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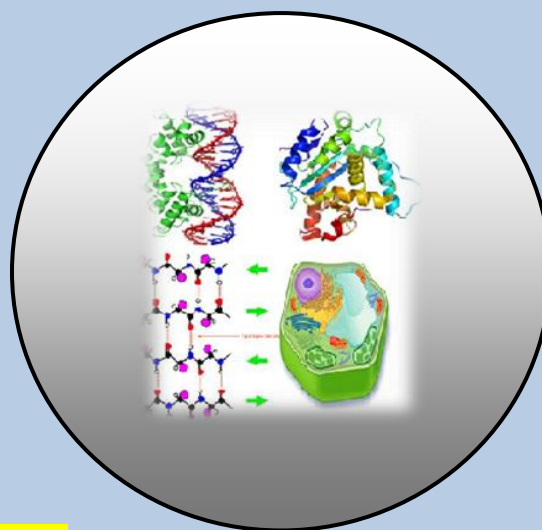
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Constraints of Citrus Marketing in Seka Chekorsa District of Jimma Zone, Southwest Ethiopia

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ABSTRACT

Citrus is highly produced economical crop in Ethiopia and serves as one of the major source of livelihood for a large number of farmers, middlemen and traders. In Jimma zone (in case of Seka Chekorsa district), there are consolidate production of citrus at household level. The aimed of this research is to identify the constraints of citrus marketing and to examine factors affecting citrus supply in Seka Chekorsa district. A total of 70 sample farmers were used and a total of 15 actors were investigated to know how the products flow from producers to consumers. Among them; 8 are brokers/local collectors, 4 are retailers and 3 are wholesalers. Both Primary and secondary data were collected. Similarly both descriptive method and econometric model were used for analysis of the result. As a result of the survey, it was found that citrus production is high in the area and supplies the product to their neighbors, local markets, seka district, and Jimma town also. Many constraints that hinder the performance of citrus marketing in the area were indentified. Among them lack of transportation, low price for the products, lack of market information and also currently low yield due to the result of disease are the most common one. Some socio-economic and technical constraints that exist are lack of finance, lack of cool storage facilities, and poor packaging of the products. All these constraints contribute to decrease the value of the products both in term of quality and quantity. The study also indentified total yield, farming experience and land allocated for citrus affects positively and significant quantity of citrus supplied to the market. Therefore citrus marketing and demand for consumption increase if producers supported with different physical and financial, as well as extension workers should give technical training to producers on how to harvest, and pack their product in order to keep their quality high.

Keywords: Citrus, Constraints, Socio-Economic, Farming and Marketing.

INTRODUCTION

Like most sub Saharan African countries, Ethiopian economy is dominated by the agricultural sector which accounts for about 50% of the Gross Domestic Product, employing more than 80% work force and more than 50% of export items (Tadesse, 2011). In general, the agricultural sector consists of numerous scattered small farmers at subsistence level and relatively few commercial producers and exporters. As part of agricultural sector, fruit and vegetable cultivation is certainly not a new activity in Ethiopia as the production of horticultural crops has been undertaken for decades. In addition, there are numerous small producers growing a small range of vegetables for the local and regional export markets (R. Dayanandan, 2012).

Due to favorable agro-ecological diverse, many parts of the country are suitable for growing temperate, sub-tropical or tropical fruits. Substantial areas in the southern and south-western parts of the country receive sufficient rainfall to support fruit production adapted to the respective climatic conditions. In addition, there are also many rivers and streams which could be used to grow various fruits (Kahsay *et al.*, 2008). Of the total land under cultivation, fruit and vegetable cultivation in Ethiopia amounts to around 800 thousand hectare; this is around 5% of cultivable lands (Tadesse, 2011).

In worldwide one of the most demanded, studied and consumed fruit has been the citrus. Concurrently its production has been increasing considerably for the few years. Citrus fruits include oranges, bananas, papayas, tangelos, temples, tangerines, lemons, limes, and grapefruits. The largest citrus producing countries, accounting for more than 70 percent of the world's supply, include the United States, Brazil, Japan, Spain, Italy, Egypt, South Africa, and Morocco, with Brazil is the world leading citrus production among the other countries. (Huang, 2013).

Generally citrus production and marketing is well known at both local and international level. Like other countries citrus is highly produced in the rural and peri-urban area of Ethiopia and serving as one of the major source of livelihood for a large number of farmers, transporters, middlemen and traders in the area. Currently the demand for citrus production is increasing due to the change of advanced technology and the income that will be generated from it (Bezabih *et al.*, 2007).

More than 85% of the Ethiopian population, residing in the rural areas is engaged in agricultural production as major means of livelihood. However, the agricultural productivity is low due to use of low level of improved agricultural technologies, risk associated with weather conditions diseases and pests, etc. moreover due to the ever increasing population pressure, the land holding per house hold is declining leading to low level of production to meet the consumption requirement of the households. Citrus production gives an opportunity to increase the small holder farmers' participation in the market (Bezabih *et al.*, 2007).

The major prospect for expanding the production and marketing of citrus are government support, existence of high demand for the products in the market, suitability of the weather condition, mobile phone technology along the major road net works and the government policy that creating appropriate market linkage through efficient market arrangements and appropriate production system that will boost the living standard of many citrus producers, traders and transporters (Sharif, M. 2004).

Jimma zone is one of the area in which there is a significant amount of citrus production by a number of producers in different districts such as *Seka Chekorsa*, *Kersa*, *Gomma*, *Limmu* and etc. In *Seka* district particularly *Buyo Kachama* and *koffee kebeles*, there are consolidate of citrus production at household level and they distribute or sell their products to the consumers found in and around the kebeles and also distribute to others area such as Jimma town and Addis Ababa, (personnel communication, 2015).

Citrus is being produced by small holder farmers in *Buyo Kachama* and *koffee kebele* and demand for the product is increasing from time to time. Farmers couldn't supply sufficient citrus to the market but the product is highly demanded in the market. Moreover farmers (producers) also could not extract sufficient marketing margin from the existing citrus market. I.e. they receive small amount of payment (income) for their product while consumers pay high price to retailer in the market. The low level of growth in citrus production derives the incentives for the farmers to increase production remained depressed. Domestic citrus market is not generating signals for encouraging investment in citrus production. Therefore, it is imperative to examine the citrus marketing system in the district along with the constraints faced by producers and factors affecting citrus supply.

MATERIALS AND METHODS

Description of Study Area

The study was conducted in *Seka* District of Jimma Zone, southwest Ethiopia. *Seka Chekorsa* is one of 17 districts in Jimma zone known for its predominant cultivation. *Seka Chekorsa* is located on 368 km away from the capital Addis Ababa and 18 km from Jimma town. It is bordered on the south by the Gojeb river, on the west by Gera, on the northwest by Gomma, on the north by Mana, on the north east by Kersa and on the east by Dedo.

The area has total population of 258,100. Within the total population, 9,138 are in urban and 248,962 are in rural area which about (124,166 female) and (124,796 male). Out of urban (9,138) population, 4,759 are female and 4,379 are male. Within the total populations, the compositions of young, economically working and adult age are 45.6%, 51.5% and 2.9% respectively (CSA, 2007)

The district has an altitude ranges from 1580 to 2560 meters above sea level. Survey of land in this district show that 45.3% is arable or cultivable, 6.1% pasture, 25.8% forest and the remaining 22.8% is considered as swampy, degraded or otherwise unusable. Khat, peppers, fruit and grain are crops produced in this area. Major fruit grown in this area are avocado, orange, lemon, banana, mango, papaya. Coffee and maize are important cash crops for this district. According to central statistical agency (CSA) in 2005, the total production for this district is 242,302. The five largest ethnic groups in this district are Oromo, Yem, Amhara, Kefficho, and Konta. *Buyo Kachama* and *koffee* are the *kebele* of *Seka Chekorsa* district in which citrus is highly produced and marketed and also its place were survey was conducted.

Sampling techniques

Multi-stage sampling techniques were employed to select sample respondents. In the first stage *Seka* District was selected purposively based on potential production of citrus. In the second stage *Buyo kachama* and *Koffee kebeles* were selected randomly from total citrus producing kebeles found in *Seka* district.

Finally a total of 70 respondents households were randomly selected using proportional to size techniques based on the number of farm household in the *Kebele*. For this study, data from wholesalers, retailer, collectors and consumers were also collected.

Method of Data Collection

Both primary and secondary data were used. Primary data like household's characteristics, production activity, marketing activity, producer's participation in production and marketing, and marketing problem were collected from the producers. Secondary data like number of producers, production and marketing activity recorded in different years were collected from the office of Agriculture of Seka Chokorsa district. For primary data, both formal and informal surveys were carrying out for the collection of data. Formal survey was conducted by interviewing citrus producers (suppliers) in Buyo Kachama amd koffee kebele by using a semi structured questionnaire.

Method of Data Analysis

The data analysis process was carried out after collection of the required information from primary and secondary sources. To meet the objectives of the study, both descriptive and econometric analysis were employed. The data collected was analyzed using Statistical Package for Social Sciences (SPSS) version 17 and Excel 2007.

Descriptive analysis: Descriptive statistics like frequency, tabulation, means, and ranges were used to have clear picture of the characteristics of the sample households, to assess and examine production problems, marketing problems, transportation problem, access to the market and market information.

Econometric analysis

Examinations of factors affecting citrus supply are analyzed by using linear regression model which is represented by the equation:

- $Y = B_0 + B_1X_1 + B_2X_2 + \dots + B_nX_n + E$
 - Y.....quantity supplied
 - B_0 intercept
 - B_icoefficient of i^{th} explanatory variable
 - X_iexplanatory variables
 - n.....number of explanatory variables
 - E.....error term

The main hypothesized variables that are included in the model are:

Quantity Supplied (Y): It is a continuous variable which represent dependent variable; and it is the actual amount of citrus supplied to the respective market by the households in 2015 year.

Explanatory Variables (X_n): are economically variables that affect the dependent variable.

Table 1. Explanatory variables classification.

Variable code	Variable name	Variable types	Measurement effect
edclvl	Educational level of the respondents	Dummy	-/+
fmlysz	Total family size	Continuous	-/+
expr	Experience in farming	Continuous	-/+
Indsz	Land size for citrus production	Continuous	-/+
ttyld	Total yield of citrus product	Continuous	-/+

Education (X_1): This variable is dummy variable and it's measured by using formal schooling of the household head and hypothesized to affect marketable supply positively because farmer who have good knowledge can adopt better practices than illiterates and would increase marketable supply.

Total family size(X_2): Family size is the total number of people living in the particular house. It's a continuous variable that affects the household marketable supply of citrus negatively. That means the more number of people living in the houses, the less quantity of citrus supplied to the market because of consumption increases as family size increase.

Experience of production (X_3): it's a continuous variable. It expresses the number of years that the farmer was producing citrus and it was expected to affect the household marketable supply of citrus positively due to the fact that if a producer is more experienced with production of citrus, then the marketable supply would increase.

Land size allocated for citrus production (X_4): This variable is continuous variable and measure in terms of number of hectares allocated to citrus. It expected to affect the household level of citrus marketable supply positively. This is because, producers who own large area can produce more than a producers who own less area and thus to supply more to the market.

Yield (X_5): It is a continuous variable that measure the total quantity produced in quintal. Yield was assumed to affect the marketable supply positively, because a farmer that obtains high yield can supply more to the market than a producer who had fewer yields.

RESULT AND DISCUSSION

Demographic Characteristics of the Respondent

Age and sex compositions are the major demographic features used to characterize the producers. Although efforts were made to account the gender representation, the actual random sampling survey resulted that, out of 70 sample producers' respondents 21 are female. The men are often responsible for farm work and the women have the major responsibility in the reproductive tasks, marketing of small quantities of the farm products and purchase of food and non food items for consumption. As we see from the table 2, about 65% of the producers fall between 15-45 years, 33% of the producers fall between 46-65 years and only 2% of the producer household heads are above 66 years old. This age range indicates that nearly 98% of respondents fall in the working force range. According to the study, the respondents have an average of 21 years of experience in citrus production, ranging from 16 to 25 years and hence could provide information related to the constraints of the citrus production and supplying to the market. As far as the education status of the respondents concerned, the majority (70%) of respondents are an illiterate. About 20% and 10% are elementary level and above respectively.

Table 2. Age range and Educational level of the respondents.

Age range	Respondent	Percentage (%)	Educational level	R	Percent (%)
15-45	46	65	Illiterate	49	70
46-65	23	33	1-7	14	20
>=66	1	2	8 & above	7	10
Total	70	100	Total	70	100

Source: Own survey result (2015)

Source of Income

The respondents depend on different means of income generation strategy. Their sources of income are shown in table 3 below irrespective of their respond.

Table 3. Means of income generation.

Major source	Frequency	Percent (%)
Chat & coffee production	26	38
Citrus production	33	48
Grain & pulse production	11	15
Total	70	100

Source: Own survey result (2015)

As it's shown in table 3 above, citrus and chat/coffee production are the major source of income for the majority of the producers. About 48% and 38% of the respondents earn their income from them respectively as a primary source. The third source of income is from grain and pulse production. This product is mostly produced for home consumption for all people not for sale that is why the purchasing of it is low in market only it works at the time of food shortage for those who store their products wisely and those who have excess of it.

Inputs Used for Citrus Production

The most important inputs used by the farmers in the study area are family labor, seeds, land for the production of citrus and credit for improving their production. In the area, other inputs such as fertilizer, pesticides and insects are not only used for citrus production but also for grain production such as maize, sorghum etc.

Labor

Labor is an important factor for agricultural production. Small holder farmers relay on family labor for land preparation, planting, weeding, harvesting and transporting of the products. This is useful to accomplish a given farm activities in a limited period to ensure uniform planting, plant growth and maturity. Based on the interview and observation from the study area almost all citrus producers use their family labor to produce citrus. Only few of them needs extra labor and hire during harvesting season to pick the fruit in short period of time.

Seed

Adequacy and quality of seeds are critical for increasing production. This means that the seeds of needed trait should be timely acquired from reliable sources to ensure high determination and increased yields. In the study area only 6 respondents taste improved seeds but they face some problem which are high price cost and low yield. They shift back to their local variety of seeds.

Land

Land is one of the most important factors affecting the quality and quantity of the agricultural products. It is obvious that when land allocated for citrus production is great proportion to total area of the land and has fertility, the total production increases and vice versa. In the study area, even though there is scarcity of land, it is not major cause of low productivity of citrus production. Average land size allocated for citrus production is only 0.188 ha. From this figure we observe that land size allocated for citrus production is small because they are shifting to extend other products like chat/coffee and grain production.

Access to Credit for Citrus Production

Table 4 below indicated how the producers receive credit for the production of the product. The value of credit is important because it can help their ability to purchase fertilizers, insecticide, and improved varieties.

Table 4. Respondents major access to credit.

Credit	Frequency	Percent (%)
Received	19	27.5
Not received	51	72.5
Total	70	100

Source: Survey result. 2015

As far as access to credit of household is concerned, about 27.5% of the respondents received credit from friends/relatives/neighbors and micro finance and the rest 72.5% of the respondents do not receive the credit. Even so it's indicated that they receive it, it's not enough to cover their all challenge such as inputs cost. It's true that Jema (2008) indicated that "limited access to capital markets, and high consumer spending" attributable to lower economic efficiency for the marketed driven of fruits and vegetables production.

Marketing system of citrus

Market place and mean of transportation

Citrus are produced in the study area and supplied to the local market and nearest towns. The major market areas are Seka town, local kebele and Jimma town.

Table 6. Market place for citrus production.

Market place	Frequency	Percent (%)	Mean of transport	Frequency	Percent (%)
Local	21	30	On foot	30	42.5
Seka	39	55	Donkey	18	25
Jimma	10	15	vehicle	12	17.5
			Car	10	15
Total	70	100	Total	70	100

Source: Own survey result. 2015

In the study area, 30% of the respondents sell their product at their local market due to the lack of transportation and 55% of them sell their product at *seka* town. This composes of those who have donkeys, vehicles, and those who are near to the area. The remaining 15% of supply their products to Jimma market in the town. Since Jimma is far, many producers supply their products to *seka* district market where the demand is high. As it's indicated in the table 6, many farmers transport their product to market on their foot which composes 42.5%. The others use donkeys, vehicles, and also car for those who supply their product to Jimma market.

Marketing Channel and the Major Actors

The total volume of production of citrus was estimated to be about 312 quintals from which 254.8 quintals was sold. The marketing channels of citrus marketing in the study area are categorized into seven channels.

- I. Producer → Consumer
- II. Producer → Retailer → Consumer
- III. Producer → Wholesaler → Retailer → Consumer
- IV. Producer → Local collectors → Wholesaler → Retailer → Consumer
- V. Producer → Wholesaler → Consumer
- VI. Producer → Local collectors → Retailer → Consumer
- VII. Producer → Local collectors → Consumer

The major actors are Producer/farmers, local collectors, Retailers/traders and wholesalers. Their roles are mainly facilitation, buying and selling, transporting, storing and processing.

Citrus marketing channel in Seka District

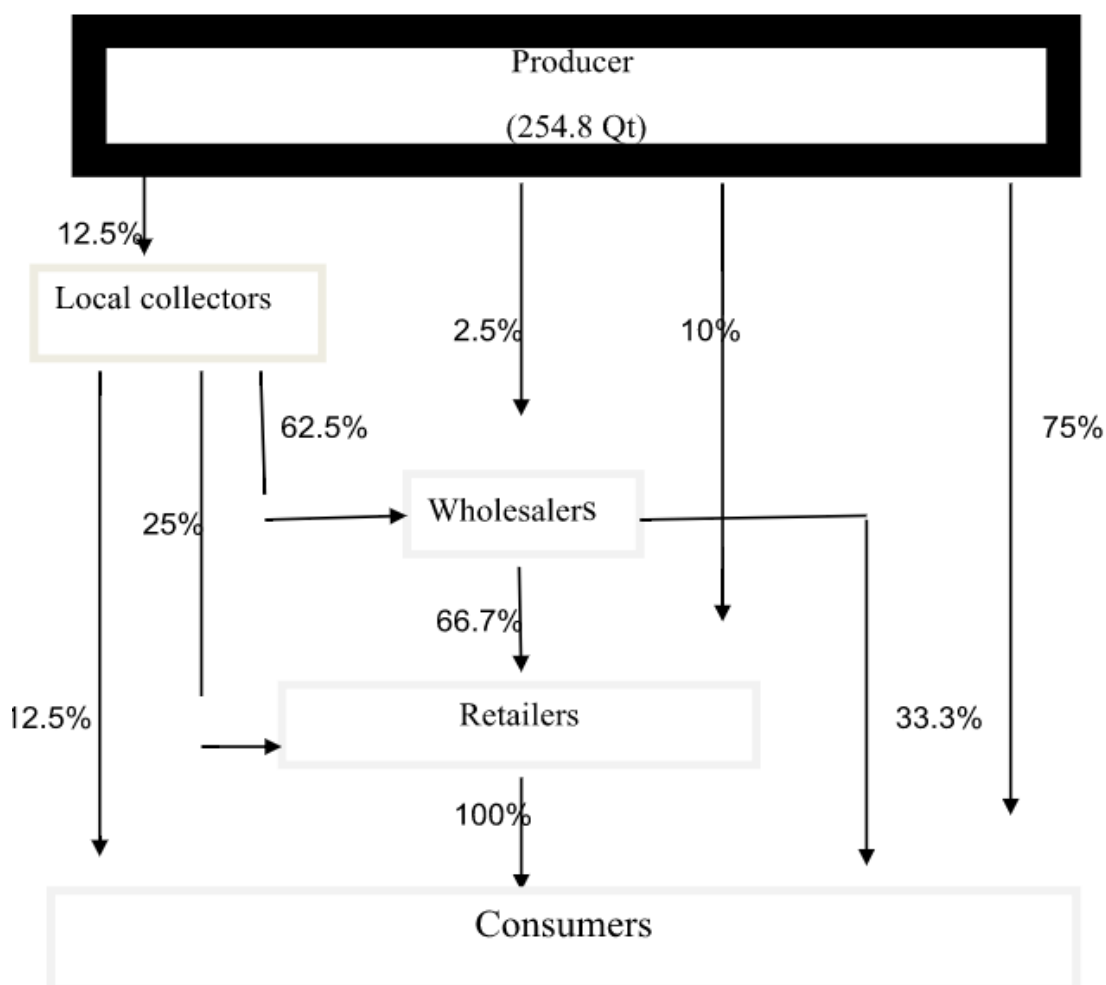


Figure 2. Marketing channel of citrus fruits.

The figure 2 above indicates the flow of the products from the producers along the chain up to final consumers. Based on the survey, 75% of their products are directly supply to consumers in nearly local market and Seka District market. This is because they are near to both of local and Seka market which they directly deal with the consumers. 12.5% and 10% are supply to broker/local collectors and retailers respectively.

Some producers made a contract with some brokers and retailers, so they didn't supply their products to market rather than contractors. Only 2.5% supply to wholesalers.

Producers/farmers: most of the farmers are responsible for producing different citrus products and sale their products to different actors along the channel.

Local collectors/Brokers: they found in Seka District and others District. Their roles are to transfer products to where they are demanded and also to supply them to other actors. They buy products from producers and supply to others actors. Based on their respond, 62.5% of their purchased quantity products supply to wholesalers, 25% to retailers and only 12.5% to consumers in another area.

Retailers: These are known for their limited capacity of purchasing and handling products and low financial and information capacity. Beside this, these are the ultimate actors in the market chain that purchase and delivered citrus product to consumers. They buy products from producers, brokers and wholesalers, and transport them to any place where the products are more demanded. They directly supply their products they bought from others actors to consumers.

Wholesalers: These are known for purchase of bulky products with better financial and information capacity. They relatively spend their full time in wholesale buying throughout the year in and out of the district. They are found in Jimma town, and they added value to products. The survey investigated two of them. They buy products in bulky from producers and brokers/local collectors. Based on their respond, 66.7% of their total products supply them to retailers and the remaining 33.3% to final consumers.

Consumers: these are those who are finally consuming citrus products. They are ordinary citizen; children, under employee, unemployed and government workers. It indicate that citrus fruits are demand and consume all people inform of raw fruits, and processed product.

Major citrus marketing constraints

During the survey the following major constraints of citrus marketing are identified as you can see in the table 8 below.

Table 8. Major citrus marketing constraints.

Constraints	Frequency	Percent (%)
Lack of transportation	50	70
Low price	32	45
Perish ability	32	45
Lack of market information	16	25
Lack of market & Brokers (hinder fair sale)	10	15

Source: Survey result. 2015

These constraints hinder the performance of citrus marketing in the area. As Sisay (2004) revealed that the existence of railway and road transport are the sources of improving and increasing the marketing of fruits and vegetables, failing of these result of low marketing.

Based on survey result lack of transportation is the first constraint, for many farmer supply their product to the nearest market on foot because there is no mean to reach supper market; its account for 70%. The others like low price and perishability of the product constitute 90%. The products are perishable mean that they are non storable, so producers are enforced to sell immediately after they are harvested.

Since the harvesting season is the same for all producers, all producers supply what they have produced, so this increased supply decreases the price. The other constraint is lack of market information which is account for 25%. Some producers have contract with some brokers and retailers, since they have no knowledge about the current market demand, they are misleading by those contractors not telling the true price, and demand of the product by the people in market.

Socio-economic and technical constraints to citrus marketing functionaries

Based on the survey results, many technical and socio-economic constraints are identified and they are shown on the table 9 below.

Table 9. Socio-economic and technical constraints to citrus marketing.

Constraints	Frequency	Percent (%)
Lack of finance	52	75
Lack of cold storage facilities	38	55
Poor packaging	28	40
Lack of information on price	22	30

Source: Survey result. 2015

As the table 9 depicts most of producers, around 75%, they lack finance in order to improve their products both in term of quantity and quality. As its indicated in table 4 above, only eleven people receive credit but it's from their relative/friends/neighbors and micro finance but it's not sufficient for the improving of citrus production. Improper storage place is also another problem which is faced by the producers and brokers. Since the products are perishable, so they need cool place which have sufficient ventilation, refrigerators, and so on which are above the standard of many farmers. This lack of storage facilities constitutes 55% of the total constraints. The other is low skill and knowledge which lead them to poor packaging of product after harvesting and misleading of brokers and retailers. Poor packaging is also an underlying cause of high post harvest losses. It leads to low quality of the product and decaying of the product if there is no ventilation in the packaging containers.

As Sharif, *et. (2005)* argue that the opportunities and improvement of citrus marketing in Punjud, Pakistan is largely affected by socio-economic and technical constraints. As the study indicates, among them lack of finance is one of the major constraints on the part of the producers and contractors. Secondly, in the marketing chain the deconstruction of marketing margin analysis revealed that retailers are receiving highest gross returns and the returns on capital invested are also highest in comparison with other marketing agents. This is mainly attributed to the grading performed by him before selling to the consumers. Thirdly, the supply of citrus is relatively high in the months of January-February. The cold store facilities are least used in domestic citrus marketing because cold weather is prevailing during these months. The contractors try to obtain higher prices by delayed plucking of fruit while on the other hand, this late plucking affects flowering for the following season. On the other hand, producers are interested in vacating their orchard as soon as possible.

This creates clashes of interests between producers and contractors. The lack of cold store facilities also an underlying cause of high post harvest losses at contractor level as incidence of frost and some other disease may result huge financial loss.

In the study area, lack of finance and cold storage facilities for citrus fruits are the major challenge that are facing by producers and contractors and lead to slow marketing channel of citrus production down because the actor/contractors regret from purchasing products due to their low quality which is the result of poor packaging and proper cold storage place.

Factors Affecting Citrus Supply in the Study Area

Based on the model summary, it can be seen that R-square value is 0.568 which mean that, about 56.8% of the dependent variable is explained by the independent variables. Or R-square is the proportion of variation in the dependent variable that can be explained by the independent variable. Regarding fitness of the model, the coefficient of correlation of 0.754 shows that the two variables; dependent variable and explanatory variable are highly positive correlated

Prior to application of the econometrics model to make inference, all hypothesized variables were tested for existence of multicollinearity problem. The existence of multi co linearity will affect seriously the parameter estimates. If multi-co-linearity turns out to be significant, the simultaneous presence of the two variables will highlight (attenuate) or reinforce the individual effects of these variables. Omitting significant interaction terms incorrectly will lead to a specification bias. In short, the coefficients of the interaction of the variables indicate whether one of the two associated variables should be eliminated from model analysis (appendix 1).

Out of the total variable hypothesized only three of them were found that to be significant. These are total yield of the product in kilogram (ttyld) at 1% probability (α), land size for citrus production (Indsz) at 5%, and experience in farming (expr) at 10% probability (α) level of significance. They are highly positively correlated with quantity supply for the percentage of 75.1%, 48.8 % and 7.4% respectively.

Table 11. Coefficients of the model.

Explanatory variables	Un-standardized Coefficient	Standardized Coefficient	t-value	Significance
(Constant)	.432		.783	.439
Education level	-.074	-.059	-.493	.625
Family size	-.038	-.030	-.242	.810
Experience in farming	-.013	-.009	-.076	.940*
Land size	.057	.050	.337	.738**
Total yield	.926	.712	4.850	.000***

○ $R^2 = .568$, Adjusted $R^2 = 0.505$, ESS = 16.130, RSS = 12.245, TSS = 28.375

○ **Note:** * ** & *** mean significance at 10% , 5% and 1% probability level respectively

Total yield: As predicted this variable was found to be significant at 1% probability (α) level. This indicated that, if the citrus yields production increase for one kg, the quantity supply will increase for 0.75 kg. As Tomek and Robinson (1985) argued that, yield was assumed to affect the marketable supply positively, because a farmer that obtained high yield could supply more to the market than a producer who had fewer yields.

Land size: this variable affect quantity supplied positively. Based on the result at the significant level of 5% probability, if the land size for producing citrus increase to 1ha, the yields will increase which in turn increase the quantity supply for the percentage of 48.8%. Supply of suitable land is one of the determinants of supply of horticultural crop in the world (USDA, 2004).

Experience in farming: this variable also has an effect on quantity supply. This indicates that if a producer has an experience in producing citrus, the yield can increase in which the increased yield may increase the quantity supply for 0.074kg. This variable has a less effect on quantity supply if we compare with the above two variables at significant level of 10%. This finding is in line with Abraham (2013) where vegetable farming experience affects positively and significantly quantity of potato supplied.

Whereas, the other two explanatory variables, namely Education level of the respondent (edclvl) and family size of the household (fmlysz) were found to have no significant influence on the supply of citrus in the study area

Appendix 1. Correlation Result.

Parameters	Quantity supply	Education level	Family size	Experience in farming	Land size	Total yield
Quantity supply	1.000					
Education level	-.134	1.000				
Family size	-.085	-.197	1.000			
Experience in farming	.074	.138	.237	1.000		
Land size	.488	-.112	.113	.232	1.000	
Total yield	.751	-.105	-.099	.122	.613	1.000

Source: Survey result. 2015

CONCLUSION AND RECOMMENDATION

Citrus production is high in the study area, Seka Chekorsa district and it's supplied to the local market and nearest towns. But the production decrease during past five years which in turn increase the trend of price as a result of shortage of the products. It's used as the source of income by many farmers, they produce and supply it in to four different channel based on the quantity they produce. Many producers supply their products directly to consumers to nearly market and some of them supply to local collectors/brokers, retailers and wholesalers. Many constraints that affect marketing of citrus were identified: among them are lack of transportation, low price of the product, perish ability of the products, lack of accurate market information, and lack of extension services. Some socio-economic and technical constraints to marketing that are faced by producers and traders were identified also. Among them are lacks of financial support for the improvement of product's quality, lack of storage facilities that push the producers to supply their product at low price after harvesting, and poor handling and packaging which lead to the losses or deteriorations of the quality of product.

Quantities of citrus supplied are affected by different variables such as total yield (+), land size (+) and experience in farming (+). They are positively correlated with quantity supply for the percentage of 75.1%, 48.8 % and 7.4% respectively.

RECOMMENDATION

Based on the summarized result findings, many constraints that hinder the performance of citrus marketing or supplying were identified in the area. To overcome those constraints, the following recommendations should be considered. Among them are:

There should be access training and several workshops to farmers by extension agents regarding on how to produce, to harvest and how to package their products in order to keep quality of their product high which in turn increase the demand for consumption.

Secondly, government should provide access infrastructure like, road facilities and mean of transports in the area to link the gap in order to increase and improve marketing channel from the field to market. Thirdly, the District office of agriculture should supply improved seeds and credit with low cost to producers in order to improve and increase their production in term of quantity and quality of the citrus products. Fourthly, there should be constant supervision by development agents in orders to identified any current situation or problem that occur and they should have to give a possible solution before it going to affect the yield of the product. Finally, to keep and improve the citrus marketing channel smoothly, there should be mutual truth between the producers and actors/traders and between the traders with customers and also between the traders themselves to keep their relationship in good manners. And also there should be an access flow of accurate information and encouragement to those of producers.

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