Structure, Conduct and Performance(S-C-P) of Sesame Market in Melokoza District of Southern Ethiopia

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Abstract

Sesame is an important cash crop and plays vital role in the livelihood of many people in Ethiopia. In Melokoza district, sesame is a source of income for the people. However a number of challenges hampered the development of sesame sector along the market. Therefore this study was initiated to identify sesame market chain actors and their roles, analyze structure-conduct - performance of sesame market and identify constraints of sesame production and marketing in the study area. Both primary and secondary data were used for the study. Primary data were collected from farm households and traders through semi structured questionnaire. Secondary data were collected from different documents. Four sesame market channels were identified in the study area. Structure-conduct - performance analysis was used to analyze the data. Sesame markets are characterized by weak oligopolistic markets with the buyers' concentration ratio of 40.28%. The major barriers to enter into the market were shortage of capital, licensing procedure, high price fluctuation, untimely and non- availability of price information and limited trading experience. The share of producers, wholesalers and exporters from the export free on board price was 52.07%, 25.28% and 22.65% respectively. Gross profit was Birr 1199.11, Birr 346.54 and Birr 106.25/qt. for producers, wholesalers and exporters respectively. Even though sesame trading is profitable, the magnitude is low as compared to time and efforts spent in the operation. The finding suggests that, Strengthening Institutions that convey reliable and timely market information; strengthening extension system through training in all aspect and design financial institutions to address the challenges of financial access to smallholder farmers and traders. Moreover, give attention to infrastructural, yield increasing technologies, post-harvest management and integrated pest and diseases control system in the study area to boost production and marketing of sesame.

Keywords: sesame; Melokoza; constraints; structure-conduct – performance

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1. INTRODUCTION

Agriculture is a key sector for Ethiopia, providing employment to 72.7% of the population and contributing 36.2% to the country's GDP (CIA, 2017). It also accounts 85% of the national export earnings (UNDP, 2016). Having all these importance, agriculture continues to face a number of problems and challenges. Oilseeds play a significant role on the lives of Ethiopian agrarian community and stakeholders in the national economy of Ethiopia. A variety of oilseeds are grown in Ethiopia, of which sesame is by far the most important both in terms of volume, value and export earnings (NABC, 2015). According to Geremew (2012) promotion of export potential cash crop is governments' strategy for raising agricultural GDP and rural income.

In Ethiopia, sesame is commonly cultivated in areas ranging in altitude from 500 to 1300 meters above sea level in rain-fed condition (Abadi, 2015). According to CSA (2016) reports on area and production of sesame by small farmers and medium/large commercial farms, the total production of sesame by both small farmers and commercial farms was 2,742,174.27 quintals from 388,245.50 hectares of Land with productivity of 7.06 quintals per hectare. CSA (2017) from an area of 337,926.82 hectares produce 2,678,665.46 quintals with the yield of 7.93 quintals/ha.

Melokoza district is found in Gamo Goffa Zone, Southern Nations, Nationalities and Peoples Regional State. In the District, most farmers are involved in sesame production as the main source of income. According to Melokoza District Agriculture and Natural Resource Office, in 2016/17 GC, 10,085 hectares were covered by sesame with average productivity of 6.9Qt /ha.

Even though sesame is economically important, no adequate studies have been made in the study area to improve the sector. Analysis of Sesame market on base of market structure, conduct and performance taking into consideration of product and location specificity is useful intervention to identify bottlenecks and come up with possible solution. This study therefore, attempted to contribute to fill the information gap on structure, conduct and performance sesame market in Melokoza district with specific objective of identifying sesame market chain actors and their roles; analyzing the structure, conduct and performance of sesame market and identifying constraints of sesame production and marketing in the study area.

2. RESEARCH METHODOLOGY

2.1. Study Area

This study was conducted in Melokoza district, one of the districts in the Southern Nations, Nationalities and

Peoples Regional State of Ethiopia located at $6^0 30'0''$N Latitude and $36^0 40' 0''$E. It is part of the Gamo Gofa Zone, which is located at 347km from Arba Minch (zonal city), 396 km from Hawassa and 661 km from Addis Ababa that bordered on the south by Basketo Special district, on the southwest by the Debub (South) Omo Zone, on the north by Dawro Zone, on the northwest by the Konta Special Woreda, and on the east by Demba Gofa and Geze Gofa districts.The mean annual rainfall of the district is 1125mm and Mean temperature of the district is $21.3c^0$. Soil types of the district are 50% clay loam, 35% sandy loam and the remaining 15% clay soil. Agriculture is the major subsistence activity on which the largest proportion of the population directly depends for its livelihoods. The district has two agricultural production seasons that are belg for sesame, haricot bean and maize production and meher for production different crops except sesame (MDANRDO, 2016).
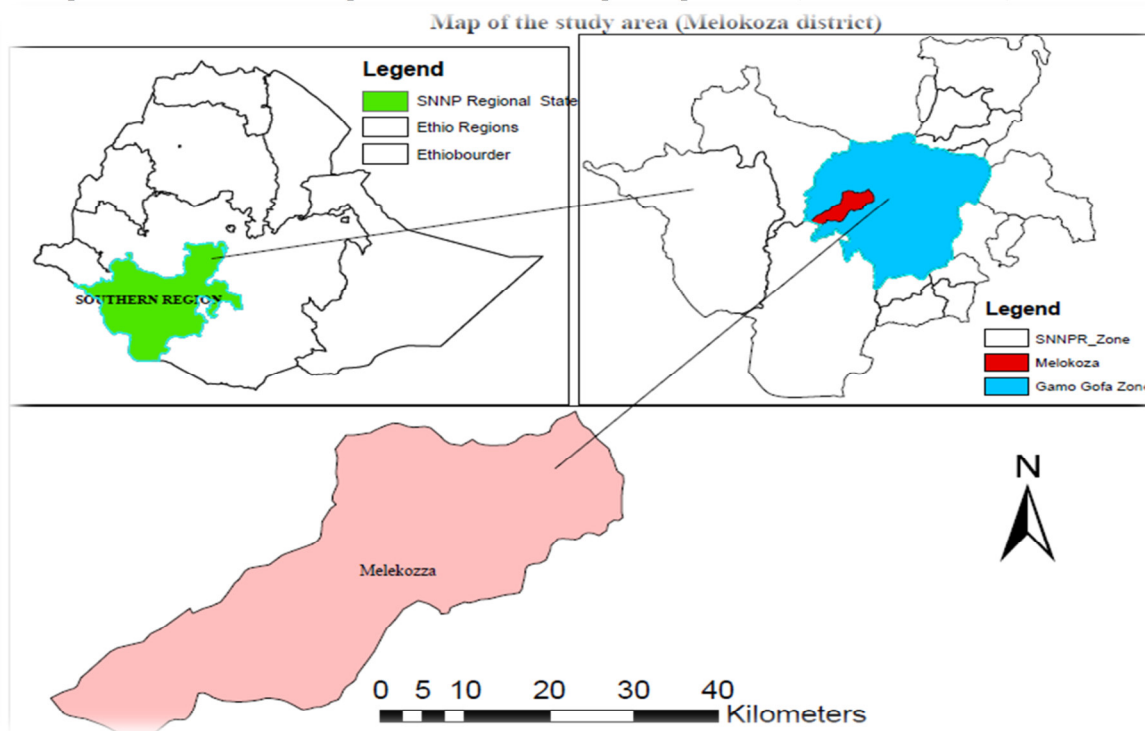

Figure 1 : Location of the study area
Source: Developed from Ethio-GIS

2.2. Data Type, Sources and Method of Collection
In the study primary and secondary data sources were used to capture both qualitative and quantitative data type. Primary data were collected from Sesame producer farmers and other concerned bodies by using interview schedule and structured questionnaire. Secondary data were also be collected from government institutions, District Agricultural Natural Resource Office, Zone and district marketing office, reports, published and unpublished documents. Enumerators, who have acquaintance with local language and culture of the local people were selected, trained and employed for data collection.

2.3. Sampling Procedures and Sample Size
The target populations for this study were sesame producers and traders in sesame market chain. The sample for this study was drawn from sesame producer households and sesame trader. Two - stage sampling procedure was employed to select sample farm households. In the first stage, four *kebeles* were selected randomly from sesame producing *kebeles* of the district. At the second stage, 123 representative sample respondents were randomly selected from sampled *kebeles,* using probability proportional to size sampling technique. The determination of sample size was resolved by sampling formula (Yamane, 1967) because of sesame producers use similar inputs and found in similar agro-ecologies.
The formula is:

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

Where,
n= sample size for the research use;

N= total number of sesame producer households; N=17,881
e = designates variability/level of precision or margin of error which ranges from 5% to 10% and for this study 9% was used to obtain manageable sample size.

   Data from traders were also collected. 20 traders were selected randomly from the total list of sesame traders of the district in order to obtain relevant information regarding to sesame traders purchasing and selling activities. Using an informal survey in the form of rapid market appraisal (RMA) technique, 5 Village collectors, and 3 cooperatives, 5 exporters from Addis Ababa that are involved in sesame market were purposively selected and used as data source.

2.4. Methods of Data Analysis

Descriptive data analysis methods such as percentage mean and standard deviations in the process of examining and describing marketing functions, farm household characteristics, resource ownership, and trader's characteristics. Moreover, concentration ratio, pricing behavior and marketing margin were used to measure structure, conduct and performance of sesame markets respectively. The indicators which used in this part of the analysis were as follows:

Structure-conduct - performance model (S-C-P)
The model examines relationships between market structure, conduct and performance and is usually referred to as the structure - conduct - performance model (SCP).

Market structure
As stated in Thomas and Maurice (2011), Structural characteristics like market concentration, industry maturity, government participation, product differentiation, barriers to entry, and diversification, were some of the basis considered. Market structure refers to a set of characteristics that governs the economic environment under which producers or sellers interact with other producers and buyers.

Barriers to entry: Technological, economic, regulatory, institutional and other factors that inhibit firms from engaging in new businesses or entering new markets. A barrier to entry is simply any advantage held by existing firms over those firms that might potentially produce in a given market.

Concentration ratio: concentration ratio is to determine whether there are one or two large firms that are dominating the market or there are numerous small firms. The concentration of firms in the market is estimated using the common measure of market concentration ratio. Concentration ratio is one of the commonly used measures of market structure, which refers to the number and size distribution of seller and buyer in the market. Concentration ratio was computed in district market for top 4 largest firms. For this study it was calculated using the following formula:

$$\text{si} = \frac{\text{vi}}{\sum \text{vi}} \qquad\qquad (2)$$

Where Si =Market share of buyer i
Vi=Amount of product handled by buyer i
Σvi=Total amount of product handle

$$c = \sum_{i=1}^{r} \text{si} \qquad i = 1,2,3 \dots \qquad\qquad (3)$$

Where:
C= is concentration ratio
Si= is market share of the ith firm and
r=is the number of largest firms for which the ratio is going to be calculated.

Kohl and Uhl (1985) suggested that as rule of thumb, a four largest enterprises concentration ratio of 50 percent or more is an indication of a strong oligopolistic industry, 33-50 percent, a weak oligopoly and less than that, indicates non-concentrated industry. The greater degree of concentration is the greater the possibility of non-competitive behavior existing in the market. For an efficient market, there should be sufficient number of firms (buyers and sellers).

Market conduct
Market conduct refers to the patterns of behavior that enterprises followed in adopting to the markets in which they sell or buy. The principal dimensions of market conduct according to Raid (1987) include price setting, the manner in which the value and quality ranges of products are determined, advertising and marketing strategy, research, development planning, implementation, and legal tactics. To study market conduct, the existence of formal and informal producing and marketing groups; the availability of price information and its impact on prevailing prices; and the feasibility of utilizing alternative market outlets pricing, buying and selling practices were assessed.

Market performance
Market performance refers to the composite of end results which firms in the market arrive by pursuing whatever lines of conduct they use that results in the dimensions of price, output, production and selling cost, product

design, and so forth (Wolday, 1994). Two mostly used approaches to measure market performance are marketing margin and the analysis of market channel efficiency but in this study, marketing margin was used to measure market performance.

Marketing Margin- In a commodity subsystem approach, institutional analysis is based on identification of marketing channels. When there are several participants in the marketing chain, the margin is calculated by finding price variations at different segments and by comparing them with the final price to the consumer. The consumer price is then the base or the common denominator for all marketing margins. Comparing total gross marketing margin is always related to the final price or the price paid by the end consumer and then expressed as a percentage (Mendoza, 1995).

In this particular case, since the product is export type by nature, exporters' FOB price was considered as a proxy for consumer's price. The percentage of the income that can be classified as pure profit (i.e. return to capital) depends on the extent to which factors such as the middleman's own, often-imputed salary is included in the calculation of marketing costs.

$$TGMM = \frac{\text{End buyer price} - \text{First sell price}}{\text{End buyer price}} * 100 \qquad (4)$$

Where, TGMM = Total gross marketing margin

It is useful to introduce the idea of producers" gross margin (GMMp) which is the portion of the price paid by the consumer that goes to producer. The producers" margin is calculated as:

$$GMM = \frac{\text{End buyer price} - \text{Marketing gross margin}}{\text{End buyer price}} * 100 \qquad (5)$$

GMM=Gross Marketing Margin Where: GMMp=the producer's share in consumer price

3. RESULTS AND DISCUSSION
3.1. Sesame Market Chain Actors and their Role
The actors participated in conventional sesame market chain includes: producers, village collector, wholesalers, cooperatives, union, Ethiopian Commodity Exchange and exporter. The major actors participated in sesame market chain were discussed below.

Producers: Producers are the first link in the marketing chain. The ultimate decisions on what to grow, how much to grow and when to grow are made by them together with the help of extension agents. They are smallholder farmers, who manage sesame from sowing to harvesting and sell product to different actors at nearby market either carrying sack themselves or using pack animals, or animal driven carts. They are also responsible for determining the amount and quality of sesame produced. They produce sesame mainly for a means of earning cash. The survey result showed that only 2.43% of producer was able to set price, 81.3% responded traders determined price, 10.56% replied that price was determined by demand and supply themselves and 5.69% said that price was set by negotiation between sellers and buyers.

Village collectors: these marketing actors usually buy sesame from villages that are difficult to travel by vehicles due to lack of infrastructures and resell to wholesalers and cooperatives. Thus village collectors travel far distances and buy 2 to 3 quintals of sesame from farmers per trip and transported by pack animals. The primary target of those sesame collectors was getting a profit margin that would be reduced from producers share and traders share. Some collectors do not have sufficient capital to purchase sesame. Therefore, they operate with advances payments they receive from wholesalers.

Wholesalers: Wholesalers are major market participants of the marketing system who usually buy sesame in large volume from different market participants such as producers and village collectors. After mixing all purchased sesame around storage and remove unwanted materials, resell the products to exporters through auction market Ethiopian Commodity Exchange in Addis Ababa. They provide both price information and advance payments for selected reliable clients (producers and village collectors). Wholesalers basically had timely price information access from exporters and from internet. They have accounted the biggest share of the channel members. They are licensed bodies without which they are not permitted to operate in sesame markets.

Cooperatives: Are autonomous and independent organizations that render services to members and non-members to meet their social and economic benefits. There are seven cooperatives that buy sesame from farmers and village collectors, and resell after storage for union. Only three cooperatives were involved due to price fluctuation and budget limitation. The presence of cooperatives in the district made the private traders to follow the price of cooperatives.

Union: The sesame purchased by cooperative is delivered to a union from different districts. The union purchases sesame from cooperatives at remunerative price.

ECX: Ethiopian Commodity Exchange creates market integrity through introduction of viable products with certified grade and standards; membership based trading; enforcement of standardized terms and conditions for enforcement of contracts in accordance with trading rules.

Exporters: sesame exporters are the last market chain link in the domestic trade. They are relatively well equipped with necessary capital, facilities and knowledge. Those exporters are mainly concentrated at the central market (Addis Ababa) and they purchased sesame based on the given quality criteria's by Ethiopian Commodity Exchange and export to importers. The agreement between exporter and importer is processed before exporting product either by face to face or through communication with email.

3.2. Marketing Channels of Sesame
According to Mendoza (1995), marketing channel is the sequence of intermediaries through which sesame passes from farmers to consumers. Analysis of marketing channels is intended to provide a systematic knowledge of flow of goods and services from their origin (producer) to the final destination (consumer). During survey, four sesame market channels were identified in the study area.

Wholesalers and exporters are the principal actors in sesame market, handling large volume/quantity of sesame. The survey result indicated that wholesaler purchase 82.19%, village collector's purchase10.36% and cooperatives purchase 7.45% of farmers produces. Huge amount of sesame was transacted by producer, wholesalers and exporters i.e. **Channel II.**

The following sesame marketing channels were identified.

Channel I: Producers=> Village Collectors => Wholesalers =>Exporters=> Importers

Channel II: Producers => Wholesalers =>Exporters=> Importers

Channel III: Producers => Cooperatives => Union => Importers

Channel IV: Producers=> Village Collectors =>Cooperatives =>Union => Importers

3.3. Structure, Conduct and Performance of Sesame Market
3.3.1. Sesame market structure
The structure of sesame marketing system should be evaluated in terms of the degree of market concentration, barrier to entry and the degree of transparency (Pender *et. al,* 2004). In this study the structure of sesame market is characterized using the following indicators: market concentration, the degree of transparency and entry conditions.

Degree of market concentration
According to Kohls and Uhl (2002) market concentration, the portion of the industry sales made by the largest firms, is another source of imperfect competition. Successful competitors frequently eliminate their rivals or discourage new firms entry, contributing to more concentrated markets. Concentration ratio is expressed in terms of CRx, which stands for percentage of the market sector controlled by the biggest X firms. Four firms (CR_4) concentration ratio is the most typical concentration ratio for judging market structure (Kohls and Uhl, 1985). A CR_4 of over 50% is generally considered as strong oligopoly; CR_4 between 33% and 50% is generally considered as weak oligopoly and a CR_4 of less than 33% is un-concentrated market.

Concentration ratio was calculated for traders in the district market because sample traders were selected from district level. Even though different types of sesame traders were available in the study area, due to their limited number in their respective locality; district level market concentration ratio was calculated to analyze the type of markets prevailed. Concentration ratio was calculated by taking annual volume of sesame purchased in production year. The result of sample market sesame traders' concentration ratio CR_4 was found to be 40.28% which indicates weak oligopoly market structure.

Degree of market transparency
Even though accurate and timely market information is fundamentally important in sesame marketing, producers suffered from the problem of accessing price information (especially terminal market price). According to the survey result, 45.53 percent of producers have reported as they have information in the study area from sesame trader, radio and extension agent. The research result has implied that, the market of the study area is well characterized by lack of transparency in timeliness and reliability.

The result has also ascertained that traders have more privileged in information access than producers. Traders had better market information as compared to producers. Traders used different approaches to access market information. According to the survey result, about 55 % and 10 % of sample traders obtained price information through telephone and from other traders in the market respectively. The remaining 35% of traders reported that they obtained price information through telephone, Medias, agents, discussion with other traders, and personal observation.

Barriers to entries
Licensing procedure: According to the survey result, all wholesalers having sesame-trade license and residing in the town reported difficulty in getting sesame trade license, because of the large requirement of initial capital which is a minimum of 150,000 birr and above. Besides to the requirement of large initial capital, the necessities of appropriate equipment such as weighting scale, store, sack, and store house at each market center and the like are additional binding factors for sesame traders. For licensing procedure traders were expected to go to zonal

trade and industry office in order to fulfill the requirements which are costly and time consuming. The trader needs to pay 204 birr for license at the beginning and have to pay the same amount each year of purchasing as renewal payment.

Capital: Capital requirements serve as an entry barrier because only those who can afford paying such amount of money can enter in the market. This is the fact that commodity unit price is very high when compared with price of other commodities and the nature of the commodity is totally export type and seeks special facilities like cleaning, packing and the like that requires also huge initial capital investment. According to the survey result, about 65% of sample traders identified that lack of capital being one of the major entry barriers to enter in to sesame trading. In addition, the sample traders reported that lack of access to credit has been the single most critical constraint in the start-up and expansion phases. About 65% of sample traders were using their own capital 35% used both their own and borrowing from other traders and friends. From those who borrow only 28.57 percent of traders who have collateral (Brick house, land at town, vehicle…) had access to formal financial sources to expand their trading activities.

High price fluctuation: highly volatile price of sesame prevents traders from engaging confidentially in sesame marketing. The information obtained from the informal survey result showed that all of the traders being highly frustrated about the future sesame price at local and national level.

Untimely and non-availability of price information: Though there existed local market information, sometimes which was not accurate and non accessibility of accurate and timely market information mechanisms could be seen as a potential reason of entry barriers.

Limited trading experience: Business or trade experience refers to the number of years that traders engaged in trading activity where their business experience plays crucial role in decision making activity and know how about reducing business risk. The traders' survey result showed that, most of the traders were not well experienced in sesame trading business for more than 9 years with the interval of 1 to 9 years and mean of 5.35. This may explain that there was a barrier to entry in sesame trade with respect to years of experience.

Overall, all the above results indicated that sesame market in the study area deviating from competitive market structure norms. This deviation can affect the conduct of the market to deviate from competitive market's market conduct norms.

3.3.2. Sesame market conduct

Market conduct at producers' level

From the total sesame produced, only 3.62 % was used for seed and own consumption and 96.38% supplied to market. Sesame is the most important cash crop in Melokoza district. Sesame selling occurred in two months (in August and September) and sharply declines after October. Majority of farmers identified that price was the major determining factor that affect their decision as to whom and which market to sell their produce. Majority of the producer were price takers. Terms of payment in sesame market in the district was in cash. In some cases farmers received a month's delayed payments.

Market conduct at traders' level

Price information: Market information plays a great role for traders because it affects the volume of the product to be purchased, purchasing and selling prices, and time of sales. Market information was not transparent between the different categories of traders that created high price variability and difference among traders. Wholesalers, either with the help of their commission agents or partners, have got quick and readily information relative to village collectors. Trader's sources of information were 55% through cell phone, 10% from other traders in their residence and 35% from media, other trader and cell phone.

Buying and Selling Strategies: The strategies of traders in maximizing profit and developing bargaining power include the use of regular partner, long term relation with clients or suppliers, the use of collector, availability of market information and its impact on price, feasibility of alternative market channel and price setting practices etc. Based on the data from sample trader's survey, about 79.5% and 15% of respondents reported that buying price was set individually and discussion with other traders respectively. The rest 5.5% of sample traders reported that market price was set by negotiation with farmers.

Almost all wholesalers had their own marketing sites in the local market center and have their commission agents at Addis Ababa who facilitate exchange process, money transfer and market information though telephone. These agents are paid according to the volume of sesame sold. Accordingly, 50% and 35%, of traders attracted their suppliers by paying better price, fair scaling (weighting) respectively and 15% both fair weighting and better price. Hence, it is possible to conclude from the above results that sesame market in the study area being deviated from competitive market norms.

3.3.3. Sesame market performance

Market performance of sesame market was analyzed by estimating marketing margin and marketing costs for key marketing channels at that production and marketing year.

Marketing cost: in the process of sesame trading, each marketing actor in every channel incurred costs such as packaging materials, purchasing of sesame, labor, loading and unloading, storage losses, transportation, market

search cost and so on.

Analysis of profit is important in order to identify the major cost incurred in production. This helps to know the priority cost item and how those costs are reduced to increase profit of traders and producers.

Cost Structure and profitability of sesame producers: The profitability of Melokoza district sesame producers was calculated by taking average total income and expenses of all sample producers' operation in 2016/17. The study result revealed that there is a diverse nature of cost structures. The result clearly showed that sesame production was profitable for the specified period. Producers earned a gross profit of Birr 8117.89/ha, and Birr 1199.11/quintal. The average yield of producers for the year (6.8 quintals /ha) and the average selling price of all producer's marketed surplus were used to estimate profitability per hectare and per quintal. Sesame producers sold their product with Birr 1650/quintal to sesame traders. As compared to other operating cost the major share of the operating cost goes to weeding (15%) followed by land rent (12.91%) and harvesting (10%).

Marketing margins: Marketing margins were analyzed based on the average sale price of different marketing agents in the marketing channel (producers, wholesalers and exporters) and since the product is export type by nature, exporters' FOB price was considered as a proxy for consumer's price.

Cost Structure and profitability of sesame for wholesalers: sesame wholesalers earn a profit 346.54 Birr/quintal by involving in sesame trade which is higher than exporter's profit. Transportation cost was the highest operating cost as compared to other costs (56.11%) and the next was Storage, transport and other losses which account (9.45%).

Cost Structure and profitability of sesame for exporters: The result showed that sesame exporters earn a profit of 106.25 Birr/quintal by trading sesame. This indicates that gross profit generated from sesame was positive for exporters. With regard to cost, selling and distribution cost takes the major proportion (29.98%), followed by 25.5% and 15.75% transportation and impurity loss respectively.

Table 1: market share of actors in sesame marketing

Market actors	Selling price (birr/qt)	Gross profit (birr/qt)	Gross marketing Margin (%)
Producers	1650	1199.11	52.07%
Wholesalers	2451	346.54	25.28%
Exporters	3169	106.25	22.65%

Source: Survey Result, 2017

Table 1 reveals that 47.93% total gross marketing margin was added to sesame price when it reached Djibouti border. From the total gross marketing margin, 25.28% was gross marketing margin of wholesalers while 22.65%was that of exporters. The producers share from the export market was 52.07%, which is greater than wholesalers and exporters share from the FOB price. The different indicators of marketing margins for sesame are calculated and the estimates are:

TGMM (complete distribution channel II) =47.93%

GMM (wholesalers) = 25.28%

GMM (exporters) = 22.65 %

GMMp (producers participation) = 100% - 47.93% = 52.07%

The above results indicated that gross profit for sesame market actors was positive in the production year and the share of actors may be considered as faire. But the magnitude of the money generated seems relatively low as compared to time and efforts spent in the operation and the current purchasing power of money.

3.4. Constraints of sesame production and marketing
3.4.1. Constraints at farmers' level

Sesame production and marketing in Melokoza district is constrained by so many factors. Disease and pest infection was indicated as one of problem of constraining production of sesame by 96.75% of sesame producers. Disease such as bacterial blight, root rot/dumping off, phyllody sesamum, powdery mildew, and pests such as ants, aphids, capsule borer, leaf hopper and gallfly were bottleneck of sesame production as reported by respondents.. Regardless of the availability of several improved sesame seed varieties, Melokoza district is constrained by the non-existence of improved varieties that properly fits the district agro ecology. Lack of improved sesame seeds was one factor that hinders sesame production by 83.74% of producers (Table 2).

Shortage of land also another factor that constrains sesame production for 66.67% of sesame producers. Poor market infrastructure and market information were also reported by 61.79% and 54.47% respectively of sampled farmers. In the district village markets are connected to town by poor road that has been under construction result in difficulty for transportation of sesame.

Table 2: Production and Marketing Problems Reported by Respondent Farmers

Problems	No. of respondents	Percentage
Disease and pest infection	119	96.75%
Lack of improved sesame seeds	103	83.74%
Fear of crop failure	4	3.25%
Shortage of land	82	66.67%
Poor market information	67	54.47%
Fear of market related problems	29	23.58%
Poor infrastructure	76	61.79%
Shortage of input supply	34	27.64%
Fear of food shortages	9	7.32%
Lack of credit service	48	39.02%
Poor extension services	43	34.96%
Weed problem	117	95.12%
Weather problem	32	26.01%
Labor shortage for weeding and harvesting	123	100%
shattering	6	4.87%
Price fluctuation	89	72.36%

Source: Survey Result, 2017

Sesame is sensitive to weeds that lead to reduction in productivity. The presence of high weeds due to high rain was also one problem for production of sesame by 95.12 percent of the producers. Farmers in the study area didn't used herbicides for removing weed from sesame rather they manually managed. Sesame production is labor intensive by nature and seeks huge labor for land preparation, weeding, and harvesting. Shortage of labor was the critical problems mentioned during the study by all sesame producer farmers. Sesame price fluctuation was also constraint factor that affect production and marketing of sesame by72.36 percent of sesame producers farmers.

3.4.2. Constraints at traders level

Quality of sesame is very important that the crop is traded internationally and passes long paths to rich into final consumers. It is also important to compute with other country at the national level in the international market. In Melokoza district quality was one problem of sesame trader in order to accomplish the market which was caused by natural weather problems (too much rain, moisture, wind…), termites, pest and diseases, etc., and Manmade quality problems such as addition of unwanted material like soil and other in order to increase the weight of sesame by misbehavior farmers. According to survey result 95% of sesame traders were faced quality problem. Capital shortage to handle and expand sesame marketing was a problem for sesame traders due to collateral problem which is asked by banks and frustrated the risk this problem was faced by 60% traders.

Table 3: Marketing Problems of Sesame Traders (%)

Marketing Problems	Traders
Quality (Natural & manmade)	95%
Capital shortage	60%
Price setting	10%
Farmers' reluctance to sell	20%
Price instability	100%
Supply shortage	40%
Access to credit	65%
Administrative	25%
Road access	90%
Competition with unlicensed	20%
Information flow	5%
Lack of training	40%

Source: Survey Result, 2017.

Price instability was one problem that inhabits sesame traders. Even though the objective of trader is profit maximization and cost minimization, the price of sesame was not stable in the production years and previous years. All actors face problem of price instability in sesame marketing according to survey result.

Infrastructures are the main important factors for facilitating marketing of commodities. Road access also plays a crucial role for easily transporting commodities from one market which is excess and to the other market which is scarce. The result showed that, 90% of traders were faced such problem.

4. CONCLUSIONS AND RECOMMENDATIONS

Sesame an important cash crop that generates income for producer farmers and traders involved in marketing. In this study identifying sesame market chain actors and their roles, analyzing of structure, conduct and performance of sesame market and identifying constraints of sesame production and marketing in the study area were analyzed. In order to accomplish study objectives both primary and secondary data were used. Trained enumerators were employed for data collection at district level. Structure, conduct and performance analysis was also used to measure the efficiency of sesame markets in the study area. Producers, village collector, wholesalers, cooperatives, union, Ethiopian commodity exchange and exporter were the major actors participated in sesame market.

Analysis of market structure shows that the volume of sesame traded in the area was concentrated on the hand of few traders who controlled the bigger share of the market. Sesame market in the study area is weak oligopolistic. Farmers have less access to market information that adversely affects their power in negotiating selling price for their sesame produce. Licensing procedures, capital shortage, high price fluctuation in local and national level, untimely and non-availability price information and limited trading experience were barriers of entries in sesame trading in the study area. Conduct of sesame market deviating from competitive market conduct norms. Gross profit for sesame market actors was positive in the production year and the share of actors may be considered as faire. But the magnitude of the money generated seems relatively low as compared to time and efforts spent in the operation and the current purchasing power of money.

Different factors were identified as a problem in both production and marketing of sesame in the study area. The following recommendations are forwarded to make the market competitive:

- provide conducive environment by developing infrastructure for sesame investment like storage facilities, market centers, availability of telecommunication networks, processing, road and transportation access that helps to address the current infrastructure bottlenecks in sesame market in the study area.
- Improve bargaining power of producers; implementation of a well-defined standard of the commodity; product grading and price differentiation based on the quality and type of sesame.
- Attract other traders to enter into sesame trade by improving the existing credit systems, reducing barriers of entries and giving different incentives in order to make the market more competitive.
- Creating institution that can disseminate reliable and timely market information is required by all stakeholders simultaneously.
- Improve extension system which focused on market extension and linkage of farmers with market actors.

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