an indirect utility function where an individual with specific characteristics associates an average utility level with each alternative marketing outlet in a choice set. The smallholder farmers of Jimma zone used farm gate, brokers, formal formal local markets and cooperatives to sell their coffee. Therefore they was able to choose from a set of alternatives (j = 1, 2, 3, 4) which provided a certain level of utility U_{ij} from each alternatives.

This model was based on the principle that the farmer will choose the outlet that will maximize his/her utility. The farmer will make a comparison on marginal benefit and cost based on the utility that will be gained by selling to a particular marketing outlet. However, it is not possible to directly observe the utilities but the choice made by the farmer revealed which marketing outlet provides the greater utility (Greene, 2002). Hence, the utility was decomposed into deterministic (V_{ij}) and random (ε_{ij}) parts.

$$U_{ij} = V_{ij} + \varepsilon_{ij} \ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Since it was not possible to observe ε_{ij} and predict exactly the choice of marketing outlet, the probability of any particular outlet choice was used in which a farmer selected a marketing outlet j = 1 if:

$$U_{ik} > U_{ij} \quad \forall_j \neq k \ldots\ldots\ldots\ldots\ldots\ldots\ldots(2)$$

Where U_{ik} represents a random utility associated with the market outlet j=k, V_{ij} represents an index function denoting the decision maker's average utility associated with this alternative and ε_{ij} represents the random error.

METHODOLOGY OF THE STUDY

The study area description

The study was conducted in Jimma zone which is located 335 km to the South west of Addis Ababa. The zone is characterized by a tropical highland climate with heavy rainfall, warm temperatures and a long wet period. The mean annual rainfall ranges between 1,200 mm and 2,500 mm. Coffee is produced in 13 of 18 districts of Jimma zone. Meaning coffee is the major contributor to the socio economic wellbeing of the zone as well as for Ethiopia.

Limu kosa, Gomma and Manna districts of the zone are randomly selected from the coffee potential *woredas*[1] for this specific study. Gomma *woreda* is is located 397 km to southwest of capital Addis Ababa and 50 km away from Jimma town. The annual rainfall varies between 800-2000 mm. The agro climate of the *woreda* is high land (highland), intermediate high land (88%) and low land (4%). Manna is another major coffee producing *woredas* in Jimma zone, which is located at 368 km southwest of Addis Ababa and 20 km west of Jimma town. The *woreda* is constitutes 12% is highland, 65% intermediate highland and 23% lowland with altitude ranges between 1470–2610 m.a.s.l. Limmu kosa is also a major coffee generating *woredas* in Jimma zone, which is located at 421 km from the capital Addis Ababa and 20 km from north of Jimma town. The agro climate of the *woreda* is intermediate highland (65%), highland (25%) and lowland (10%) (Agricultural Bureau of respective *woredas*, 2014).

Data type and method of data collection

Cross-sectional data was collected from 156 randomly selected rural households of respective *woredas*. The random of the household was identified with development agents of the selected *kebeles*[2] randomly. All attitudinal, institutional, demographic and socioeconomic factors related to the farmers were collected through personal interviews. Structured questionnaire prepared for household heads were filled by the help of selected and well trained enumerators. Some secondary data such as socio economic data of the study areas was also gathered from zonal and district bureaus of rural development offices to supplement the primary data.

---

[1] Medium sized administrative unit in Ethiopia

[2] Small sized administrative unit in Ethiopia

Data analysis technique

The Statistical Package for the Social Sciences (SPSS version-20) was used for data entry while STATA 12.1 was used for data cleaning and analysis of factors influencing the choice of coffee marketing outlets. Descriptive statistics and econometric models were used to analyze the data collected from households. Multinomial logistic regression model was used to determine factors determining coffee market outlet used by coffee farmers.

Variables of physical capital (farm size, coffee land size and distance to market), human capital (sex, age, education level, farm experience, household size and extension visits) and financial capital (farm income, off-farm income, credit access and marketing costs) are expected to influence coffee market outlet choice of coffee producers. However, not all of those variables are included in the econometric model due to specification problems. The empirical model used to assess the significance of the independent variables is given as:

$$\ln\left(\frac{p_{ij}}{p_{ik}}\right) = \alpha + \beta_1 SEX + \beta_2 AGE + \beta_3 FAMSIZE + \beta_4 FEXP + \beta_5 DFORMRT + \beta_6 DCOOP$$

$$\beta_7 VEXT + \beta_8 OFFINC + \beta_9 TCOFLAND + \beta_{10} TLAND + \beta_{11} TRCOSTFORMRT$$

Where SEX is household head sex, AGE is household head age, FAMSIZE is family size of the head, FEXP is farming experience of the head, DFORMRT is the distance to formal market, DCOOP is distance to cooperatives, VEXT is the number of visit of the extensionists, OFFINC is off farm income of the head, TCOFLAND is total coffee land, TLAND is total land and TRCOSTFORMRT is the transport cost to the formal market.

Market outlet preference

This is categorical dependent variable which represents the market channel preference of the farmer to sell his/her coffee (dry/red cherry). Four main coffee market outlets such as informal buyers, formal traders, cooperatives and brokers exist on the study area. Informal local coffee buyers include farm gate markets and consumers and formal local markets include urban and rural coffee traders. Thus, category (1) represents the base market outlet which is informal buyers, category (2) represents formal traders, category (3) represents brokers and (4) represents cooperative. Thus, the model assessed the effects of various independent variables on the odds of the three coffee market outlets versus informal local markets.

Sex of the household (SEX)

Sex of the household is dummy independent variable where (1) represent for male and (2) represents for female. Due to resource constraint and labor for transporting to the distant market like main market, female household heads do not prefer formal markets and cooperatives. Therefore, being male headed household is hypothesized to affect formal market and cooperatives positively relative to the informal markets.

Age of the household (AGE)

This is a continuous independent variable that is measured in years. As age increases, the likelihood of selling the product to the distant market such as formal markets declines. Therefore, being old aged household head is hypothesized to affect the preference of formal market outlet and cooperative negatively as compared to informal local markets.

Family size (FAMSIZE)

This is a continuous independent variable that is measured in the number of members in the household. Household size increases the labor force to transport the coffee to the market. Therefore, family size is hypothesized to affect the preference of farmers for formal market and cooperatives positively relative to informal coffee market outlet.

Farm experience (FEXP)

This is a continuous independent variable measured in the number of years a household has been engaged in coffee farming. Households who have been in coffee production for many years are expected to have rich experiences regarding opportunities and challenges of coffee production and marketing. Therefore, the variable is hypothesized to affect the preference of formal market and cooperatives positively as compared informal local markets.

Distance to formal market (DFORMRT)

This is also continuous variables measured in the kilometer. The long the distance to formal markets, the less the preference of the farmers to sell to those markets. Thus, they opt to sell to markets such as brokers and informal local market. Hence, distance to formal markets are hypothesized to affect the preference of formal market negatively, and cooperatives and brokers positively as compared informal markets.

Distance to cooperatives (DCOOP)
Distance to cooperatives is also a continuous variables measured in the kilometer. It is hypothesized to affect the preference of brokers, informal market and formal market positively and affect the preference of farmers for cooperatives negatively as compared to informal local coffee markets.

Number of extension visit (VEXT)
Number of extension visit the farmer received is a continuous variable measured in number of visit by extensionists or development agents. It is expected to affect the preference of farmers for informal markets and brokers negatively since they advices the producers to sell their product to cooperatives or formal markets.

Off farm income of the household (OFFINC)
Off farm income of the household is continuous variable measured in Ethiopian Birr. Farmers with large off farm income do not want to sell their coffee for brokers or informal buyers even for formal markets since the income might serve them as a source of livelihood. Thus, the variable is hypothesized to have negative effect on brokers and have positive effect on the preference of formal market and cooperatives as compared to informal local markets.

Total coffee landholding (TCOFLAND) and total land (TLAND)
They are variables related to the wealth of the household and measured in hectares. Farmer with large coffee land is expected to produce more coffee and he/she prefer to sell this coffee to the cooperative or formal market. Thus, total coffee land size is expected to have positive effect on cooperatives and formal market as compared to informal markets which is also true for total land holding.

Transport cost to formal market (TRCOSTFORMRT)
Transport cost is cost related to sell of coffee which is measured in single trip cost to the market in Ethiopian Birr. It is expected to affect the preference of farmers for brokers and cooperatives positively and affect formal market preference negatively as compared to informal markets since the farmer opts to sell at the market with low or nil transport cost.

RESULTS AND DISCUSSIONS OF THE STUDY
Characteristics of survey respondents
The data was collected from three districts of Jimma Zone, nine *kebeles* and sixty eight villages. It has participated 156 randomly selected farmers with development agents of respective *kebeles*.

Demographic and socio economic result of the study area shows that farmers of Manna *woreda* has high mean age (47 years), large farming experience (26.1 years), large average family size (4.9) and low land ownership (2.24 hectare). Limu kosa *woreda* has large mean of coffee land (2.07 hectare) and small average family size (3.98) and farming experience (23.09). See the summary on table below **(table 1).**

Table 1: Socio economic characteristics of survey respondents

Variables	Manna		Gomma		Limu Kosa		Overall	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Age of respondent	47.00	9.33	45.42	12.45	40.50	7.58	44.30	9.78
Farming experience	26.10	8.610	23.19	11.24	23.09	6.33	24.12	8.72
Family size	4.900	1.630	4.61	1.90	3.98	1.70	4.49	1.74
Coffee land (Hect)	1.800	1.490	1.51	0.88	2.07	1.34	1.79	1.23
Land ownership (Hect)	2.240	1.730	2.63	1.56	3.63	2.43	2.83	1.91

Source: Own computation, 2016

Institutional accessibility of the respondent shows average distance of respondents to formal village market is 3.19 km which is high at Gomma *woreda* (5.26 km) and low at manna *woreda* (1.6km). The average distance to formal main market is 38.33 km which is high at Manna *woreda* and low at Gomma *woreda*. The average distance to cooperative and extension service is 5.5 km and 7.85 km respectively. See the detail on the table below **(Table 2).**

Table 2: Institutional accessibility of the survey respondents

| Variables	Manna		Gomma		Limu Kosa		Overall	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Distance to formal village market (KM)	1.60	1.450	5.26	1.669	2.73	1.81	3.19	1.64
Distance to formal main market (KM)	90.3	80.84	20.0	13.57	51.55	20.6	53.95	38.33
Distance to cooperatives (KM)	3.20	8.170	8.96	5.46	4.35	1.91	5.50	5.18
Distance to extension services (KM)	5.60	4.540	10.68	4.41	7.28	7.65	7.85	5.53

Source: Own computation, 2016

Descriptive result of the study

The descriptive result shows that 144 (92.3%) of 156 respondents were male headed respondent and only 12 (7.7%) of respondents were female headed households. Regarding the opinion of farmers on the trustfulness of the markets, only 30% of respondents trust buyers and 70% of coffee suppliers do not trust the buyers. Farmers of the study area sell their coffee in two different ways: Red cherry and dry coffee.

Red cherry coffee marketing

The survey shows only 4% of red cherry coffee was sold by women and 22.5% of coffee was sold by men. However, more than 73% of the coffee was sold by men and women indifferently. October to December was peak period when marketing of red cherry coffee was undertaken which accounts 80% of coffee sold. The rest 20% of red cherry coffee is sold in January and February. Donkey is the main mode of transport for more than 74% of respondents though back (head) load, public transport and cart are other mode of transportation used to reach red cherry coffee to the market. Four main coffee market outlets exist in the study area for red cherry coffee. However, 48% of red cherry coffee was sold to cooperatives and 30%, 15% and 5% of red cherry coffee was sold to formal traders, informal buyers and brokers or assemblers respectively which show existence of informal coffee market. (See the summary below on **figure 1**).

Figure 1: Farmers' red cherry coffee market preference
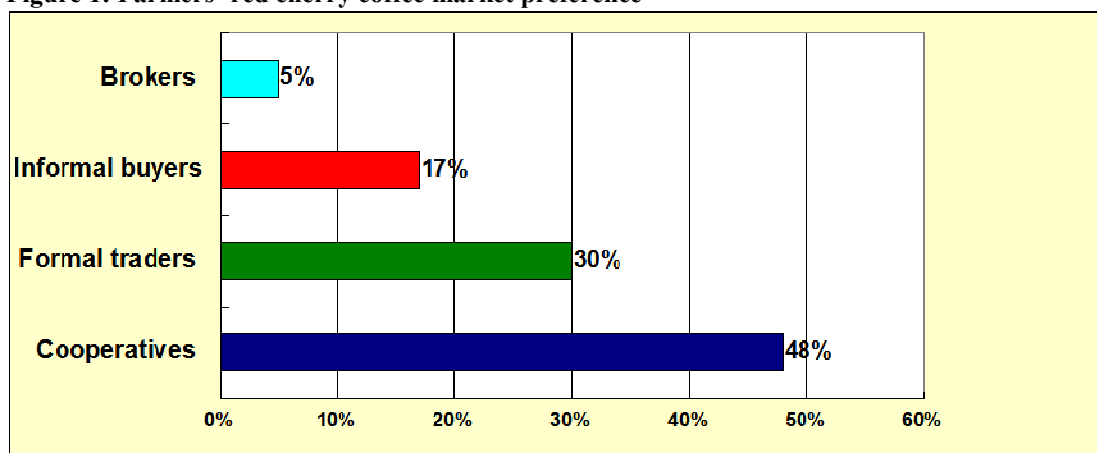

Dry coffee market

The result of the survey also shows only 3% of dry coffee was sold by women; 51% of dry coffee was sold by men and 46% of the coffee was sold by both men and women. More than 69% of dry coffee was sold from December to January and the rest 31% is sold in all months through the year except on August, September and October depending on the economic status of the farmer. The mode of transport for dry coffee used on the study area are truck, public transport, donkey, cart and back (head) load. However, more than 70% of respondents used donkey as a mode of transport for dry coffee. Regarding the market outlet preference, 73% of respondents used formal coffee trader and 15%, 9% and 3% of respondents used informal buyers, cooperatives and brokers respectively as summarized on (**figure 2).**

**Figure 2: Farmers' dry coffee market preference**
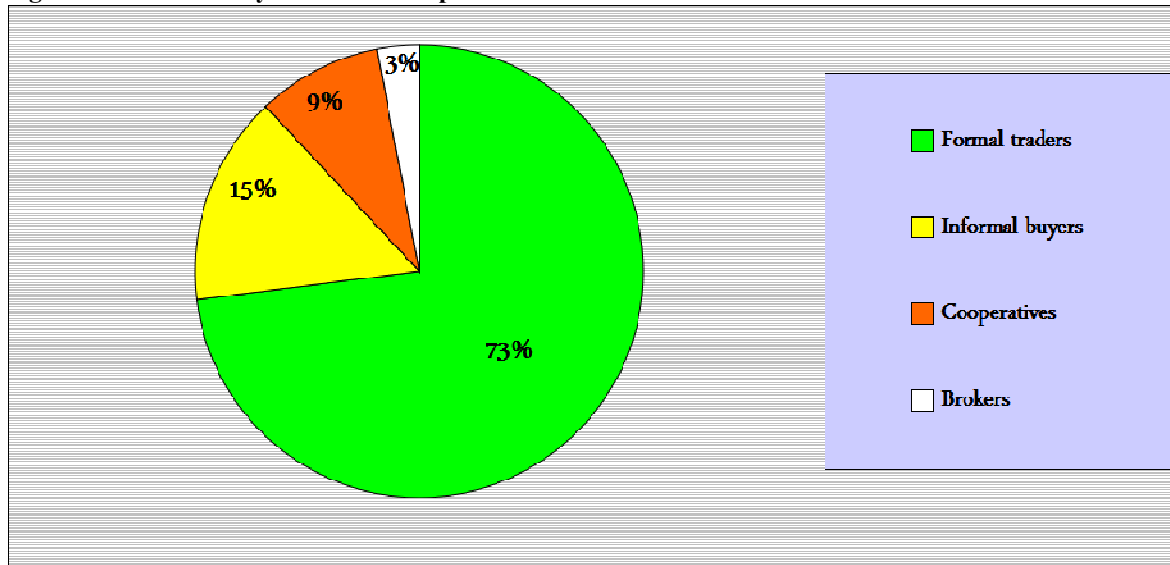
Farmers were raising different reasons for the preference of market outlet they sold for. The criteria of the respondents include market accessibility, trustfulness of the trader, market cost, optimum price and lack of other market outlet alternatives. The descriptive result shows accessibility and optimum offer (price) of the trader accounts more than 47% and 23% respectively though market cost, trustfulness of the buyer and lack of further alternatives were important criteria as summarized below.

Figure 3: Reason of preference of coffee market outlets
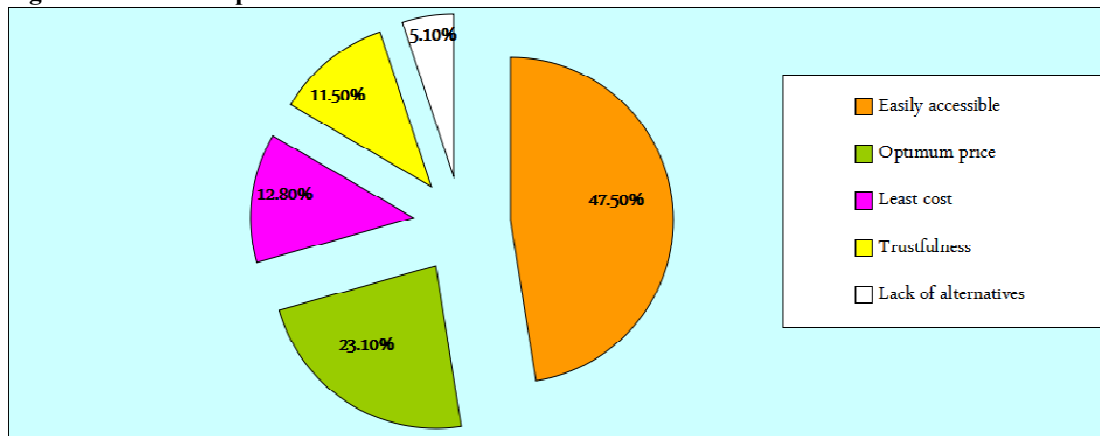
Market information is one of the main inputs for farmers to sell their produces for optimum price. The survey shows 98% of farmers got market information and only 2% of respondents sold their coffee without any information. Own observation, discussion with friends and neighbors, telephone and extensionists are the main source of market information for the study areas. However discussion was the main source of information for 48 percent of respondents. Telephone, observation and extensionists were also information mode for 30%, 15% and 7% of respondents respectively.

Figure 4: Market information source
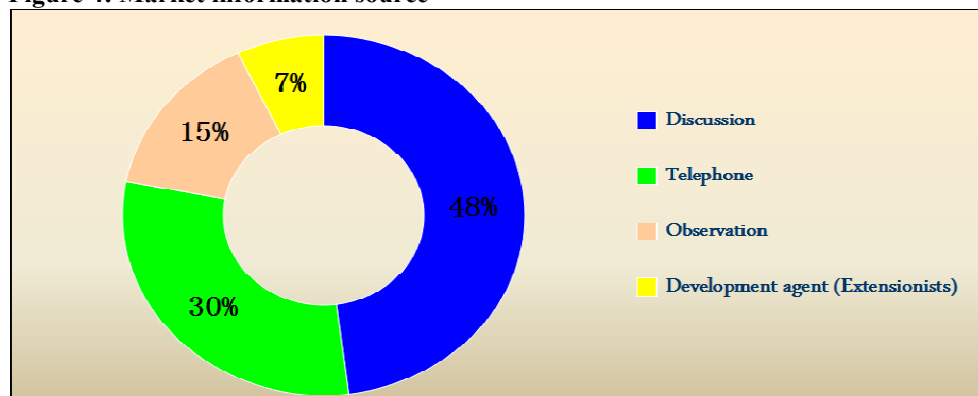
Determinants coffee market outlet for red cherry coffee

The result of multinomial logistic below shows the estimated coefficients (β values), significance values of independent variables in the model and the multinomial logit marginal effects for factors influencing the choice of marketing outlets. According to Gujarati (1992), the coefficient values measure the expected change in the logit for a unit change in each independent variable, all other independent variables being equal. The sign of the coefficient shows the direction of influence of the variable on the logit. It follows that a positive value indicates an increase in the likelihood that a household will change to the alternative option from the baseline group. On the other hand, a negative value shows how less likely a household will consider the alternative (Gujarati, 1992; Pundo and Fraser, 2006). The significance values (p-values) show whether a change in the independent variable significantly influences the logit at a given level and the marginal effects are the probabilities of observing a particular outcome which indicates the extent of the effect on the dependent variable caused by the predictor variables. The value of the marginal effects is obtained by differentiating the coefficients at their mean. A marginal effects value greater than one implies greater probability of variable influence on the logit and a value less than one indicates that the variable is less likely to influence the logit. The results revealed that households had four coffee market outlets and combinations thereof. However, due to mutually inclusiveness of outlets, fewer representation and similar collection and operation practices, only households who had access to cooperative, formal market, informal local markets and brokers were considered in the regression. For estimation purpose, the base category used was informal market preference; thus the model assessed the effects of various independent variables on the odds of three coffee market outlets versus informal coffee market outlet.

Factors affect red cherry market outlet

The model used sex of the household, age of the household, farm experience, family size, distance to formal market, distance to cooperatives, number of visit of extensionists, total coffee land, total land, total annual off farm income and transport cost to formal market as an independent variables. The result will be shown below.

Age of the household

Age of the household has negative and significant effect on the preference of farmers for formal markets and brokers as compared to informal local markets; meaning, an increase in age of the household declines the preference of formal market and brokers as they opted to use informal markets which do corroborate with the hypothesized sign.

Farm experience of the household

Farm experience of the household has positive and significant effect on the preference of the farmer for formal market and brokers as compared to informal market which is consistent with the hypothesized sign. As farm experience increases, the households opted to use formal markets as compared to the informal one.

Distance to formal market

Distance to formal coffee market has positive and significant effect on the preference of the farmer to cooperatives and brokers and has negative and significant effect on formal markets preference as compared to informal markets. The sign found on both formal market and cooperatives is consistent with the hypothesized sign.

Distance to cooperatives

The marginal effect of distance to cooperative is statistically significant with negative sign on formal markets

preference and shows that a one kilometer increase in distance to cooperatives decreases the preference of farmers to use formal local markets by 2.9%.

Number of extension visit

Number of extension visit the farmer received from the extensionists has positive and significant effect on the preference of formal markets relative to informal market which is consistent with the hypothesized sign. The marginal effect shows a single visit by extensionists increases the preference of formal markets by 1.19% relative to the informal one.

Off farm income of the household

Off farm income of the household and its marginal effect shows positive and significant relation with formal market preference as compared to informal markets which is not consistent with the hypothesized sign.

Total coffee land of the household

Total coffee land of the household has positive and significant effect on the preference of farmers for formal markets and brokers and has negative and significant effect on the preference farmers for cooperatives as compared to informal markets. The sign on broker and cooperative is not consistent with the hypothesized sign.

Total land of the household

Total land of the household has positive and significant effect on cooperatives as compared to that of the informal one which corroborates with the hypothesized sign. The implication is that farmers' with large land size opts to use cooperative market to sell their red cherry coffee. The possible reason is farmers with large land size produces relatively large agricultural produces. Thus they are not obligated to sell their coffee to informal markets and choose to sell to cooperatives or formal markets.

Transport cost to the formal market

Transport cost to the main market has negative and significant impact on formal traders' preference of farmers relative to informal buyers which is consistent with the hypothesized sign. The marginal effect of transport cost to cooperatives was also positively and statistically significant; meaning as transport cost to formal local market increases by one Birr, the preference for cooperative increases by 2.4 % as compared to informal markets.

(See Appendix-I for the details of determinants of red cherry coffee market preference)

Factors affect dry coffee market outlet

Age of respondents

Age of the household has negative and significant effects on the preference for farmers for formal markets as compared to informal market which is consistent with the hypothesized sign. The possible reason could be inability of old household to reach his/her coffee to formal markets and cooperatives.

Farm experience

Farming experience has positive and significant effect on the preference of farmers for formal markets as compared to informal market which is consistent with the hypothesized sign. The marginal effect of farm experience was also positively and significantly related to formal market preference. This means an increase in one year farm experience increases the likelihood to use formal markets by 1.6% as compared to informal markets.

Family size of household head

Family size of the household head is positively and significantly related to farmer's preference for cooperatives which is consistent with the hypothesized sign. The reason could be farmers with large family size have large labor force to reach their coffee even if the cooperative is distant from their locality.

Distance to cooperatives

Distance to cooperatives has negative and significant effect on the preference of farmers for cooperatives and has positive and significant impact on preference of farmers for brokers as compared to informal market which is also consistent with the hypothesized sign. The marginal effect of distance to cooperatives is also significant with positive sign on farmers' preference for brokers.

Visit of extensionists

Number of visit by extensionists has negative and significant effect on formal markets and brokers, and positive and significant effect on cooperatives as compared to informal markets which all are consistent with the

hypothesized sign. The reason behind this could be extensionists' advice farmers to sell their coffee to cooperatives rather than local traders.

Off farm income
Annual off farm income the household has negative and significant effect on the preference of the farmers for brokers as compared to informal market which is consistent with hypothesized result. The reason might be farmers with large off farm income are expected to use attractive market outlet when the coffee price becomes attractive.

Total coffee land of the household
Total coffee land of the household has negative and significant effect on the preference of formal markets relative informal markets which is inconsistent with the hypothesized sign.

Total land of the household
Total land holding of the household has positive and significant effect on the preference of formal market outlet as compared to informal markets which is consistent with the hypothesized sign.

Transport cost to formal market
The coefficient of transport cost to the formal market is not statistically significant. However the marginal effect of transport cost to formal market was statistically significant with negative sign. The implication is that a one Birr increase in transport cost to the formal market decreases the likelihood to use formal market by 1% as compared to informal markets.
(See Appendix-II for the details of determinants of dry coffee market preference)

CONCLUSION
The study was undertaken with the objective of assessing factors affecting coffee market outlet choices on Jimma Zone, Ethiopia. The data was collected from 156 coffee smallholder farmers. Multinomial logit model was used to analyze factors that determines dry and red cherry coffee market outlet.

The result shows that, 48% of red cherry coffee was sold to cooperatives and 30%, 15% and 5% of red cherry coffee was sold to formal traders, informal buyers and brokers or assemblers respectively. On other hands, 73% of respondents used formal coffee trader and 15%, 9% and 3% of respondents used informal buyers, cooperatives and brokers respectively for dry coffee.

Farmers were raising different reasons for the preference of market outlet they sold for. The criteria of the respondents include market accessibility, trustfulness of the trader, market cost, optimum price and lack of other market outlet alternatives. The survey shows Own observation, discussion with friends and neighbors, telephone and extensionists are the main source of market information for the study areas.

Multinomial logistic model for red coffee market resulted age of the household has negative and significant effect on the preference of farmers for formal markets and brokers and farm experience of the household has positive and significant effect on the preference of the farmer for formal market and brokers as compared to informal markets. Distance to formal coffee market has positive and significant effect on the preference of the farmer to cooperatives and brokers and it has negative and significant effect on formal markets preference. The result also shows number of extension visit the farmer received from the extensionists has positive and significant effect on the preference of formal markets and transport cost to the main market has negative and significant impact on formal traders preference of farmers relative to informal buyers as compared to informal markets.

The dry coffee market preference result also shows that age of the household has negative and significant effects on the preference of farmers for formal markets and farming experience has positive and significant effect on the preference of farmers for formal markets as compared to informal markets. Family size of the household head is positively and significantly related to farmer's preference for cooperatives and distance to cooperatives has negative and significant effect on the preference of farmers for cooperatives and has positive and significant impact on preference of farmers for brokers. Number of visit by extensionists has negative and significant effect on formal markets and brokers and positive and significant effect on cooperatives and the marginal effects of transport cost to formal market were statistically significant with negative sign.

POLICY RECOMMENDATIONS
Finally the study recommends the government to increase the access of cooperatives among coffee producing areas which increases coffee farmers' income from fair market and coffee supplied to national and international market, reduces marketing cost and combats informal coffee sell, market and traders. The study also point to the need for improvement of the extension services to aware farmers to choose formal markets such as cooperatives

for efficient and profitable marketing of coffee through redesigning or reforming implementation strategies or improving/strengthening existing policy. Long distance to the agricultural produce markets and poor infrastructure was also a hindrance in marketing of coffee and this study recommends the improvement of the infrastructure to enhance coffee marketing.

REFERENCE

Agarwal, S. and S. Ramaswami, 1992. Choice of foreign market entry mode: Impact of ownership,Location and international factors, *Journal of International Business Studies 23 (1) 1-27.*

Anderson, C.J. and Vincze, J.W., 2000. Strategic Marketing Management. Houghton Mifflin Company.New York.

Anteneh A., Muradian R., Ruben R. (2011). Factors Affecting Coffee Farmers Market Outlet Choice. The Case of Sidama Zone, Ethiopia. Centre for International Development Issues Nijmegen, Radboud University, the Netherlands.

Barker, J., 1989. Agricultural Marketing. Oxford University Press. New York.

Berhanu K., Baker D., Kindie G. and Belay K. (2013). Factors affecting milk market outlet choices in Wolaita zone, Ethiopia. *African Journal of Agricultural Marketing Vol. 1 (2), pp. 024-031,* December, 2013.

Greene, W. H. (2002). Econometric analysis 5th ed.Upper Saddle river: Prentice hall, pp. 285, 291, 293, 304.

Gujarati, D. N. (1992). Essentials of econometrics, 2nd Ed.Mac Graw–Hill, New York, pp. 466.

Hobbs (1997) J.E. Hobbs, Producers attitudes towards marketing channels for finished cattle. Farm Management, 9 11 (1997), pp. 566–579.

ICO/CFC (2000). Marketing and trading policies and systems in selected coffee producing countries: Ethiopia Country Profile. International Coffee Organization/Common Fund for Commodities, New York: LMC International.

Kherallah M. and Kirsten J. (2001). The new institutional economic: applications for agricultural policy research in developing countries. Markets and Structural Studies Division. International Food Policy Research Institute, N.W. Washington, D.C. U.S.A.

Kotler, P., 2003. Marketing Management. Delhi-India.

Magogo J., Mshenga P., Mlongo S., Mwanarusi N., Agnes O.,Shem I. (2015) Determinants of Choice of Marketing Outlets for African Indigenous Vegetables among the Agro-Pastoral Maasai of Narok and Kajiado Counties of Kenya. *Journal of Economics and Sustainable Development,* Vol.6, No.8, 2015.

Ministry of Trade (2012). Coffee opportunities in Ethiopia. Ministry of Trade, Federal Democratic Republic of Ethiopia. February 2012. Addis Ababa, Ethiopia.

Potts J. (2006). International Institute for Sustainable Development (2006). Leveraging the Market for a Sustainable Coffee Economy.

Pundo, M. O. and Fraser, G. C. (2006). Multinomial logit analysis of household cooking fuel choice in rural Kenya: The case of Kisumu district. Agrekon,45(1), pp. 24–37

Solomon Tilahun, 2002. Performance of Cattle Marketing in Southern Ethiopia with Special Emphasis on Borena Zone. (2002).

Zuniga-Arias, G. E., (2007) Quality Management and Strategic Alliances in the Mango Supply Chain from Costa Rica: An interdisplinary Approach for Analyzing Coordination, Incentive, and governance, Wageningen University, The Netherlands.

APPENDICES

Appendix - I: Factors affect red cherry coffee market outlet

Multinomial logistic regression		Number of obs = 156			
		LR chi^2(36) = 95.21			
		Prob > chi^2 = 0.0000***			
Log likelihood = -123.94		Pseudo R^2 = 0.3195			

Variables	Cooperatives		Formal market		Brokers	
	Coefficient	dy/dx	Coefficient	dy/dx	Coefficient	dy/dx
HHSEX	-1.604	-0.269	1.534	0.394	-15.64	-0.205
HHAGE	0.052	0.0309	-0.135***	-0.029	-0.219**	-0.002
HHFEXP	-0.0082	-0.036	0.152***	0.033	0.284**	0.003
FAMSIZE	0.2444	0.022	-0.0589	-0.0064	-0.158	-0.002
DFOMRT	0.711***	-0.122	-0.435***	-0.0787	0.878***	0.008*
DCOOP	0.002	0.025	-0.123	-0.029*	0.103	0.002
VEXT	-0.017	-0.011	0.0514*	0.0119*	-0.049	-0.001
OFINC	-0.000	-0.000	0.000***	0.000**	0.000	-0.000
TCLAND	-1.487**	-0.216	0.714*	0.1183	1.892***	0.0188
TLAND	0.824*	0.144	-0.518	-0.095	-1.02**	-0.01
TCOSTFMRT	0.076	0.024*	-0.105**	-0.023	-0.052	-0.000
CONSTANT	4.190		0.528	-		

Base category = Cooperatives

Source: own computation, 2016

Appendix - II: Factors affect dry coffee market outlet

Multinomial logistic regression		Number of obs = 156			
		LR chi2(30) = 43.55			
		Prob > chi^2 = 0.012**			
Log likelihood = -64.59		Pseudo R^2 = 0.2775			

Variables	Cooperatives		Formal traders		Brokers	
	Coefficient	dy/dx	Coefficient	dy/dx	Coefficient	dy/dx
HHSEX	1.802	-0.128	15.65	0.129	15.45	-0.0004
HHAGE	0.076	0.0008	-0.108**	-0.0015	-0.012	0.0005
HHFEXP	-0.363	-0.0012	0.146**	0.016*	0.084	-0.0003
FAMSIZE	0.402*	-0.0006	0.0767	-0.0004	0.247	0.001
DFOMRT	0.097	0.0017	-0.207	-0.0023	-0.110	0.0006
DCOOP	-1.541**	-0.013*	0.158	0.0011	0.186*	0.002*
VEXT	0.413**	0.0018	-0.223*	-0.0012	-0.315**	-0.0006
OFFINC	0.000	-0.000	0.000	0.000	-0.0002*	-0.000
TCLAND	-3.542	0.0158	-1.933**	-0.0183	-1.507	0.003
TLAND	3.062	-0.012	1.482**	0.0138	1.203	-0.002
TCOSTFMRT	0.260	0.0006	-0.085	-0.010**	-0.059	0.0002
CONSTANT	-5.384	-	-9.69	-	-14.44	-

Base category = Cooperatives

Source: Own computation, 2016