

***ValueChain Analysis of onion Market: Case Study of South Bench
Woreda, Bench Maji Zone.***

*Thesis Submitted to the School of Graduate Studies of Jimma University in Partial
Fulfillment of the Requirements for the award of Degree of Master of Science in
Development Economics.*

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**JIMMA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF ECONOMICS**

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Woreda, Bench Maji Zone*

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JIMMA UNIVERSITY

MSC PROGRAM IN DEVELOPMENT ECONOMICS

MAY, 2019

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DECLARATION

I, Tesfaye zelege Galame, hereby declare that this thesis entitled “value chain analysis of onion market, case study of south Bench woreda, Bench maji zone, has been Carried out by me under the guidance and supervision of dr. Jemal Abafita and Mr. Negese Tamirat.

The thesis is original and has not been submitted for the award of degree of diploma any university or instructions.

Researcher’s Name

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CERTIFICATION

This is to certify that the thesis entitled, Value chain analysis of onion market, case study of south Bench woreda, Bench maji zone, submitted to Jimma University school of post graduate's studies for the award of the Degree of Master of science in development economics and research work carried out by Tesfaye zeleke Galame, under our guidance and supervision. Therefore, we hereby declare that no part of this thesis has been submitted to any other university or institutions for the award of any degree of diploma.

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We recommend that the Thesis be accepted as fulfilling the requirement of Master of Science in development Economics.

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Table of Contents

DECLARATION	iii
CERTIFICATION	iv
ACKNOWLEDGEMENT	v
ACRONYMS AND ABBREVIATIONS	xiv
ABSTRACT	xv
CHAPTER ONE	1
1. INTRODUCTION	1
1.1. Back Ground of the Study	1
1.2. Statement of the Problem	2
1.3. Research Questions	4
1.4. Objective of the Study	5
1.4.1. General objective of the study	5
1.4.2. Specific objective of the study	5
1.5. Significance of the Study	5
1.6. Scope of the Study	5
1.7. Limitation of the Study	6
1.8. Organization of the thesis	6
CHAPTER TWO	7
2.1. Review of Related Theoretical Literature	7
2.1.1. Basic Concept and Definition	7
2.1.2. Agricultural value chain analysis.	8
2.1.3. Purpose of value chain analysis	9
2.1.4. Measuring of Value Chain Analysis	9
2.1.5. Marketing Channel and actors in onion Value chain	11

2.2.	Status of onion Value chain analysis and Production in Ethiopia	12
2.3.	Review of Empirical studies on Agricultural Marketable Supply	13
2.4.	Conceptual Framework of onion value chain.....	16
CHAPTER THREE		16
3.	METHODOLOGY OF THE STUDY	17
3.1.	Description of the Study Area	17
3.2.	Sources and Method of data Collection.....	18
3.3.	Sampling Technique and Sample size determination.....	19
3.4.	Methods of data analysis	21
3.5.	Definition of Variables and Working Hypothesis.....	23
CHAPTER FOUR.....		27
RESULT AND DISCUSSION		27
4.1.	Descriptive Analysis	27
4.1.1.	Demographic characteristic of onion producer (Categorical variable)	27
4.1.2.	Demographic characteristic onion producer (continuous variable).....	29
4.1.3.	Demographic characteristics of sampled traders	29
4.1.4.	Socio-Economic characteristic of sample of trader.....	31
4.2.	Actor participated in onion value chain and marketing channel.....	32
4.3.	Constraints and Opportunity in onion value chain analysis.....	42
4.3.1.	Major Onion Production Constraint at Producer Level.....	42
4.3.2.	Major Onion Marketing Constraint at Producer Level.....	43
4.3.3.	Major Onion Marketing Constraint at Trader level.....	44
4.3.4.	Opportunity along the onion value chain	44
4.4.	Econometric Analysis	45
CHAPTER FIVE		52

<i>Conclusion and policy Recommendation</i>	52
5.1. Conclusion.....	52
5.2. Policy Recommendation	54
6. REFERENCE	57
7. APPENDIX	65
APPENDIX A.....	65
APPENDIX B	67
APPENDIX C	67
7.1. Producer Questionnaire.....	68
7.2. Questionnaire for trader	73
APPENDIX D.....	76

LIST OF TABLE

<i>TABLE</i>	<i>PAGE</i>
<i>Table 3. 1. Sample of onion producer in five selected Keble</i>	<i>20</i>
<i>Table 3. 2. Sample of onion trader in three selected market.....</i>	<i>20</i>
<i>Table. 4. 1. house hold Characteristic of onion producer (categorical variable).....</i>	<i>28</i>
<i>Table. 4. 2. Source of loan for the sample of Credit service user</i>	<i>33</i>
<i>Table 4. 3. frequency of extension service.....</i>	<i>34</i>
<i>Table 4. 4. Age group category of the respondent</i>	<i>35</i>
<i>Table 4. 5. Farming experience Categories of the respondent.....</i>	<i>34</i>
<i>Table 4. 6. House hold Characteristic of onion producer (continous)</i>	<i>29</i>
<i>Table 4. 7. Demographic characteristics of sample of traders</i>	<i>30</i>
<i>Table 4.8. source of working capital for trader</i>	<i>31</i>
<i>Table 4. 9. Source of loan for trader.....</i>	<i>31</i>
<i>Table 4. 10. Utilization of fertilizer for onion production.....</i>	<i>32</i>
<i>Table 4.11. Source of family labor for onion production</i>	<i>32</i>
<i>Table 4. 12 Average land holding and onion production pattern</i>	<i>33</i>
<i>Table 4. 13. Onion land coverage and output obtained.....</i>	<i>34</i>
<i>Table 4. 14. Quantity of onion produced during the survey year during 2018?.....</i>	<i>35</i>
<i>Table 4. 15. Average distance of the respondent from market center to production center.....</i>	<i>36</i>
<i>Table 4. 16. Means of transportation used by House Hold Head.....</i>	<i>36</i>
<i>Table 4. 17. Wholesalers response from whom they buy and to whom they sell.....</i>	<i>37</i>
<i>Table 4. 18. Quantity of onion purchased by sampled wholesaler, 2018.....</i>	<i>37</i>

<i>Table 4. 19. Quantity of onion purchased by sampled retailers, 2018</i>	<i>38</i>
<i>Table 4. 20 . Retailers response from whom they buy and to whom they sell</i>	<i>38</i>
<i>Table 4. 21. Marketing margin in onion value chain</i>	<i>40</i>
<i>Table 4. 22. constraints of onion production at farm level.....</i>	<i>42</i>
<i>Table 4. 23. constraints onion marketing at farm level</i>	<i>43</i>
<i>Table 4. 24. Constraints of onion marketing at trader level</i>	<i>44</i>
<i>Table 4. 25. Econometric result.....</i>	<i>50</i>

LIST OF FIGURE

2. 1. Conceptual framework of onion value chain-----	16
3.1. geographical map for south bench woreda-----	20
4.21. onion marketingchannel for south bench woreda-----	37

LIST OF TABLE IN APPENDIX

Appendix table 7. 1 . Test for multicollinearity.....65

Appendix table 7. 2. Constraints of onion production at farm level65

Appendix table 7. 3. Constraints onion marketing at farm level.....66

Appendix table 7. 4. Constraints of onion marketing at trader level.....67

LIST OF FIGURE IN APPENDIX

7. 5. Appendix figure Test for normality	67
7. 6. Appendix figure Test for heteroscedasticity...	<i>Error! Bookmark not defined.</i>

ACRONYMS

AND ABBREVIATIONS

AAFC	Agriculture and Agri-Food Canada
ATA	Agricultural Transformation Agency
CSA	Central Statistical Agency
CIAT	International Center for Tropical Agriculture
CLRM	classical linear regression model
EHDA	Ethiopian Horticulture Development Agency
FAO	Food and Agriculture Organization
GMMW	Gross Marketing Margin of Wholesalers
GMMP	Gross Market Margin of Producers
GMMi	marketing margin at given stage.
OLS	Ordinary list square
PF	producer price
PR	price of retailer
PPi	purchase price at ith link.
SBWNDOA	South Bench Woreda natural resource development Office of agriculture
SNNPRS	Southern Nations Nationalities and Peoples Regional State
SSpi	selling price at ith link and
USAID	United States Agency for International Development
UNIDO	United Nations Industrial Development Organization
UNCTAD	United Nations Conference on Trade and Development
USAID Development	United States of America Agency for International Development
VIF	variance of inflation factor

ABSTRACT

This study was aimed to examine the value chain analysis of onion market in south Bench woreda in Bench maji, focused on specific objective of factor affecting quantity of onion production supplied to the market by farm, identifying major actor in onion value chain, constraint and opportunity along the onion value chain in both production and marketing.

In order to address the objective of the study both primary and secondary source of data were used. The primary data was collected from onion producers and trader (wholesaler and Retailer) using questionnaire and focus group discussion (FGD) with key informant and Secondary data were collect from published article and unpublished reports of different level of agricultural bureau. To analyze the collected data both descriptive and inferential analysis were used.

Cobb-Douglas production function model (CDM) were used to identify factor affecting quantity of onion production supplied to the market by farm 118 sample of onion producer were selected from five selected kebele through multi stage probability sampling technique and 65 sample of onion trader were selected through simple random method of sampling technique.

Out of 118 sample of producer selected from five kebele 52.54% were male headed and 47.46% were female headed and out of 65 sample of trader selected from three market place. The average age of sampled trader was 35.82 with the minimum age of 18 and the maximum of 75 and standard deviation of 12.32. The major constraints that impede onion production at farm level were low supply of input, low irrigation facility, Poor disease control, lack of technical training, high cost of inputs and low demand. Econometric result indicates that quantity of fertilizer utilized, distance from the nearest market, family size of house hold head, educational level of house hold head, farming experience and Credit access were significantly and positively determined the quantity of onion supplied to the market.

For over all, the study recommended that those significant variable need to be promoted to boost the amount of the onion market supply. In order to increase the productivity of onion there is need of public, private, research center and farmer themselves working together so as to increase access to improved and disease resistance seed verity

Key word: onion value chain analysis, marketing channel, cobb Douglas production function model, actor, constraint

CHAPTER ONE

INTRODUCTION

1.1. Back ground of the Study

Vegetable production is an important economic activity in agricultural sector ranged from home gardening small holder farming to commercial farm owned both by public and private enterprise(ATA, 2014)

Ethiopia has variety of vegetable crops, grown in different agro ecological zone produced through commercial as well as small holder farmer as both source of income as well as a food.

In spite the production of vegetable varies from cultivating a few plant in the backyard for home consumption up to large scale production for domestic and export market (Dawit *et al.*, ..2004)

Smallholder vegetable farms were based on low input- output production systems, use of improved seeds, planting material of high yielding varieties and other inputs such as fertilizer ,technical training and extension services on improved crop husbandry techniques are not available a result average productivity levels are low in the small scale farming sector (EHDA, 2011).

Among those vegetable crop, onion was recognized as one of the most important vegetable crops that cultivated throughout the world since its introduction to the worlds, grown mainly as source consumption and income generation (Goldman, 2011).

In global perspective, the production of onion crop is worldwide because of its wide benefits in our daily foods requirement, largely produced in the developed nations, and dominated international markets due to its higher quality production and longer storage life (Opara LU, 2003).

According to (FAO, 2012) the world total onion production was 742.51 million tons per annum. China was the leading world producer accounts 205.08 million ton followed by India and USA (Manna D, 2014).

In Africa perspective, Egypt was the leading onion producer country by producing 22.08 million tons of onion per year for domestic and international markets that rank as the fourth of world producer of onion and first exporter of onion in African country (Kulkarni.*et al.*., 2012).East

African country such as Kenya (18.55%), Uganda (1.41%) and Rwanda (33.33%) were also importers of fresh onion from other countries to meet demand (FAOSTAT, 2007).

Onion is considered as one of the most important vegetable crops produced on a large scale in Ethiopia, and occupies an economically important position among vegetables. The area under onion is increasing from time to time mainly due to its high profitability per unit area and ease of production, and increases in small scale irrigation areas. The crop is produced both under rain fed in the meher season and under irrigation in the off season.

In many areas of the country, the off season crop (under irrigation) constitutes much of the area under onion production (FAO-CDMDP, 2008). The total areal coverage of onion crop in the country was 21,865.4 hectares, with total production of 219,188.6 tons with average productivity of 10.02 tons per hectare (Weldemariam S. et al., 2015)

South Bench woreda was the study area endowed with naturally in terms of capacity to grow different vegetable crops and major vegetable crops currently growing in the woreda were potato, onion, tomato, cabbage, beet root and green pepper. Onion was one of the most commonly produced vegetable crops in the area both for consumption and income generation (SBWNRDOA, 2018). The production of onion crop in the woreda was mainly for market and was fragmented resulting from lack of coordination among the actors. Analysis of marketing chain was anticipated to offer as systematic knowledge of the flow of the product from their origin to their final destination. This study was proposed to investigate the value chain analysis of onion market that were produced in the study area.

1.2. Statement of the Problem

Agricultural marketing is the most significant energetic force for economic development and contains a guiding and stimulating impact on production and distribution of agricultural products (Wolday A, 2004). The sector still remains largely dominated by rain-fed subsistence farming by smallholders who cultivate an average land holding of less than a hectare.

Although agriculture has a long history in the country's economy and the development of the sector has been hampered by a range of constraints which include land degradation, low technological inputs, weak institutions, and lack of appropriate and effective agricultural policies and strategies (Aklilu, 2015)

Vegetable production is one of agricultural sector that is produced in the country following the development of irrigation and increased emphases given by the government to small scale commercial farmers (CSA, 2014).

According to (Colman Y, 1999), because of different marketing constraints smallholder farmers were not getting the right share of consumer price, producing and selling their product in organized manner so that some of their benefit may transfer to the intermediaries.

Onion is one of the top most important vegetable crop produced almost in all parts of the country by smallholder farmers due to its requirements in the daily diet of peoples and as a source of livelihood of most people's and for the export market purposes (Berhanu, 2014).

Even if, the country has greater potential to produce onion ever year for both domestic and export market, there were problem that affect the marketing activity of onion produced in Ethiopia, some of them are price fluctuation or low pricing at peak supply period ,lack of standard for produce, lack of coordination and marketing research and marketing information ,weak linkage in the chain ,lack of storage facility and poor road access(Aduugna G, 2009) .

In spite of the policy options provided by the Ethiopian government, was very little empirical evidence on value chain analysis of onion, to design appropriate policies for the improvement of onion production and productivity in Ethiopia(Vermeulen. *et al.*, 2008).

According to the productivity of onion seed in Ethiopia was much lower than other African countries, this low productivity could be attributed to the limited availability of quality of the seed that associated with production technologies. For the supply of such seed, informal sector plays significant role in reaching out of large number of farmer and most of the demand for onion were either meet by private or unorganized program.

South Bench woreda, was the study area with great potential for onion farming, due to accessibility of irrigable farm land and favorable climatic condition.

However, in the study area, most of smallholder onion producer in the rural areas were poorly linked to the market and poor access to the market information regarding to their product price, and intermediaries generate good business in the chain than producers.

Besides, the production in the area was below the potential due to lack of extension service, high price of fertilizer, lack of improved seed varieties, lack of coordination among the actor, high cost of production and delay in input arrival for purchase result in sharp seasonal fluctuation of

onion price, particular in remote area and isolated from the end-consumers (SBWNRDOA, 2018)

Even if some related studies on vegetable crop like onion were carried out in different region of the country, empirical evidence on the constraint of onion production and marketing supply of onion crop, besides their determinant has not been under taken in the study area.

According to the study conducted by (Almaz G. et.. al., 2014) indicate that onion value chain was complicated by substantial problems including; low yield, marketing skill, lack of capital, adulteration (poor quality of seed), brokers hindering fairness in price, unable to have good vegetable marketing policy, storage problem and improper shading.

The market performance studies conducted on vegetables by (Debela, 2013)out that concentration ratio for onion was oligopolistic and wholesalers get the highest profit, which is 56.29% of the market cost followed by urban assemblers (50.26%) and the producers' gross profit was the lowest which was 4.89%, while Retailers and wholesalers have got the highest gross marketing margin whereas rural assemblers have got the lowest marketing margin. Furthermore, the previous studies related with onion crop focused on onion production rather than giving more attention on marketing cost, performance, conduct and, structure and draw up value chain map with linkage among actor which include input supplier, producer, trader and consumer

Therefore, there is strong need to conduct on value chain analysis to identify onion value chain actor and their marketing channel, determinants of onion production and constraint and opportunity especially at the production and marketing level in the study area.

In doing so, this study attempted to contribute the knowledge gap by taking in to consideration all of the above mentioned problem in the study area for the purpose of providing vital information for effective research, and policy formulation. With regarding to this knowledge gap the study bidden to respond the following research question

1.3. Research Questions

- ✓ Who are the major actors participated in onion value chain and what look like their marketing channel in the study area?
- ✓ What are the factors affecting quantity of onion production supplied to the market in the study area?

- ✓ What was the constraint and opportunities in onion value chain in the study area?

1.4. Objective of the Study

1.4.1. General objective of the study

The general objective of the study was to investigate the value chain analysis of onion market in south bench woreda.

1.4.2. Specific objective of the study

- ✓ To identify onion value chain actor and their market channels in the study area?
- ✓ To analyze factor affecting quantity of onion production supplied to the market by farm level in the study area.
- ✓ To identify the constraint and opportunities in the onion value chain in the study area.

1.5. Significance of the Study

The study enables to provide information on constraint onion production, marketing channel and opportunities in onion value chain in the study area.

This study result would be used for farmer, trader, policy maker, governmental and none governmental organization, who want to introduce intervention in onion marketing.

In addition to this, the study generated important information for research and development organizations, extension service providers, to formulate onion marketing development programs and guidelines for interventions that would improve efficiency of the onion marketing system. This study could be used as source of material for further studies.

1.6. Scope of the Study

The area coverage of this study was in south Bench woreda, Bench maji zone focusing on onion crop which account major proportion of the production and passed through a number of marketing stages. The study emphasized on different marketing channel and actor in the chain.

The collected data entered in to a software called Stata (14) to find the frequency of distribution mean, max, min, standard deviation and Econometric result.

1.7. Limitation of the Study

Being the first study in the woreda lack details, investigations which could have reinforced in understanding of the whole system particularly in relation to production studies. The time limit and budget constraint exclude consideration of other neighboring woreda as well could give more weight to the limitation. The other limitation was geographical location of the kebele that most of them were far from the main road and researcher was take a long time to found the respondent and some of farmer were busy in their farm. Moreover, few producer and trader were reluctant to provide information without a benefit or payment and have no willingness to participate in this study.

1.8. Organization of the thesis.

The thesis had five chapters. The first chapter of the thesis were discussed back ground of the study, Statement of the Problem, Objective, Significance, Scope and limitation and Organization of the thesis. The Second chapter were discussed about review of related literature.

The third chapter deals methodology of the study. The fourth chapter deals result and discussion and the last chapter deals about conclusion and policy recommendation.

CHAPTER TWO

LITERATURE REVIEW

In this chapter an attempt has been made to explain certain concepts used in this study.

In addition, this part is intended to critically review the literature of the past research work in relevance to the present study so that theoretical review, empirical evidence of the reviews and conceptual framework enable better understanding of the subject.

2.1. Review of Related Theoretical Literature

2.1.1. Basic Concept and Definition

Value chain: a chain of activities that is associated with adding value to a product through production and distribution processes (Schmitz, 2005). The goal of a company is to deliver maximum value to the end user at the least possible cost to the company to maximize profit. The approach of value chain was developed by Michael Porter in the 1980s, and described in his book *Competitive Advantage, Creating and Sustaining Superior Performance*. His idea was to divide a business into its strategic activities to make them better than the rivals, or to a lower cost. Their suppliers affect a firm's value chain and customers' value chains (Porter, 1985). It is the full range of activities that is required to bring a product from conception, through the different phases of production and transformation and made up of a series of actors from input suppliers to exporters (Kaplinsky R. and Morris M K, 2000).

According to (Barnes, 2004) value chain is a coalition of enterprises collaborating vertically to achieve a more rewarding position in the market. The basic characteristic of a value chain is focused on collaboration of market, different business enterprises work together to produce market products and services in an effective and efficient way and it allows businesses to respond to the market place by linking production, processing and marketing activities to market demands.

According to (UNIDO, 2009) value chain is a set of businesses' activities and relationships involved in creating a final product or service and builds on the idea that a product is infrequently consumed in its original form but becomes transformed, transported, packaged, marketed and combined with other products, until it reaches its final consumer. In this sense, a value chain

describes how producers, processors, wholesaler, retailer, sellers, and consumers separated by time and space gradually add value to products as they pass from one linkage to the next in the chain.

Market chain: It is the term that is used to describe the various links between all the actors and transactions involved in the movement of agricultural goods from producer to the consumer (CIAT, 2004)

Supply chain: it is the sequence of (decision making and excusion) process and (material, information and product) flow that aim to meet final customer requirement that take place within and between different stage along continuum, from production o final consumption. The supply chain not only including the producer but also depending on the logistic flows, transporter, ware house, retailer and consumer themselves.

In the border sense supply chain include also new product development, marketing, operation distribution and finance and customer service (FAO, 2007)

Supply chain management: is about making the chain as efficient as possible through better flow scheduling and resource use, improving quality control throughout the chain, reducing the risk associated with food safety and contamination, and decreasing the agricultural industry's response to changes in consumer demand for food attributes (Dunne A, 2001)

Marketable surplus: quantity of product that is left out after meeting farmer consumption and utilization requirements for kind of payments and other obligations or quantity actually sold after accounting for losses and retention by farmers (Trienekens H.J, 1997)

Marketed surplus: the quantity actually sold after accounting for losses and retention by the farmers, if any adding the previous stock left out for sale. Thus, marketed surplus may be equal to marketable surplus, it may be less if the entire marketable surplus is not sold out and the farmers retain some stock and if losses are incurred at the farm or during transit (Trienekens H.J, 1997).

2.1.2. Agricultural value chain analysis.

Agricultural value chain involves all companies and their activities engaged in input supply, production, transporting, processing, marketing and distributing of the product.

It is a dynamic approach that examines how markets and industries are respond to changes in the domestic and international demand and supply for a commodity, technological change in

production and marketing, developments in organizational models and institutional arrangements or management techniques.

Value chain analysis focuses on changes over time in the structure, conduct and performance of value chains, particularly in response to changes in market conditions, technologies and policies (Anandajayasekeram P. and Berhanu Gebremedhin, 2009).

agricultural value chain can be considered as an economic unit of analysis of a particular group of commodities that encompasses a meaningful grouping of economic activities that are linked vertically by market relationships.

The emphasis is on the relationships between networks of input suppliers, producers, traders, processors and distributors (UNCTAD, 2000.). Agricultural value chains link urban consumption with rural production. Changing demand, because of urbanization, emergence of modern consumption patterns or new trends in international trade, affects rural areas along value chains and spills over to marketing and production systems

. These rural urban linkages bear challenges but also mutual benefits for producers and consumers and can be promising entry points for development interventions (Höffler H. and Maingi G, 2006)

2.1.3. Purpose of value chain analysis

According to (Kaplinsky R. and Morris M, 2002)the value chain analysis offers division of labor and comprehensive dispersion of the production component. The primary purpose of value chain analysis is to understand the reasons for inefficiency in the chain, and identifying potential leverage points for improving the performance of the chain. Value chain analysis; enable to identify the relationship and coordination mechanisms among the chain of actor(USAID, 2008)

2.1.4. Measuring of Value Chain Analysis

A fundamental aspect of global value chain research was, how value itself, is conceptualized and measured. The analysis of these structures answers to a set of questions like how does the production process take place, who participates at the stage? Where do different stages take place? How are they linked, who benefits? These answers are required to find the pertinent points of intervention for a successful integration of poor population sections (Kodigehalli B, 2011)

According to (Baker D, 2006) the value chain is described as flows of product, adding of value to the product at different stages, identifies key actors and their relationships in the chain, identifies enterprises that contribute to production and characterizes by its network structure, value added and its governance form

2.1.4.1. Network structure

From network theory and supply chain management we draw the network structure of the value chain. Network theory combines both horizontal and vertical relationships between actors. Supply chain management focuses on vertical connections between economic actors aiming to jointly produce for a market (Trienekens H.J, 1997).

The performance of an agricultural value chain depends on how well the actors in the value chain are organized and coordinated, and how the chain is supported by business development services. Verticality, in value chains implies that conditions at one stage in the chain are likely to be strongly determined by conditions in other stages. In the vertical chain, there is direct, indirect, expected, and unexpected ways. It should be noted that intra-chain linkages are mostly of a two-way nature. A particular stage in a value chain may affect and be affected by the stage before or after it (Berhanu Gebremedhin..et al.. 2009)

2.1.4.2. Value addition

Value added is the adding of value to the product or service or innovation that encourage or improves the existing product by introducing new products or new product uses. This allows farmer to create new markets, or differentiate a product from others and gain have advantage over competitors(AAFC, 2000)

Value addition is one aspects of marketing that deal with practice that change or transform primary product in to good that have additional value. Value adding activity based on their simplicity and difficult. The simplest are washing, cleaning grading, bulking and stroge, this activity are conducted by the control of framer and the complicated are ginning, roasting, refrigerating, milling, cutting, mixing, dehydration, cooking and packaging. These activities are generally undertaken by specialist market chain actors or service providers (Muluken Marye, 2014)

Value addition to horticultural crops is of considerable importance when considering post-harvest operations of vegetable.

It was an economic waste if production losses are high due to poor handling. Reduction of wastage therefore must be concern in order to improve on the quantity of the product acceptable to the consumer “as fresh” oras ‘finished product. Production, harvesting and post - production systems of horticultural crops play a very important role in bringing these crops to the consumers cheaply. For ease of differentiation, post-harvest operations in this write up were divided into two parts. These are post-harvest handling and post-harvest food production (Omo Ohiokpehai, 2003)

2.1.4.3. Governance structure.

Governance is defined as how control is exercised within the value chain actors and plays a major role in how production capabilities are upgraded; determining sustainability of the value chain and distribution of an equal benefit among the value chain actors. Governances a depiction of the dynamic distribution of power, learning, and leadership in standards and strategy setting among a value chain’s firms. (Marshal E and Schreckenberg K, 2006).

Government is central concept to value chain analysis. The starting point for interest in global value chains is the fact that some firms directly or indirectly influence the organization of global production, logistics and marketing systems. Through the governance structures they create, they take decisions that have important consequences for the access of developing country firms to international markets and the range of activities these firms can undertake (Gereffi G. et al., 2011)

2.1.5. Marketing Channel and actors in onion Value chain.

The analysis of marketing channel was intended to provide a systematic of flow of goods and services from their origin (producer) to their final destination (consumer). This knowledge is acquired by studying the participants in the processes. Those who perform physical marketing functions in order to obtain economic benefits. In carrying these functions, marketing agents achieve both personal and social goals. They add value to production and by so doing help satisfy consumer needs. The price pays for the goods) the physical commodities and services (i.e. transportation, bulk breaking, grading) for the services and renders compensated the marketing agents for this effort. This price also serves as a signal to all actors in the marketing channel, i.e. input supplier, producers, whole sellers, retailer ‘sand influence actors(Mendoza G, 1995)

Input supplier actors: At this stage of the value chain, many actors are involved directly or indirectly in agricultural input supply in the study area. Onion growing farmers are also

participated in this stage. All such actors are responsible to supply agricultural inputs like improved seed varieties, fertilizers, herbicides, pesticides and farm implements that are essential inputs at the production stage.

Producer: Onion growers are the major actors who perform most of the value chain functions right from farm inputs preparation on their farms or procurement of the inputs from other sources to post harvest handling and marketing. The major value chain functions that onion growers perform include ploughing, planting, fertilization, irrigating, weeding, pest/disease controlling, harvesting and postharvest handling.

Wholesaler: Wholesalers are mainly involved in buying onion from producers in larger volume than any other actors are and delivering to the retailers and consumers. They also store and assemble product and markets are the main centers for onion in the surrounding areas. They have better storage, transport and communication access than other trader does.

Broker: A broker is an individual or party that arranges transactions between a buyer and seller for a commission when the deal is executed.

Retailers: Retailer involvement in the chain includes buying of onion, transport to retail shops, grading, displaying and selling to consumers. They are the last link between producers and consumers. They mostly buy from wholesalers and sell to urban consumers.

Consumer: those purchasing the products for consumption. Private consumers purchase onion directly from producers, retailers and wholesalers though most of the consumers purchase from retailers. Farmers also make important segment of the rural consumers since they consume part of their produces.

Influencer actors: these actors that include regulatory framework and policies such as revenue authority, trade and market development office, land administration and environmental protection office.

2.2. Status of onion Value chain analysis and Production in Ethiopia

Ethiopia is country differentiated by agro-climatic condition that makes it suitable for the production of a broad range of fruits and vegetables, altitude, level ranging from below sea level to over 3000 meter above sea level and gives it a wide range of agro ecological diversity ranging from humid tropics to alpine climates, where most types of vegetable crops can be successfully grown (CSA, 2014).

Commercial production of horticultural crops, including vegetables, has also been increasing in recent years because of expansion of state farms (Ethiopian Horticulture Development Corporation) and increasing private investment in the sector by national and international entrepreneurs (EHDA, 2011)

Among this crop onion considered as one of the most important vegetables crop produced on large scale in Ethiopia for both commercial and consumption purposes and grows well under mild climatic conditions without extreme heat or cold or excessive rainfall (FAO,2005)

Onion was introduced to the agricultural community of Ethiopia in the early1970s when foreigners brought it in, Currently, the crop is produced in different parts of the country for local consumption and for export of flowers to European markets (ETFRUIT, 1992).

In recent years, the demand for onion increased for its high bulb yield, seed and flower production potential. The establishment of state owned enterprises contributed substantially to the increase in the production and expansion of area under onion in the country with limited amount of seed production experiences. Onion seed production depends on the cultivar, location, growing season and adequate plant protection measures (Lemma Desalegne and shimelis Aklilu, 2003)

However, yet the production of the crop is not exploited due to the production and productivity of the crops are dependent on the potential of genetic factor of the individual crops and the environment where it has been grown (Acquaah G, 2015). Even if, the country has a great potential to produce onion every year for both domestic and export market, other problems affect the marketing activities of onion produce in Ethiopia. Some of them are price fluctuation or low pricing at peak supply period, lack of standards for produce, lack of coordination among producers, inadequate availability of market research and marketing information, weak linkage in the chain, lack of storage facilities and poor road access ((Almaz G. *et. al.*, 2014)

2.3. Review of Empirical studies on Agricultural Marketable Supply

Different scholar had been conducted in the field of market and value chain analysis on different agricultural product, from different studies conducted on agricultural product; some of them are described as follow.

Studies conducted by (Philips, 2007) indicted that absences of research and market information in Ethiopian, leads value chain of honey wasted infinite benefits. This study was further

evidenced by (Kassa Belay, 2003), who stated that, lack of government support such as, inadequate research and training, lack of policies and strategies have increased knowledge gap among the Ethiopian small-scale farmers.

Study conducted by (Gebremedhin w. et al., 2008) state that low level of improved agricultural technologies, risks associated with weather conditions, diseases and pests and increasing population pressure the land holding per household is declining leading to low level of production to meet the consumption requirement of the household.

According to a (Mahilet Mekonnen, 2013) marketable supply of malt barley were significantly affected by output of malt barley, selling price, market information and distance to the market by Applying *two stages least squares (2SLS) regression model*.

(Kassa., 2014) Conducted study on factors affecting milk market participation and volume of supply in Ethiopia by using *Heckman two-stage selection model*, the study showed that milk yield per day, dairy farming experiences and numbers of members in household significantly affected volume of milk supply.

(Ayelech, 2011) identified factor affecting the marketable surplus of fruit by using OLS regression model and the result of the study indicated that education level of house hold head, quantity of fruit produced, fruit production experience, extension contact, lagged price and distance to the market place were affecting the marketable surplus of fruit

study conducted by (Debela, 2013) analyzed the determinants of onion supplied to the market using *Tobit model* and the results of the study indicated that non-farm income of the households, total land size of the households, total quantity of onion produced and access to credit services affected positively and significantly the quantity of onion supplied to the market while total family size showed significant and negative relation with quantity of onion supplied to the market.

According to (Abebaw Mamo and Girma Degnet, 2012) gender, educational status of house holds together with access to free aid, Agricultural extension service, market information, none farm house hold income, adoption of modern livestock input, volume of sale and time spent to reach the market have statistical significant effect on whether or not a farmer participate in livestock market and his/her choice of marketing channel. They used *binary logit and multinomial logit model* to explore the patterns and determinant of small holder livestock farmer market participation and market channel choice using micro level survey data from Ethiopia.

(Riziki J.M. et al, ..2015)Conducted study on determinants of choice of marketing outlets for African indigenous vegetables among the agro-Pastoral Maasai of Narok and Kajiado counties of Kenya using *multinomial logistic regression model*, the study pointed that quantity of African Indigenous Vegetables sold, agricultural market distance, sex, educational level, household size, levels of value addition, farming experience in agro-pastoralist, off-farm income and marketing costs are the main factors that affecting choice of marketing outlet by the agro-pastoral.

(Chalwe, 2011) Conducted study on Zambian smallholder bean producer and identified factors that affect choice of marketing channels by adopted *a probit model*. Results from such model indicated that the choice of marketing channel were directly affected by the price of beans, scale of operation (as measured by the quantity of beans harvested, and quantity sold), distance to the market, farming mechanization used and livestock ownership.

On the other hand, modal results for decision to sell indicated that price mechanization and farmers age significantly affected farmer decision, meaning that price was very important factor in stimulating both selling decisions and channel selection.

(Yimer Ayalew, 2015) employed using multiple liner regression models and estimated that educational level of house hold head, market information, distance to the nearest market, extension service, and quantity of fruit produced were significantly affected marketable surplus of fruit.

A study conducted in Darolebu district of Oromia region on factor affecting vegetable supplied to the market, using Tobit model, showed that irrigation access, farming experience and total land cultivated in vegetable production were significantly affected vegetable supplied to the market (Tadesse, 2011)

(Habtamu, 2015)identified factor affecting potato market participation of farmer and extent participation of farmer in Hadiya zone, Ethiopia by using *Heckman sample selection model* and the result of the study showed that sex of house hold head, extension service, credit access, tropical livestock unit, lagged price and number of oxen were significant factor for volume of potato sold.

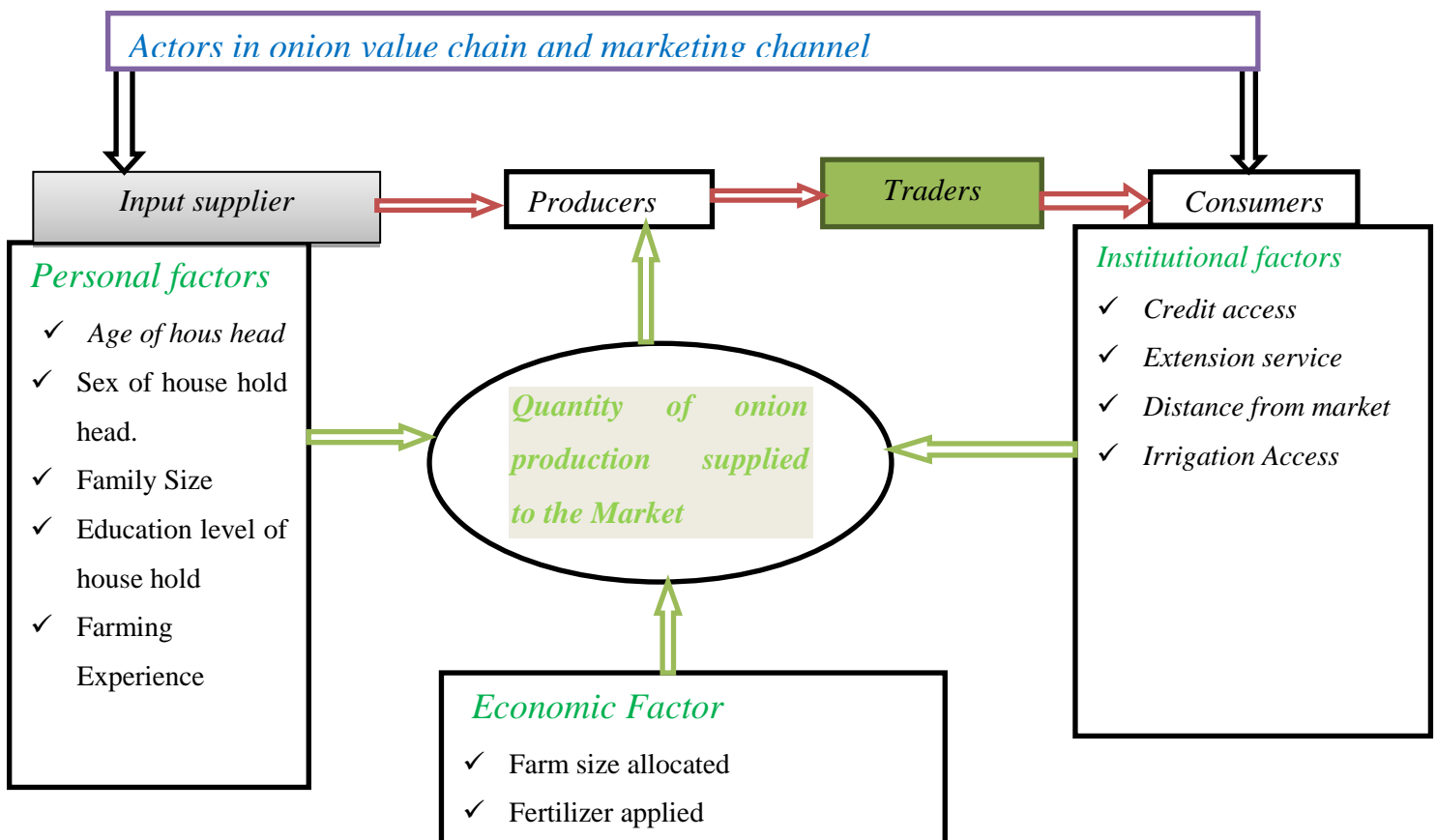
(Tewodros, 2014), stated that access to market information, farm size, education level, access to credit, membership to an organization and distance to the nearest market significantly affected market participation decision of haricot bean producers. accordingly, the extent of market

participation among haricot bean producers was significantly affected by farm size, and access to credit.

2.4. Conceptual Framework of onion value chain

Identification of actors and channels related to production and marketing of onion were presented in a conceptual framework, based on theoretical concepts and empirical studies. The production process was start from at the stage of input supply, then covers to production by producer, processing and marketing by trader and ends up with the consumption of a certain product by consumer and quantity of onion production supplied to market were influenced by several expected variables, such as age of house hold head, sex of house hold , family Size of house hold , education level of house hold , farming experience of house hold , distance from the nearest market, Farm size allocated, quantity of Fertilizer utilized , Credit access, irrigation access and extension service). The conceptual frame work for onion value chain were represented by below figure.

2. 1 . CONCEPTUAL FRAMEWORK OF ONION VALUE CHAIN



Source: own sketching

CHAPTER THREE

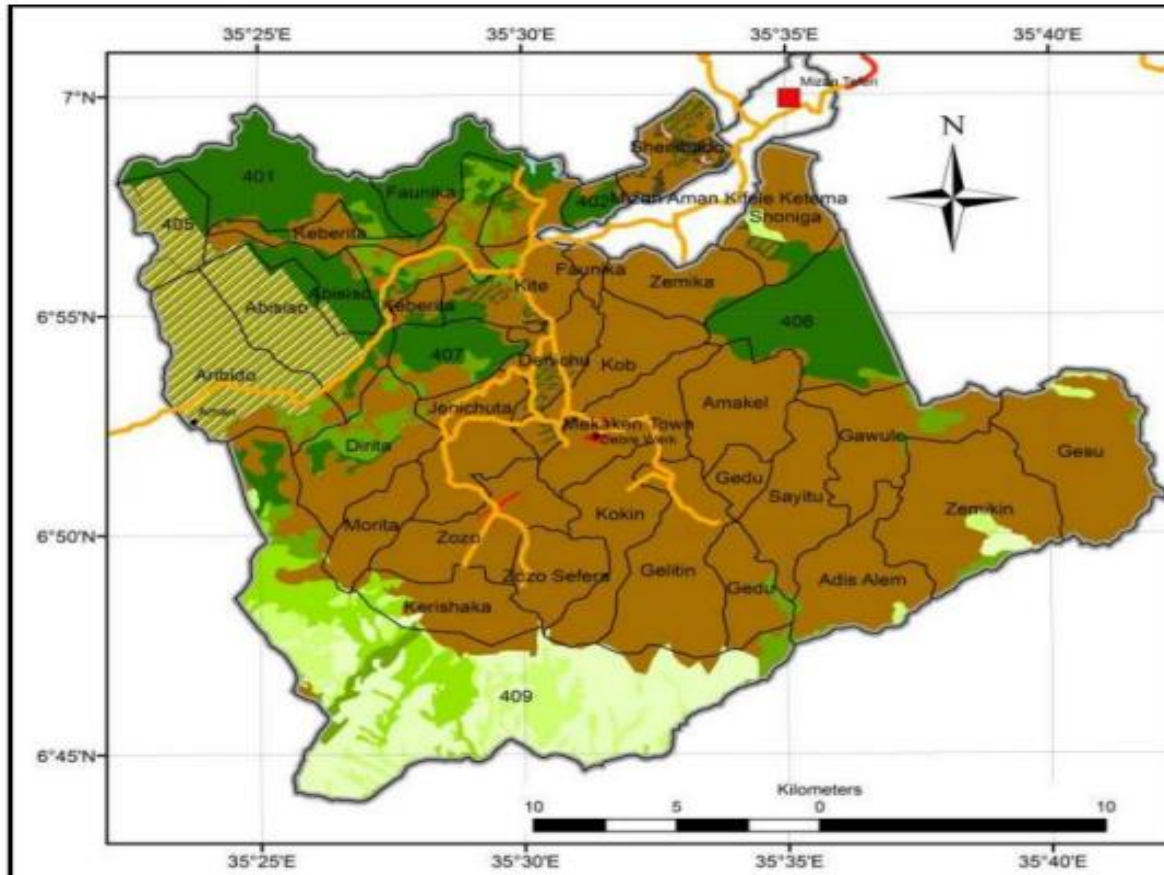
METHODOLOGY OF THE STUDY

3.1. Description of the Study Area

The study was conducted in south Bench woreda in Bench Maji zone and the geographically bordered on the south by Guraferda, on the west by Sheko, on the north by Mizan- Aman Administration on the northeast by semine bench, on the east by she Bench and on the southeast by Meinitegoldiya, which was approximately 27.5 km from zonal administrative town Mizan-Aman, 867 Km from Hawassa (Regional capital) and 592.5 Km from Addis Ababa. The woreda have 27 Keble with the total number of populations 132,535, among this the number were 11,178 males and 121,357 females.

The woreda have three ecological zones, Kolla (5%), Woynadega (80%) and dega (15%).

The astronomical location of the woreda were found between 6.73° - 7.01° latitude and $35.37.36.7^{\circ}$ longitudes. The amount of annual rainfall of the woreda ranges from 1,801 up to 2000 mm and amount of temperature ranges between 15.10 - 25° degree centigrade. The economy of the woreda depends on cereal crop, vegetable crop, pastoralist, fruit and natural forester. The most cereal crop produced in the area were maize, sour gam, wheat and barley and vegetable crop were onion potato and tomato. Among the vegetable crop onion contribute the largest share and used as both for generation of income and for house hold consumption purpose. The total land area of the woreda is 255,099 hectars. From this total land area, 46,378.25 hectars were covered by agricultural land, 9375 hectar were covered by pastoralist, 15,243hectar were covered by natural forest, 47,176 were covered by fruit and other crop and 385.5 hectar were covered by onion crop(SBWNRDOA, 2018).



Geographical Map of South Bench Woreda Keble

3.2. Sources and Method of Data Collection.

In order to address the objective of the study both primary and secondary source of data were used with cross-sectional data. The primary source of data was collected from onion producers and traders (wholesaler and Retailer) involved in onion value chain using questionnaire and focus group discussion (FGD) with key informant. The questionnaire was designed both for producers and trader (retailers and wholesalers). The structure of the questionnaire was designed in both open and close ended and focus group discussion (FGD) were held with model onion producers based on their production capacity with trader. Secondary source of data was collected from published article and unpublished reports of different level of agricultural bureau (country, regional and zonal and woreda,), report of central statistical agency, websites and different published articles.

3.3. Sampling Technique and Sample size determination

To select sample of onion producer and trader multi-stage and simple random probability sampling technique were used respectively. To select sample of onion producer multi-stage probability sampling technique were used with three stages procedure.

In the first stage, south Bench woreda were select purposively based on the amount and volume of production, accessibility and communication and 27 kebele were found.

In the second stage, with the consultation of woreda agricultural experts five-onion producer kebele (*Gelitin, kerishaka, Gedu, kokin and Kashu*) were selected randomly and 3000 onion producer were found.

In the third stage a list of onion producer was prepared for each selected Keble and sample of onion producer were selected by simple random sampling technique and sample size was determined and allocated to each selected kebele through proportionately.

The number of selected sample from each kebele represented in table 3.1 were (24,26, 20, 30 and 18). The following formula were used in the determination of sample size because the proportion of total population is known (Yamane Taro, 1967)

$$n = \frac{N}{1+N(e)^2} \quad \text{Where } n= \text{ is the sample size needed -----Equation (1)}$$

N = is the population size and e is the level of precision(e) or sampling error equal to 9%, used to obtain a sample size required to represent a true population.

The minimum level of precision is acceptable at 10%, However for this study 9% precision level was used, because if precision level is less than 9% the sample size is large and expensive for data collection. Then, the sample size (n) were calculated as follows

$$n = \frac{N}{1+N(e)^2} = \quad n = \frac{3000}{1+3000(0.09)^2} = 118 \text{ -----Equation(2)}$$

Therefore, a total of 118 onion producers were select for this study from five Kebele

Table 3. 1. *Sample of onion producer in five selected Keble*

No	Selected Keble	Total number of onion producer	Total number Sampled producer
1	Gelitin	600	24
2	Kerishika	700	26
3	Gedu	520	20
4	Kokin	750	30
5	Kashu	430	18
6	Total	3000	118

Source: **south bench woreda natural resource and development agricultural office (2018)**

The sites for the trader (wholesaler, and retailer) surveys were obtained in the market. On the basis of flow of onion crop, three markets (**Deberwork, Gelitin and Zozo**) were select as, the main onion marketing sites for this study. To select sample of trader (wholesaler and retailer) simple random sampling technique were used from specified markets place. The total numbers of trader (wholesaler and retailer) were 204. In three selected market 65 sample of trader (wholesaler and Retailer) were selected. From three selected market sit (Deberworke, Gelitin and Zozo) 9, 5 and 6 sample of wholesaler trader were selected respectively and 20, 14 and 11 sample of retailer were selected deberworke, Gelitin and zozo respectively.

Table 3. 2. *Sample of onion trader in three selected market*

No	Trader	Deberwork	Gelitin	zozo	Number of selected sample	Total number of trader
1	Wholesaler	9	5	6	20	52
2	Retailer	20	14	11	45	152
3	Total	29	19	17	65	204

South Bench woreda Gibiyit and Hibret sira office and own computation (2019).

65 samples of traders were selector this study from three selected market site. Therefore, total of 183 samples size were use, 118 producers and 65 traders of onion.

3.4. Methods of data analysis

To conduct this study both descriptive and econometric model were used for data analysis.

3.4.1. Descriptive method of data analysis

Descriptive statistics were used to analyze the data that were collected from different sources in the form graph, table and to find frequency, mean, percentage, maxi min and standard deviation.

3.4.2. Analysis of onion marketing performance

Marketing margin analysis deal with comparison of price at different level of marketing chain over the same period. It measures the share of final selling price that is captured by particular agent in the marketing chain and always related to the final price or the price paid by end consumer, expressed in percentage (Mendoza 1995). Computing the total gross marketing Margin Computing the total gross marketing margin (TGMM) is always related to the final price paid by the end buyer and is expressed as percentage (Mendoza, 1995)

$$TGMM = \frac{\text{Consumerprice} - \text{producerprice}}{\text{consumerprice}} \times 100 \text{-----Equation (3)}$$

Where TGMM is the total gross marketing margin. It is useful to introduce the idea of farmer portion or producer gross marketing margin, which is the share of price paid by consumer that goes to the producer. To find the benefit of each actor the same concept will be applied with some adjustment. For the analyzing margin first total gross marketing margin will be calculated.

The producer gross marketing margin calculated as

$$GMMP = \frac{\text{Consumerprice} - \text{marketin gross margin}}{\text{consumerprice}} \times 100\% \text{-----Equation (4)}$$

$$GMMP = 1 - TGMM \quad \text{Or}$$

$$GMMi = \frac{SSi - ppi}{TGMMi} \times 100 \text{-----Equation (5)}$$

Where GMMi is the marketing margin at given stage.

SSpi is the selling price at ith link and

Ppi is the purchase price at ith link.

GMMi: is gross marketing margin at each stage

$$PS = \frac{Px}{Pr} \times 100 = I - \frac{MM}{pr} \times 100 \text{-----Equation(6)}$$

Where, PS = Producer's share

Px = producer price of onion

PR = Retailer price of onion
 MM = Marketing Margin.

3.4.3. Specification of Econometric model

The first Cobb-Douglas regression was estimated by using aggregate time series data from US manufacturing sector on labor, capital and physical output with the goal of understanding the relationship between the level of output and quantity of input employed in the production (Cobb and Douglas, 1928).

According to (EI-Fell. M.A.A, 1993), Many economists were recommended to use Cobb Douglas production function model for analysis of farm of data. In this study the model was used to show the effect of factor on the output of onion thorough input output relationship.

Cobb Douglas production functional form econometric model were specified in the following

$$Y_i = A X_i^{\beta_i} e^{v_t} \text{-----Equation (7)}$$

where

Y_i = Dependent variable (quantity of onion production supplied)

X_i = Explanatory variable

β_i = Coefficients to be estimate or total factory of productivity.

e = Natural logarithmic

v_t = Disturbance term or error term.

The generalized transformed form of the above Cobb-Douglas production regression function was represented as followed.

$$\ln Y_i = \ln A + \sum_{i=1}^n \beta_i \ln x_i + \sum_{j=1}^n \beta_j x_j$$

where : $\ln \sum_{i=1}^n \beta_i \ln x_i$ is the continuous variable in the form of \ln

$\sum_{j=1}^n \beta_j x_j$ is the dummy/categorical/ variable

The log linear form of the above model was described as follow

$$\ln y = \ln A - \beta_1 \ln x_1 + \beta_2 \ln x_2 + \beta_3 \ln x_3 + \beta_4 \ln x_4 - \beta_5 \ln x_5 + \beta_6 \ln x_6 + \beta_7 x_7 + \beta_8 x_8 + \beta_9 x_9 + \beta_{10} x_{10} + \beta_{11} x_{11} + \epsilon_i$$

Where: $\ln Y_i$: is quantity of onion production supplied to the market

X_1 = Age of house hold head (AGHH)

X_{10} = Family size of house hold head (FAMZ)

X3 = Farming experience of house hold(EXPR)

X4 = Farm size allocated for onion production (FSA)

X5 = Distance from the market (DNMKT)

X6 = Quantity of fertilizer utilized (QFU)

X7 = Education level of the household head (EDUHH)

X8 = Sex of the household head (SHH)

X9 = Extension service (EXS)

X10 = Credit access (CRA)

X11 = Access to irrigation (AIRRG)

Ln = Natural logarithm

Ao= Constant

3.5. Definition of Variables and Working Hypothesis.

3.5.1. Dependent variable

Quantity of onion production supplied to Market (Yi): it is continuous dependent variable, represents the actual supply of onion by farm to the market, measured in quintal.

3.5.2. Independent Variables

In order to identify the factor affecting quantity of onion production supplied to the market based on economic theories and the findings of different empirical studies, the following explanatory variables were analyzed to affect the dependent variable.

Sex of the Household Head (SHH): This is a dummy variable (takes a value of 1 if the household head is male and 0 otherwise). In this studies variable assumed positive relation with quantity of onion supplied to the market, (Bebe B. et al., 2012) noted that majority of the female are resource constrained given that they do not own critical resources in vegetable marketing to obtain additional income. As a result, male household heads have more chance to choose appropriate market outlets than female household heads.

Family Size (FAMSZ): This variable is a continuous explanatory variable and measured in number and refers to the total number of family in the household. it was assumed that any family member might decide to participate in onion production and marketing. Since production is the function of labor, availability of labor and assumed to have positive relation with quantity of onion supplied to the market. The study conducted by (Asfaw, 2014) on durum wheat value

chain analysis in Gololcha district Bale zone witnessed that more number of family member's decreases volume of durum wheat marketed.

Education Level of the Household Head (EduHH): This is a dummy variable with a value of one if a household head had been literate and zero otherwise. Educational status of the farmer determines the speed with which the farmer to adopt agricultural technologies.

Those who can read and write stand a better chance of understanding things faster. Moreover, better-educated farmers tend to be more innovative and are therefore more likely to adopt the marketing systems. The variable had positive and significant relationship to the independent variable.

(Grover D. et al, ..2012)found level of education affected marketed surplus of wheat and rice positively and significantly. Therefore, in this study, education level of house hold was hypothesized to affect quantity of onion supplied to the market positively and significantly

Farming Experience (EXPER):it is a continuous variable measured in number of years.

A household with better experience in onion farming were assumed to produce more amounts of production and, as a result, assumed to supply more amounts of onion to market.

Moreover, a household with better farming experience are more likely to change and/or aware of production, marketing and differences in profitability in the different marketing outlets.

(Ayelech, 2011) and (Akalu, 2007) have also found respective commodity farming experience affected quantity of avocado and tomato supplied positively.

Therefore, farming experience was expected to affect potato marketed surplus positively.

In this study the variable assumed positive relationship with quantity of onion supplied to the market.

Distance from the nearest market (DNMKT): this is continuous variable, measured in walking hours from household residence to the market center. In this study distance from the nearest market were hypothesis to influenced the quantity of onion supply negatively.

The finding of (Efa Gobena .et al, ..2016) indicated that, as farmers far from the nearest market, the quantity of *teff* supplied to the market would decrease.

Extension service (EXS): This is dummy variable that is measured in the number of days that farmer had contact with extension agent for agricultural work supervision.

The objective of the extension service is introducing farmers to improved agricultural inputs.

In this study the variable has positive relationship with dependent variable.

(Abera, 2015) study showed that contact with extension agents positively influence the market supply.

Farm size allocated (FSA): This is a continuous variable measured in hectare and have a positive and significant relationship with the dependent variable. In this studies the variable theorized positive relationship with dependent variable.

(Aysheshm, 2007) found that land allocated to sesame production influenced marketable supply of sesame positively.

Quantity of fertilizer utilized(UFA): It is a continuous variable measured in quintals and represents the quantity of chemical fertilizer utilized in onion production per hectare of land.

In this study the variable assumed positive and significant relationship with quantity of onion supplied to the market. Yield. An increase in yield in turn had significant and positive effect on the volume of maize supplied to the market (Muhammed, 2011)

Credit Access (CRA): This is a dummy variable taking a value of one if the household takes have access to loan and zero otherwise. Use of credit would enhance the financial capacity of the farmer to purchase the necessary inputs. The variable has positive and significant effect on quantity of onion production to the market

A study conducted by (Bradbear, 2003) states that in poor societies, lack of credit is a major constraint to everyone concerned with selling and buying honey.

Access to irrigation (AIRRG): this dummy variable which take value of one if house hold has access to irrigation and zero otherwise. In this study the variable has positive relationship with the dependent variable.

A study by (Tadesse, 2011) found that households having irrigation access tend to sell more volume of vegetables than households who have no irrigation access.

Age of house hold head (AGHH): it is continuous variable measured in year and had negative and significant effect on quantity of onion production supplied to the market

(Abraham, 2013) proved that aged farmer provides more of their vegetable product to market. The result suggests as farmer have high potato production experience the amount potato supplied to the market increased through its effect on potato in the first stage.

3.6. Model Diagnostic test

When some of the assumptions of the classical linear regression (CLR) model were violated, the parameter estimates for the above model may not be Best Linear Unbiased Estimator

(BLUE). It is important to check the presence of multicollinearity, heteroscedasticity and Omitted Variables test among the variables that affect supply of onion in the study area.

Multi- collinearity test: To detect multicollinearity problem among the explanatory variable Variance of inflation factor (VIRF) were used. Which is represented as by the following equation.

$$\text{VIRF} = \frac{1}{1-R_j^2}, R_j^2 \text{ represents a coefficient of determination of each independent variable}$$

As a rule of thumb, (Gujarati D.N, 2003.) if the VIF value of a variable exceeds 10, which were happen if R_j^2 exceeds 0.90, then, that variable is said to be highly collinear. Therefore, for this study displayed that there is no multicollinearity problem.

Test for heteroscedasticity: heteroscedasticity is one the problem leads to violate the assumption of CLRM. It is mostly occurring in cross sectional data due to misspecification of the model that lead violation of CLRM assumption.

It mostly occurs in cross sectional data due to misspecification of the model. in this study to detect heteroscedasticity Bresusch-pagan test was used, so the robust standard error was used to overcome the examined problem.

CHAPTER FOUR

RESULT AND DISCUSSION

This chapter presents the finding of the study, with detailed analysis of data collected from both primary and secondary source.

The first section of the study offerings demographic and socio-economic characteristics of sampled producer and trader and actor participated with their marketing channel. The Second section presents constraint and opportunity in onion value chain. The last section was deliberating the results of Econometrics analysis.

4.1. *Descriptive Analysis*

4.1.1. **Demographic characteristic of onion producer (Categorical variable)**

Sex of household respondent: Table 4.1 revealed that out of total household's head interviewed 45.76% Sample of house hold head were male and 52.24 % were female.

Educational level of the respondent: The survey out come in Table 4.1 showed that 44.92% % of the sampled household heads were illiterate and 22.03% and 17.80% attended primary school and junior school respectively the remaining 15.25% sample of house hold Head were secondary Educated households use improved input to get good production and supply more products to the market with the right price, at the right time and to the right place.

Access to Credit Service: Credit service is very important instruments for households to purchase inputs, materials, pesticides, hire labors on time at required time and boost the productions compared to non-credit users. With regarding to access 41.53 % sample of respondent have no credit access and 58.47% sample of respondent were having access to credit service.

Access to irrigation service: Out of sample of respondent interviewed 61.02 % Sample of house hold reported that they have no Access to irrigation service and 38.98% sample of house hold have irrigation service user.

Access to extension service: Extension service provision expected to have direct influence on the production and marketing behavior of the farmers. The higher access to extension service the more likely that farmers assumed to adopt new technologies and innovation.

with regarding to the service 55.93% sample of house hold head have no access to extension service and 44.07% of the respondent have access to extension service.

Table. 4. 1. house hold Characteristic of onion producer(categorical variable)

Variable	Number of respondent	Percentage
Sex of House Hold		
Male	54	45.76
Female	64	54.24
Total	118	100
Marital status		
Married	65	55.08
Single	52	44.07
Total	118	100
Educational level		
Illiterate	53	44.92
Literate		
Primary (1-4)	26	22.03
Junior (5-8)	21	17.80
Secondary (9-10)	18	15.25
Total	118	100
Credit access		
None access	69	58.47
Access	49	41.53
Total	118	100
Extension service		
Service	52	44.07
None service	66	55.93
Total	118	100
Irrigation service		
None Irrigation service	72	61.02
Irrigation service	46	38.98
Total	118	100

Source own survey result, 2019

4.1.2. Demographic characteristic onion producer (continuous variable)

Family size of the respondent: According to Table 4.2 the mean of family size of sampled house hold was 4.14 with minimum value of 2 and maximum of 9 and standard deviation of 2.06

Age of the respondent: The average age of sampled of house hold head was 34.05 with the minimum age of 16 and the maximum of 65 and standard deviation of 10.50

Farming Experience of the respondent: The average mean of farming experience for the sample of respondent was estimated 17.30 with minimum of 2 and maximum of 35 and standard deviation of 7.47

Table 4.2. House hold Characteristic of onion producer (continuous variable)

Variable	Mean	Std. Dev.	Min	Max
AGHH	34.05	10.50	16	65
EXPER	17.30	7.47	2	35
FAMSZ	4.14	2.06	2	9

source: own computation,2019

4.1.3. Demographic characteristics of sampled traders

Sex of the respondent: The sample population of trader respondents considered during the survey was 65. As shown in Table below out of total trader interviewed the survey result showed that 53.85 % Sample of trader were male and 46.15% were female.

Educational level of the respondent: The survey result displays that 15.35% Sample of trader were illiterate. However, However, 29.23% and 21.54% attended primary school and junior school respectively where as 33.85% attended secondary school. Education level plays an enormous role in ensuring trader access and important to manage the business as well as indecision-making.

Access to credit service: With regarding to the credit access 46.51% Sample of respondent have no credit; access and 53.85% sample of respondent were having access to credit service

Table 4.3. Demographic characteristics of sample of traders(categorical)

Categorical Variable	No of observation	Frequency	Percentage
Sex	65		
Male		35	53.85%
Female		30	46.15
Marital status	65		
Single		37	56.92
Married		27	41.53
Educational level of trader	65		
Illiterate		10	15.38
Literate			
Primary (1-4)		19	29.23
Junior (5-8		14	21.54
Secondary(9-10)		22	33.85
Credit Access	65		
No access		30	46.15
Access		35	

Source: own survey result, 2019

Age of the trader: The average age of sampled trader was 35.82 with the minimum age of 18 and the maximum of 75 and standard deviation of 12.32.

Marketing Experience: The mean of trader marketing experience for the sample of respondent was estimated 16.4 with minimum of 2-year experience and maximum of 35 year and standard deviation of 7.98

Family size of the respondent: The mean of family size for the sample of trader was 12.52 with minimum value of 2 and maximum of 9 and standard deviation of 1.84.

Demographic characteristics of sample of traders(continuous)

Continues Variable		Mean	standard deviation	Min	Max
FAMZ	65	12.52	1.84	2	9
AGT	65	36.01	12.32	18	75
EXPR	65	16.41	7.98	2	35

Source: own survey result, 2019

4.1.4. Socio- economic characteristic of sample of trader

Socio- economic characteristic including financial asset such, working capital, source of capital and source of loan. As depicted in Table 4.4, out of sample of trader 38.46% were used their own capital. In addition, the remaining sample of trader 7.69% and 53.84% were used from gift and loan service during the survey year.

Table 4.4. Source of working capital for trader.

Source of working capital	Frequency	Percent
Own	25	38.46
Gift	5	7.69
Loan	35	53.84
total	65	100

Source: own survey result, 2019

The survey result in table 4.5 revealed that 9.2% Sample of the respondent were used loan service from Bank. The remaining 30.76% and 13.84% of the respondent were obtained from omo-micro finance institutions and relative/ family/.

Table 4.5. Source of loan for trader

Source of loan	Frequency	Percentage
Bank	6	9.2
Microfinance institutions	20	30.76
Relative/family	9	13.84
No loan service	30	46.15

Source: own survey result, 2019

4.2. Actor participated in onion value chain and marketing channel

In this study, the major sample of applicant participated in onion value chain were categorized as below.

A. Input supplier

This is the first stage in onion value chain, many participants involved in this activity. seed suppliers (traders), and private agricultural chemicals suppliers are the main actors in supplying inputs to farmers. Onion farmers also participated in this stage in preparing their own inputs and supplying input to fellow farmers. In combination, these actors supplied fertilizers (both DAP and Urea) and composite chemicals and other used their animal manure. According to table below 4.6, Out of the total interviewed households 29.66% were used DAP fertilizer, 36.44% used Urea fertilizer, 8.47% used animal manure and 25.42 were used chemical compost.

Table 4.6. *Utilization of fertilizer for onion production*

Utilization of fertilization	Frequency	Percentage
Urea	43	36.44
DEAP fertilizer	35	29.66
Animal Manure	10	8.47
Compost Chemicals	30	25.42

Source own survey result, 2019

Labor is an important factor in the production according to table 4.7 out of sample of respondent interviewed 19.49% and 16.94% were used family labor in the production and 35.55% and 27.96% were hired labor involved in the production of onion.

Table 4.7. *Source of family labor for onion production*

Source of labor	Frequency	Percentage
Family labor		
Male	23	19.49
Female	20	16.94
Hired labor		
Male	42	35.55
Female	33	27.96

Source: own survey result, 2019,

Table 4.8 represent that 15.25% sample of trader got loan service from bank was and 18.64% and 7.62% reported that micro finance and relative/family/were the source of loan.

Table. 4.8. Source of loan for producer

Source of loan	Frequency	Percentage
Bank	18	15.25%
Micro finance	22	18.64%
Relatively/family	9	7.62%
No credit service	69	58.47%

Source: own survey, 2019

B. Producers

Produce play important role in onion value chain. Mostly they produce for consumption and for selling it to different channels. In the study area there is no constant channels to where farmers sell their products. What input to use, when to sow seed and harvest, how much to consume, and how much to sell by considering the available resources is decided by the farmers in the study area, the average land allocated for onion production by farmers in the production year was 2.92 per hecter with a maximum of 6 and minimum of 1.1 and standard deviation of 1.51 and average quantity of onion produced during the survey year was 31.40 qt with minimum of 5 and maximum of 63.

Table 4.9. *Average land holding and onion production pattern for sample farmers in south bench woreda, 2018*

Variable	Mean	Std. Dev.	Min	Max
Yi	31.40	15.23	5	63
FSA	2.92	1.51	1.1	6

Source: own survey result ,2019

According to table 4.10,6.7 % sample of the respondent were reported that they were contacted once in a week, 16.03% sample of house hold head were visited twice in a month, 21.18%

sample of house hold head contact once in two week and 55.93% sample of respondent have no contact with extension service provider.

Table 4. 10. Frequency of extension service

Description	Frequency	Percentage
Weekly	8	6.7
Twice in month	19	16.01
Once in two week	25	21.18
No contact	66	55.93
Total	118	100

Source: own survey, 2019

Out of the sample of house hold involve in onion production 38.98% used irrigation and 61.01% were used rain fed (meher season).

Table4.11. Onion land coverage and output obtained

production Method	Areal coverage(Ha)	Frequency	Percentage
Irrigations	5.21	46	38.98
Rain fed	17.41	72	61.01
Total	22.66	118	100

Source own survey result, 2019

Table 4.12 survey result indicates that 23.72% and 45.76% Sample of the respondent were categorized between 2-10 and 11-20 and 31.35% and 0.84% sample of the respondent were categorized between experience of 21-30 and above 31 respectively.

Table 4.12. Farming experience Categories of the respondent

Experience	Frequency	Percent
2-10	26	23.72%
11-20	54	45.76%
21-30	37	31.35%
Above 31	1	0.84%

Source own survey result, 2019

The survey result represented in table 4.13 out of the total quantity of onion produced during the survey year, 92.12%qt were supplied to the market and7.87%wereconsumed.

Table 4. 13 Quantity of onion produced during the survey year during 2018

vegetable crop	Quantity produced in quantal	Quantity sold in Quantal	Quantity consumed in quantity	Average selling price(birr/qt)
Onion	2,056	1,894	162	15

Source: own survey ,2019

In Table 4.14, out of total sample of onion producer interviewed 29.66% reported that the trend of onion price was constant and the remaining 21.18% and 49.15% reported the price trend were increasing and decreasing respectively. With regrading to trends of onion selling price for trader 49.23% sample of trader respondent that the trend of onion price in the market was at increasing and the remaining 35.38% and 15.38% sample of trader reported that the trend of onion price was decreasing and constant respectively

4.14. Trend of onion average selling price in the study area

Trend of selling price	Producer		Trader	
	Frequency	Percentage	Frequency	Percentage
Increasing	58	49.15%	32	49.23%
Decreasing	25	21.18%	23	35.38%
Constant	35	29.66%	10	15.38%

Source: own survey result ,2019

The survey result obtained from sample of respondent in table 4.15 indicates that 49.15%, and 39.83%, of the respondent were categorized under age between 16-30 and 31-45 and the remaining 11% sample of the respondent were categorized above 46 respectively.

Table 4.15. Age group category of the respondent

Age categories	Frequency	Percentage
16-30	58	49.15%
31-45	47	39.83%
Above 46	13	11%

own survey results, 2019

Distance from the nearest market is very important factors for market supply. Households who are nearest to the market obtain enough information about price, demand, supply and incur minimum market cost as compared to the households who are far away from the market. market centers are one of an important factor in making information available for onion producer and

help them in improving livelihood. Table 4.16 presented, average distance of producers traveled to nearest market place was 3.28km and standard deviation of 1.51 with minimum of 1.1 Hr. And maximum of 6.5 Ha

Table 4. 16. Average distance of the respondent from market center to production center

Variable	Mean	Std. Dev.	Min	Max
Quantity of onion produced(Yi).	31.40	15.23	5	63
Average distance from mkt center(DNMKT).	3.28	1.51	1.1	6.5

Source: own survey result 2019

In table below 4.17 out the total sample of respondent interviewed 54.23% of the respondent were used donkey as transportation, 25.42% of the respondent used human labor, 11.01% of the respondent were used truck and 9.32% of the respondent were used Vehicle

Table 4. 17. Means of transportation used by House Hold Head.

Means of transport	Frequency	Percent
Donkey	64	54.23
Human labor	30	25.42
Truck	13	11.01
Vehicle	11	9.32

Source: own survey result ,2019

C. Wholesaler

Wholesalers are well-known for purchase of bulky commodities with better financial and information capability. They are mainly involved in purchasing of onion from producers in larger quantity than any other actors and supply either to other wholesalers, retailers or consumers. Sometimes they also purchase from farmers by going to their farms and from nearest rural market. Wholesalers at local market sell onion through cell phone communication with traders in different market. They sold to another wholesaler in other market. Occasionally, some wholesalers come from other areas, the Survey Result showed that wholesalers also transport onion to Mizan-Aman in large quantity. Data given below in Table 4.18 show, that 69.23% and 30.769% sample of wholesaler trader were purchased onion from farmer and local collector

respectively and 92.30% and 7.69% sample of wholesaler trader sold to retailer and consumer respectively.

Table 4. 18. Wholesalers response from whom they purchase and to whom they sell

From whom you buy onion product	Frequency	Percentage	To whom do you sell onion	Frequency	Percent
Farmers	45	69.23%	retailer	60	92.30%
Local collectors	20	30.76%	Consumer	5	7.69%
Total	65	100	Total	65	100

Source own survey result 2019

The total quantity of onion produce during the survey year was 2,056 quantiles.

According to table 4.19, out of the total quantity of onion supplied to the market by farm 52.05% were purchased by sample of wholesaler trader during the surveying year.

Table 4.19 quantity of onion purchased by sampled wholesaler 2018

From	quantity purchased in quantal	Percentage
Farmer	9,86	52%

Source, own survey 2019.

D. Retailer

Retailers are the key actors in onion value chain in the woreda. They are the last link of onion value chain between consumers, wholesalers and other actor and most of them are unlicensed. As observed during the survey, there are considerable number of retailers who trade onion. Retailers were purchased 38.7% of the total quantity of onion from farmer and 61.27% from wholesaler then resale to final consumer.

Table 4. 20. *Quantity of onion purchased by sampled retailers in, 2018*

From	Annual quantity purchased (qt)	Percentage
Farmer	6,20	38.72%
Wholesaler	9,81	61.27%
Total	1,601	100%

Source: own survey ,2019

The total quantity of onion supplied to the consumer by farmer and Retailer during the served year was 15.3% and 84.68% respectively.

Table 4. 21. *Quantity of onion supplied to consumer by sampled retailers and farmer in 2018*

From	Annual quantity purchased (qt)	Percentage
Farmer	2,88	15.3%
Retailer	1,593	84.68%
Total	1881	100%

Source: own survey ,2019

Table 4.22 indicated, that 30.76% and 69.23% sample of retailer trader were purchased onion from farmer and wholesalers respectively and 23.07% and 69.23% sample of Retailer trader sold to consumer and Restaurant respectively

Table 4. 22. *Retailers response from whom they buy and to whom they sell in, 20*

From whom you buy	Frequency	Percentage	to whom do you sell onion	Frequency	Percentage
Farmers	20	30.76	Consumers	15	23.07%
Wholesalers	45	69.230	Restaurant	45	69.23%
Total	65	100	Total	65	100

Source: own survey result, 2019

Marketing channel

Marketing channel are the rout through which agricultural product moves from producer to consumer. The length of channel varies from commodity to commodity, depending on quantity to be moved from producer to consumer demand and degree of regional specialization in the production. Onion marketing channel illustrated were constructed based the data collected in three selected market and five selected onion producer kebele. The result displays that three

marketing channel were identified for onion which were acquired from producer and trader survey. The estimated quantity of production were 2,056 quintals in the survey year of 2018. Out of this 1,894 Qt were supplied to the market by farm in the market (SBWNRDOA, 2018).

Onion marketing channel

Three onion marketing channel were identified from point of production to the final consumption in the study area. The channel identified in the study were producer -wholesaler- retailer-consumer, producer- retailer- consumer and producer-consumer channel.

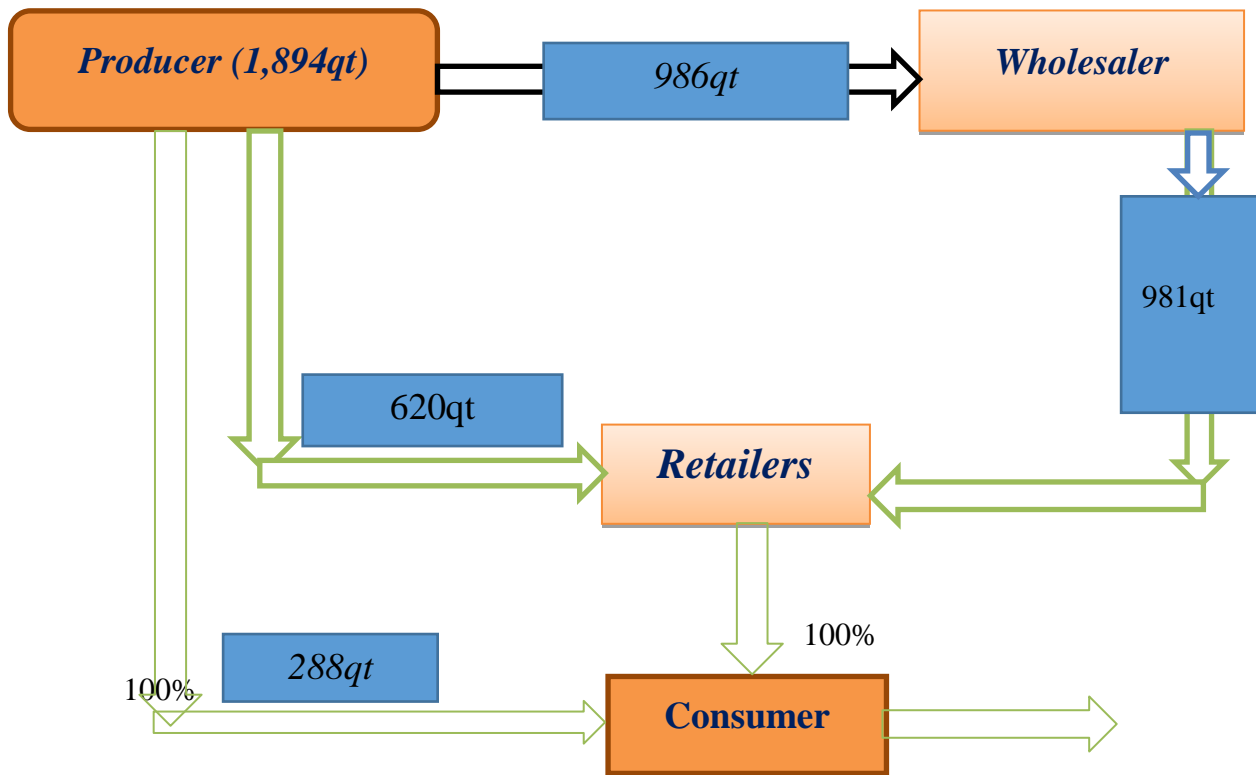
Out of the total quantity of onion supplied to the market 981qt were carried out through, Producer- wholesaler- Retailer channel, which account the largest channel 6,20qt were carried out through producer- retailer- consumer and 2,88qt were carried out through producer - consumer channel.

Channel 1. Producer-wholesaler - Retailers- consumer: this is the longest channel, which account 51.79% of marketed onion during the survey year.

Channel 2. Producer –retailer – consumer: This the second most important marketing channel in terms of quantity and represent 32.73% total quantity of onion marketed.

Channel 3. Producer – consumer: This the shortest channel in which the producer directly sells to the consumer at the marketed day, which account 15.20% total quantity of onion market.

Figure 4.1. Onion marketing channel for south Bench woreda



Own sketching from survey data, 2018.

marketing Margin

In this sub section of different marketing margins, the average selling prices of different participants in the onion value chain (farmers, wholesalers and retailers) were calculated. Marketing margin is one of the commonly used measures of the performance of a marketing system. It is defined as the difference between the price the consumers pay and the price the producers receive. Computing the total gross marketing margin (TGMM) is always related to the final price or the price paid by the end consumer, expressed in percentage (Mendoza G, 1995)Gross marketing margin (GMM) is the gap between prices at consecutive levels in the marketing channel. Therefore, for this study the marketing margins were computed as following.

According to table 4.23 the gross marketing margin of wholesaler and retailer was 5 and 3 and the total gross marketing margin was 25% with producer share of 75%

Table 4. 23. Marketing margin of onion value chain

Value Chain actor	Selling price	Purchasing price	GMMi
Producer	15	-	-
Wholesaler	17	15	5
Retailer	20	17	3
Consumer		20	-

Source, own survey result, 2018

GMM of Wholesaler = (PR - PF)

$$GMMW = 20 - 15 = 5$$

GMM of retailers = (PR - PW)

$$GMMR = 20 - 17 = 3$$

Where PF = Price of producer

PR = Price of retailer

PW = Price of wholesaler

$$TGMM = \frac{\text{Consumer price} - \text{producer price}}{\text{consumer price}} \times 100 \text{-----Equation (8)}$$

Whereas TGMM is total gross marketing margin

$$TGMM = \frac{20-15}{20} \times 100 = 25\%$$

producers gross marketing margin is the proportion of the price paid by the end consumer that belongs to the farmer as a producer.

$$GMMP = 1 - TGMM$$

$$1 - 0.25 = 75\%$$

$$PS = \frac{Px}{Pr} \times 100 = 1 - \frac{MM}{pr} \times 100 = \frac{15}{20} \times 100 = 75\%$$

Where px = is price of producer

Pr = is price of retailer

4.3. Constraints and Opportunity in onion value chain analysis

In this section a number of constraint and opportunity in the value chain in the study area were identified by asking the different value chain actors through focus group discussion. The major constraints and opportunities are briefly discussed at different stages of the value chain.

4.3.1. Major Onion Production Constraint at Producer Level

Low supply of input: seed were supplied from other area by private traders that lack on time delivery, certification and desired. out of the sample of producer interviewed 8.47% sample of respondent reported that production of onion in the study area were limited by low supply of input.

Low irrigation facility 11% of the respondent reported that production of onion is limited/constraint by low irrigation facility

Poor disease control: Prevalence of pest and disease like powdery mildew affected onion. 21.18% sample of the respondents reported that production onion was limited by poor diseases control

Lack of technical training: in the study area out sample of respondent interviewed 15.25% sample of producer reported that quantity of onion that were produce are limited by lack of training

high cost of inputs: In the study area farmers face many problems related to fertilizers. The price of input is high and households cannot buy at the required time because of financial problem. the survey result indicates that 25.42% sample of house hold reported that quantity of onion produced are limited by high cost of input

low demand: 18.6% sample of house hold reported that the amount of onion produced are limited by low demand respectively.

Table 4. 24. constraints of onion production at farm level

Constraint	Number of respondent	Percentage
Low supply of input	10	8.47%
Low irrigation facility	13	11%
Poor disease control	25	21.18%
Lack of technical training	18	15.25%
High inputs cost	30	25.42%
Low demand	22	18.64%

4.3.2. Major Onion Marketing Constraint at Producer Level

Unfair pricing and fluctuation: In the study area repeated low pricing was reported at peak supply period that were not based on the actual supply and demand interaction. Out of sample of producer interviewed 10.16% of the respondent reported that onion marketing was constrained by unfair pricing and fluctuation, because benefit of wholesalers over weighs than others and they control the market chain.

Lack of credit: the survey result indicts that 21.11% sample of the respondent reported that marketing problem were lack of credit service.

Lack of strong cooperation: Although there are multipurpose and irrigation farmer’s cooperatives in the study area which were established to safeguard farmers’ and rights over their input supply and market of products. The survey result indicate 29.66% sample of the respondent reported that lack of strong of strong cooperation were the constraint in onion production.

Lack of market information: out sample of respondent interviewed 17.79 % reported the main constraint in onion production were lack of information.

Poor linkage with value chain actor: actor was not coordinated to increase their bargaining power. There was no any marketing institution to safeguard farmer’s interest and rights over their marketable produces. Even the existing few irrigation cooperatives lacked skill and capacity on how to go about. Rather, competition among farmers was the usual phenomenon.

with regrading to the linkage of value chain 21.18% sample of producer were reported poor linkage among the actor hinder in the value chain of onion production that is supplied to the market

Table 4. 25.Constraints of onion marketing at farm level

Constraint	Number of respondent	Percentage
Unfair pricing and fluctuation	12	10.16
Lack of credit	25	21.11
Lack of strong cooperation	35	29.66
Lack of market information	21	17.79
Poor linkage with value chain of actor	25	21.18

Source: own survey, 2019

4.3.3. Major Onion Marketing Constraint at Trader level

The problem reported by trader in the study area market were discussed below

Unfair pricing fluctuation: This were one of the constraint in the study area market. Out sample of trader interviewed 15.38% marketing were unfair pricing and fluctuation and

shortage of supply: 7.69% of the respondent reported that the constraint of onion value chain was due to shortage of supply.

Brokers intervention and too much competition: out of sample of trader 24.61% and 35.38% respondent, reported that market problem was limited by Brokers intervention and too much competition respectively.

High transport cost and Shortage of truck: 7.69% and 9.2% sample of trader, responded that market problem were limited by High transport cost and Shortage of truck

Table 4. 26. Constraints of onion marketing at trader level

Problem faced in the market	Frequency	Percentage
Unfair pricing and fluctuation	10	15.3%
Shortage of supply	5	7.6%
Brokers intervention	16	24.6%
Too much competition	23	35.3%
High transport cost	5	7.6%
Shortage of truck	6	9.23%

Source: own survey result, 2019

4.3.4. Opportunity along the onion value chain

South bench worda is one is of the natural endowed worda having production and marketing opportunity and problems, which were identified during survey year with focus group discussion and questionnaire.

Production opportunity along the onion value chain

Availability of rain fall that facilitate the production of onion in generating income in short period, its better productivity in small land, its use as cash income source or livelihood consumption, increasing price and its continuous demand in the market were some opportunity of onion by most of the producer.

The worda are also naturally endowed though they have some production and marketing opportunity.

some of the potential to mention are the following. The woreda are very suitable to produce not only onion product but also other market oriented commodities. of course the potential crop tropical crop like mango, banana, orange and avocado production are some of available potential on the top of this relatively fertile arable land and abundant of weather condition are some to mention.

Government suitable agricultural police designed to support farmer at grass root level especially emphasis given for horticultural production in growth and transformation plan (GTP).

The arrangement of development agent at each kebele based on their academic back ground, Furthermore the provision of infer structure facilities like roads, telecommunication, and financial support institution are the infer structure advantage that facilitate the production and marketing of onion in the study area.

Marketing opportunity along the onion value chain

On the other hand, availability of market demand though out the year, growing number of buyer, high experience in onion trade

The result of the study shows that the producer intended to expand onion to the above opportunity. The natural advantage of proximity to air condition and availability of rain throughout the year are still the opportunity which could facilitate commercialization in the woreda and increasing the use of mobile telephone were advantage to improve system.

4.4. Econometric Analysis

For this study 11 explanatory variables were identified as factors affecting quantity of onion production supplied to the market. The theorized variables were Age of house hold, families size of house hold, sex of house hold, educational level of house hold, farming experience, Extension service, Credit access, irrigation access, farm size allocated for onion production, distance from the nearest market, and quantity of fertilizer utilized. From eleven explanatories, seven variables were found to be significantly, positively and negatively affecting quantity of onion supplied to the market, such as Age of house hold, farm experience, families size of households, educational level of house hold, distance from the nearest market, Credit access and quantity of fertilizer utilized more influenced quantity of onion production supplied to the market.

Sex of the Household Head (SHH): This is a dummy variable which takes value of one if the household head is male and zero otherwise. In this study the variable was found to be positive with quantity of onion production supplied to the market. The positive sign shows being a male head of a household increase onion quantity supplied to the market by 0.07% quintals as compared to that of female-headed households, keeping other variables constant. The reason behind that females can take higher care than males about household's consumption by saving from produce to feed household; this can reduce the quantity of onion supplied to the market. This were consistent with the finding of (Mahlet et al, ..2015) who found that gender of the household head positively and significantly influenced marketed supply of potato. The authors stated as the reason that male headed households have better financial capability, better land size, better extension contacts, and better access to market information than female headed households.

Education Level of the Household Head (EduHH): This is a dummy variable with a value of one if a household head had been literate and zero otherwise. Educational status of the farmer determines the speed with which he/she likely to adopt agricultural technologies. Those who can read and write stand a better chance of understanding things faster. Moreover, better-educated farmers tend to be more innovative and more likely to adopt the marketing system.

The survey results of this study revealed that level of Education positively and significantly affect quantity of onion supplied to the market 5% level of significant that indicate if onion producer gets education, the amount of onion supplied to the market increases by 0.11% quintal, keeping other factors constant. This were in line with finding of (Ayelech, 2011) who found that if paddy and avocado producer gets education, the amount of paddy and avocado supplied to the market increases, respectively.

Extension service (EXCT): This was dummy variable measured in the number of days that farmer had contact with extension agent for agricultural work supervision. The objective of the extension service was introducing farmers to improved agricultural inputs.

The result of this study revealed that a unit (day) increase in contact of extension agent results in 0.033% quintal increment in quantity of onion supplied to the market. The study was in line with pervious study conducted by (Ayelech, 2011), found that if fruit producer gets extension, the amount of fruits supplied to the market increases.

irrigation access(AIRRG): As it was expected having irrigation access had a positive effect on quantity of onion production supplied to the market. The result of this study indicates as compared with non-irrigation users' farmers who had irrigation access increase quantity of onion output supplied to the market by 0.039% quintal, keeping all other explanatory variables constant. This is because farmers who have irrigation access can produce onion more than that of non-irrigation user and in other ways according to information obtained from farmers and agricultural experts in the district onion cultivated in irrigation was less affected by disease and insects as compared with rain fed produced onion. A study by (Tadesse, 2011) found that households having irrigation access tend to sell more volume of vegetables than households who have no irrigation access.

Credit access (CRA): This is a dummy variable taking a value of one if the household takes loan and zero otherwise. As hypothesized the influence of credit access on marketed surplus of onion was positive. The result revealed that those who have got credit access would increase the quantity of onion production supplied to the market by 0.094% quintal, keeping all other explanatory variable to be constant. In line with finding of (Alemnewu Abay, 2010) study found that if pepper and *teff* producer gets credit, the amount of pepper and *teff* supplied to the market will increase.

Farming Experience (EXPER): it is a continuous variable measured in number of years and have positive relationship with dependent variable.

(Toyiba shafi.*et al*, ..2014) found that experience in papaya production had a positive and significant effect on papaya volume marketed. In this study farming experience have a positive and significant effect on quantity of onion production supplied to the market at 1% level of significantly, the result of this study shows that a one-year increase in experience of onion, production lead to increase elasticity marketable supply of onion by 15.43%, keeping other explanatory variable constant. Farmer with loner period of experience in production was assumed to have a better knowledge than those who have lower experience in farming, because through time producer acquire skill about marketing and supply better than those who has less experienced.

Distance from Nearest Market (DNMKT): This is continuous variable, measured in walking hours from household residence to the market center. In this study distance from the nearest market have negative and significant effect on quantity of onion production supplied to the

market, the result of the study revealed that a one hours increase in distance of house hold residence from the nearest market center the, probability elasticity marketable supply of onion was decreased by 26.78% keeping other explanatory variable constant. This is because of those households who was closer to the market assumed to have more probability of choosing better market outlet, the lesser would be the transportation charges, reduced walking time, and reduced other marketing costs, better access to market information and facilities. The study was in line with the finding of (Chalwe, 2011), showed that distance to nearest market was significantly and negatively related to best channel choice decision. The author reason out that most of beans farmers are poor in resource endowment and lack transport resources, transportation costs associated with moving the produce to the market therefore discourage farmers to participate in markets far from their premises.

Farm size allocated (FSA): This is a continuous variable measured in hectare and had positive relation with dependent variable. The result of this study showed that when the farm size allocated for onion production increased by one hectare the elasticity marketable supply of onion increased by 8.08%, keeping other explanatory variable constant. The study agrees with the findings of (Bosena, 2008) ,that land allocated under cotton affected market supply positively.

Quantity of fertilizer utilized (QFU): It is a continuous variable measured in quintals and represents the quantity of chemical fertilizer applied in onion production per hectare of land. In this study variable the was theorized to affect quantity of onion supplied to the market positively and significantly at 1% level of significantly. The result of the study revealed that one percent increase in quantity of fertilizer utilized lead to increase elasticity marketable supply of onion by 35.5%, keeping other explanatory variable constant. According to study conducted by (Muhammed, 2011), the more the rate of fertilizers used, the higher the yield. An increase in yield in turn had significant and positive effect on the volume of maize supplied to the market.

Family Size of House hold (FAMSZ): This is a continuous explanatory variable and refers to the total number of family in the household. In this study family size had positive and significant impact on quantity of onion supplied to the market at 1% level of significant. A study conducted by (Wolday, 1994), presented that household size had significant and positive effect on quantity of teff marketed and negative effect on quantity of maize marketed. In general, the result of this study revealed that, when the number of family increased by one percent the elasticity of marketable supply of onion changed by 29.47% keeping other explanatory variable

constant, this is because the more number of family members an individual had the more probable to produce and more supply to the market

Age of house hold head (AGHH): This a continuous variable measured in year and have negative and significant effect on quantity of onion production supplied to the market, because as one becomes old result's decline in mental and physical abilities lead to deterioration in the production and hesitant to take up new technologies or it also assumed that as age increase the production capacity will decrease and amount of marketed supply decline.

Generally, the result of the study showed that when age of house hold increase by one year or percent, elasticity of marketable supply of onion were decreased by 31.22% keeping other explanatory variable constant. (Abraham, 2013) proved that aged farmer provides more of their vegetable product to market. The result suggests as farmer have high potato production experience the amount potato supplied to the market increased through its effect on potato in the first stage

The F- test calculated value $(11,106) = 41.87$ and R^2 was computed to be implying that 79.24% of the variation in the dependent variable was explained by the explanatory variables under consideration and Adj R^2 was 77%.

Table 4. 27. Logarithmic estimation of factor affecting quantity of onion production supplied to the market.

Variable	Coef.	Std. Err.	t-value	P> t
EDUHH	.1111362**	.0538869	2.06	0.042
CRA	.0945382*	.0554663	1.70	0.091
IRGA	.0396906	.0471798	0.84	0.402
EXS	.0334062	.0590697	0.57	0.573
SHH	.0709365	.0522979	1.36	0.178
lnAGHH	-.3122955***	.0878184	-3.56	0.001
lnFAMZ	.2947059 ***	.1179509	2.50	0.014
lnEXPR	.1543432***	.0598593	2.58	0.011
lnFSA	.0808464	.0565404	1.43	0.156
lnDNMKT	-.2678653***	.0899874	-2.98	0.004
lnQFU	.3550103***	.0961118	3.69	0.000
Cons	3.224646***	.3514197	9.18	0.000
Obs				118
Prob > F				0.0000***
F (11, 106)				41.87

Computed from survey data of Stata 14 output (2018).

Note: P< 0.1, p<0.05 and p<0.01

(*),(**)and (***) represent statistical significant at 1%, 5% and 10%.The dependent variable was quantity of onion production supplied to the market(Y_i), in quantal transformed to logarithms($\ln Y_i$).

For the parameter estimates to be BLUE the assumptions of CLRM should hold true. Hence, multicollinearity, heteroscedasticity and test for omitted variables) were performed using appropriate tests.

Test for multicollinearity: Multicollinearity problem arises due to a linear relationship among independent variables; and becomes difficult to identify the separate effect of independent

variables on the dependent variable because of the existence of strong relationship among them. VIF has been used to check the existence of multicollinearity problem among explanatory variables. The test result showed that all values of VIF was less than ten (10) and the mean of variance of inflation factor(VIF) was 1.96, which indicates no multicollinearity problem among explanatory variables in the modal (Appendix Table 7.1)

Test for heteroscedasticity: Heteroscedasticity is a situation in which variance of the disturbance term is not constant. If there is heteroscedasticity problem in the data set, the parameter estimates of the coefficients of the independent variables cannot be BLUE.

In this study, Breusch-Pagan /Cook-Weisberg test/ was employed to detecting the heteroscedasticity problem and the test result indicate that the researcher was failing to reject the null hypothesis of constant variance at P-value =0.000, this implies there is heteroscedasticity problem in the data set. Therefore the parameter estimate of the coefficient of the independent variable cannot BLUE. so, the robust standard error, was used to overcome the examined problem in Stata command (Appendix figure 7.6).

CHAPTER FIVE

Conclusion and policy Recommendation

5.1. Conclusion

This study was aimed to investigate the value chain analysis of onion market in south bench woreda in Bench maji with specific objective of factor affecting quantity of onion production supplied to the market by farm, identifying major actor in onion value chain and constraint and opportunity along the onion value chain in both production and marketing.

In order to address the objective of the study both primary and secondary source of data were used with cross-sectional data. The primary data was collected from onion producers and trader (wholesaler and Retailer) using questionnaire and focus group discussion (FGD) with key informant and Secondary source of data was collected from published article and unpublished reports of different level of agricultural bureau.

118 sample of onion producer were selected from five selected kebele through multi stage probability sampling technique and 65 sample of onion trader were selected from three market center (**Deberwork, Gelatin and Zozo**) through simple random method of sampling technique.

To analyze the collected data both descriptive and Econometric analysis were used.

Descriptive statistics were used to measure frequency, mean, percentage, and standard deviation and Cobb-Douglas production function modal (CDM) were used to identify factor affecting quantity of onion production supplied to the market by farm.

Out of 118 sample of producer selected from five kebele 52.54% were male headed and 47.46% were female headed. The result revealed 44.92% % of the sampled household heads were illiterate and 22.03 % and 17.80% attended primary school and junior school respectively the remaining 15.25 % sample of house hold attended in secondary school.

Out of 65sample of trader selected from three market sit 53.85 % Sample of trader were male and 46.15% were female. The survey result displays that 15.35% sample of trader were illiterate. However, 29.23% and 21.54% attended primary school and junior school respectively where as 33.85%attended secondary school. The average age of sampled trader was 35.82 with the minimum age of 18 and the maximum of 75 and standard deviation of 12.32 and average mean of marketing experience for the sample of respondent was estimated 16.4 with minimum of 2-

year experience and maximum of 35 years. The main source of loan for the trader was bank, micro finance institution and relative/family/ According to the survey outcome 9.2 % sample of the respondent borrowed from bank, and the remaining 30.76% and 13.84% of the respondent were loan from omo-micro finance institutions and relative/ family/.

The major constraints that impede onion production at farm level were low supply of input, low irrigation facility, Poor disease control, lack of technical training, high cost of inputs and low demand and at marketing level that hinder farmer onion market were unfair pricing and fluctuation, lack of credit, lack of strong cooperation, lack of market information and poor linkage with value chain of actor.

At trader level the major marketing constraint were unfair pricing and fluctuation, Shortage of supply, brokers intervention, too much competition, high transport cost and shortage of truck.

Availability of rain fall, that facilitate the production of onion in generating income in short period, better productivity in small land and use it as cash income source or livelihood consumption. Government suitable agricultural police designed to support farmer at grass root level especially emphasis given for horticultural production in growth and transformation plan (GTP) and deployment of development agent at each kebele based on their academic back ground were some of opportunity in the production and availability of market demand though out the year, growing number of buyer, high experience in onion trade, increasing the use of mobile telephone were some the opportunity of onion.

the major sample of applicant in onion value chain were producer, wholesaler, retailer, consumer and other.

The average land allocated for onion production by producer in the production year was 2.92 per hector with a maximum of 6 and minimum of 1.1 and standard deviation of 1.51 and average quantity of onion produced during the survey year was 31.40 qt with minimum of 5 and maximum of 63. The survey result indicated that 2, 056 qt of onion were produced during the survey year and 1,894 qt were supplied to the market by farm. Retailers were purchased 38.78 % of the total quantity of onion from farmer and 64.02% from wholesaler then resale to final consumer and 52.05% were purchased by sample of wholesaler trader and 15.3% and 84.68% quantity of onion supplied to consumer by sampled retailers and farmer during the surveying year.

About three different market channels of onion were identified in the study area. The market channel was, Producer-Wholesaler-Retailers- consumer (51.79%), producer-retailer- consumer (31.1%) and producer- consumer (15. 20%). The largest quantity of onion passed through Producer-wholesaler - Retailers- consumer marketing channel and small quantity of onion passed through producer –consumer channel.

The total gross marketing margin (TGMM)of producers gross marketing margin account 25% and 75% respectively.

Econometric result indicates that quantity of fertilizer utilized, distance from the nearest market, family size of house hold head, educational level of house hold head, farming experience and Credit access were significantly and positively determined the quantity of onion supplied to the market. Therefor the variable entail special consideration to increase farmer margin from onion production and marketing so special focus need to be on these variable.

5.2. Policy Recommendation

Based on the outcome of this study the following recommendation are given by considered the future intervention strategies for policy maker, development actor, researcher and south bench worda natural resource development and agricultural office to have strong interest in promoting onion production and marketing for equal benefit among value chain actor. Onion production should be intensified and diversified to satisfy the wider, worda market demand and generating of high income for all market players.

It is highly recommended to improve the input supply system so that the farmer receive the right type of production input, quantity and quality supply system at the right type, improving system will protect farmer from purchasing low quality input by high input cost.

There was poor linkage and low coordination among the value chain actor in the study area and farmer are price taker, because of wrong information transmitted by trader thus concerned bodies to give attention to benefit farmer through providing training on how farmer supply quality product to obtained perfect information and bargaining power.

The Econometric result outcome of this study displayed that quantity of chemical fertilizer utilized were affected the amount of onion supplied to the market positively and a significantly, thus farmers applied chemical fertilizer in order to increase their productivity and improve livelihoods. As smallholder's farmer they were highly constrained in cash and did not have

enough money this result lack of providing credit service that reduce or totally avoid the application of fertilizer and they are forced to purchase chemical fertilizer for the sake of fulfilling the sales targets at the woreda level.

With regarding to this situation in order to promote the quantity of onion that is produced and supply more to the market the concerned bodies should recommended to reduce the cost of chemical fertilizers utilized and providing subsidies through loan service is better option to make them cheap for purchase to increase productivity with per unit area of land, turn to increase market supply of onion, because they were faced scarcity of cash and fear of exclusion from purchasing of fertilizer and avoid the extension contact.

Distance from the nearest market is an important significant variable for the farm in the marketing of onion crop, as the result the concerned bodies should improving rural infrastructure such as road and transportation facilities and market infrastructure to assist poor farmer for faster delivery of farm produce product and to increase market supply of the product and increase their income and choice of appropriate out let.

The finding of econometric result showed that age of household headed affected quantity of onion supplied to the market significantly with regrading to this cultivation and market supply of onion crops at older age demands enormous working labor force so at older age entirely to participate in production of onion it will recommended that introducing simple technology is better option to minimize cost of production, time devoted and higher demand of labor force for farming to increase marketable supply of onion.

Credit access was positively and significantly affected amount of onion supplied to the market, as we know small holder farmer are not a homogenous based on their resource and capability and unable to invest in agricultural production, duet shortages of working capital and lack of liquidity So it is optional the woreda agricultural office together with credit institution should formulate educational program to educate farmer on credit attainment and use.

The econometric model regression analysis revealed that farming experience and education have positive and significant effect on quantity of onion marketed supply. so improving technical knowhow of farmer on farming experience is optional, because experienced farmer had better knowledge of cost and benefit associated with various marketing out let and facilitating and improving the technical knowledge and skill of farmer in the production will be recommended to increase marketed supply of onion.

Education is believed to build knowledge about improved input, new technology and marketing of the product. There for provision of formal and informal education should be improved.

In econometric regression result family size of house hold was found to be positively and significantly affected farm quantity of onion marketable supply, with regrading to this larger number of family size requires larger amount for consumption, this decrease the amount of onion supplied to the market by house hold. so it will have recommended that to increase the efficiency of production and supply more amount of onion to the market by reducing number of family labor, is better to announce simple technological mechanism that substitute family labor like tractor is to increase the supply of onion to the market

For over all, the study recommended that those significant variable need to be promoted to boost the amount of the onion market supply. In order to increase the productivity of onion there is need of public, private, research center and farmer themselves working together so as to increase access to improved and disses resistance seed verity.

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APPENDIX

APPENDIX A

Appendix table 7. 1. Test for multicollinearity both dummy variable and continuous variable

Variable	VIF	1/VIF
lnFAMZ	4.14	0.241301
lnQFU	3.83	0.261278
lnDNMKT	2.52	0.397502
lnFSA	1.70	0.587295
lnAGHH	1.54	0.650813
lnEXPR	1.49	0.670880
CRA	1.45	0.690514
IRGA	1.39	0.720266
EXS	1.30	0.768188
EDUHH	1.10	0.910249
SHH	1.06	0.939373
Mean VIF		1.96

Appendix table 7. 2. Econometric result generated

```

. reg lnYi EDUHH CRA IRGA EXS SHH lnAGHH lnEXPR lnFAMZ lnDNMKT lnFSA lnQFU,robust

```

Linear regression

Number of obs	=	118
F(11, 106)	=	41.87
Prob > F	=	0.0000
R-squared	=	0.7924
Root MSE	=	.27396

lnYi	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
EDUHH	.1111362	.0538869	2.06	0.042	.0043002	.2179721
CRA	.0945382	.0554663	1.70	0.091	-.0154291	.2045055
IRGA	.0396906	.0471798	0.84	0.402	-.053848	.1332292
EXS	.0334062	.0590697	0.57	0.573	-.0837053	.1505177
SHH	.0709365	.0522979	1.36	0.178	-.0327492	.1746222
lnAGHH	-.3122955	.0878184	-3.56	0.001	-.4864039	-.138187
lnEXPR	.1543432	.0598593	2.58	0.011	.0356663	.2730201
lnFAMZ	.2947059	.1179509	2.50	0.014	.0608568	.528555
lnDNMKT	-.2678653	.0899874	-2.98	0.004	-.4462741	-.0894565
lnFSA	.0808464	.0565404	1.43	0.156	-.0312505	.1929433
lnQFU	.3550103	.0961118	3.69	0.000	.1644593	.5455614
_cons	3.224646	.3514197	9.18	0.000	2.527922	3.921369

Appendix table7. 3. constraints of onion production at farm level

Constraint	Number of respondent	Percentage
Low supply of input	10	8.47
Low irrigation facility	13	11
Poor disease control	25	21.18
Lack of technical training	18	15.25
High cost of inputs	30	25.42
Low demand	22	18.64

Appendix table7. 3.Constraints of onion marketing at farm level

Constraint	Number of respondent	Percentage
Unfair pricing and fluctuation	12	10.16
Lack of credit	25	21.11
Lack of strong cooperation	35	29.66
Lack of market information	21	17.79

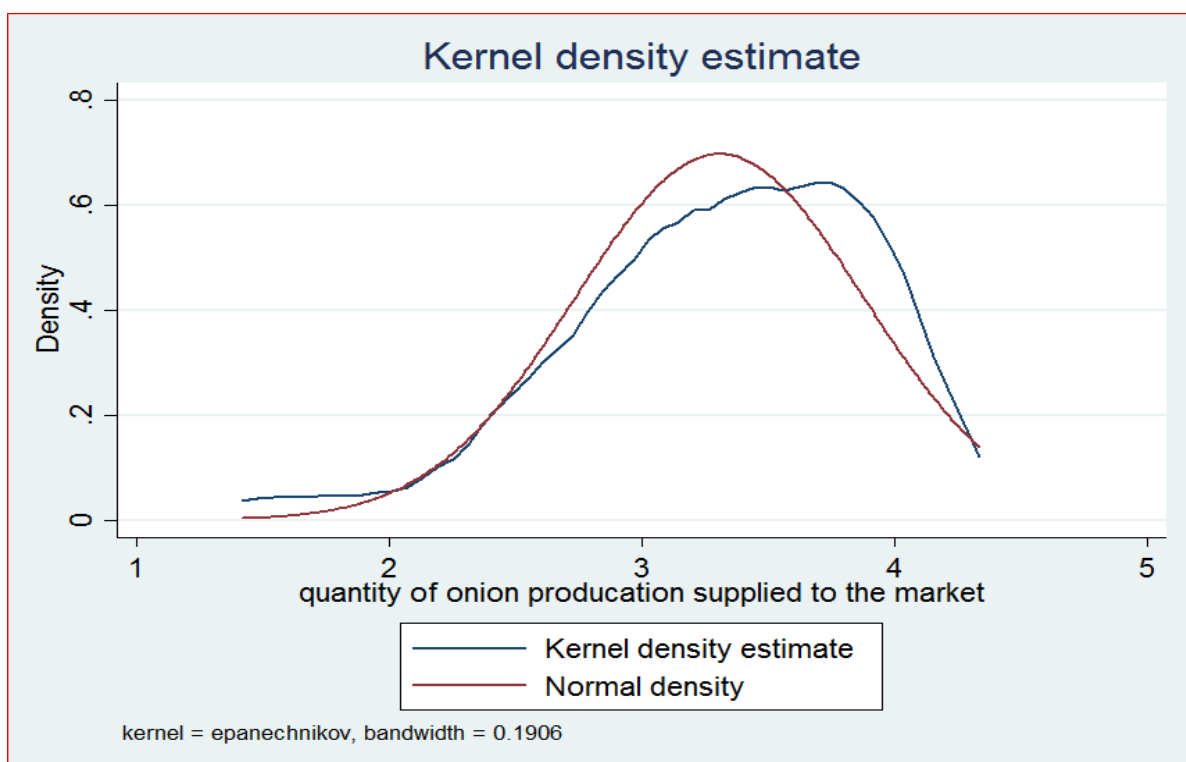
Poor linkage with value chain of actor	25	21.18
--	----	-------

Appendix table 7. 4 constraints of onion marketing at trader level

Problem faced in the market	Frequency	Percentage
Unfair pricing and fluctuation	10	15.384
Shortage of supply	5	7.692
Brokers intervention	16	24.61
Too much competition	23	35.38
High transport cost	5	7.692
Shortage of truck	6	9.23

APPENDIX B

APPENDIX 7.5. Normality test



APPENDIXC

Questionnaire

Dear, Respondent

I am a Master Student at Jimma University Undertaking Master of Science in development economics. I am identifying you as a respondent to this questionnaire to gather information on the value chine analysis of onion market in south bench woreda. Kindly I was request you to fill this questionnaire as honestly as possible. All of your responses were handling with confidentiality. Thank you for your cooperation. Please answer the questions freely. The information you provide were treating with utmost Confidentiality and were only be use for academic research purposes.

Instructions to Enumerators

Make brief introduction before starting any question, introduce yourself to the farmers, greet them in local ways and make clear the objective of the study

Please ask each question clearly and patiently until the farmer gets your points.

Please do not use technical terms and do not forget local units

During the process write answers on the space provided.

Date of interview ----- month----- year -----

Name of the enumerator: ----- Name of supervisor: -----

7.1. Producer Questionnaire

Part one: Demographic characteristic of households and area information put mark in the box below (√)

Name of the respondent: -----

Zone----- Woreda----- kebele ----- town-----

- 1. Age of the house hold head:
 - A. 116-24
 - B. 25-34
 - C. 35-44
 - D. Above 45
- 2. Marital status of respondent
 - A single
 - B. Married
- 3. Sex of the Household Head: A. male (1) B. female (0)

4. Educational level of hose hold head:

A 1 - 4 5 - 8 C. 9 - 12

5. Family Size of house hold head to onion production

- i. Have your adequate family labor for your farm activities? A. Yes No
- ii. If your answer is yes, what is the amount of family labor and labor hired for your production in 2018.

Source of labor			
haired amount of labor		Family labor	
Male	Female	Male	Female

6. farming experience related to Production and marketing of onion

- i. How long have you practiced in the production of onion express in year? A. 2-11 B. 12-20 C. 21-30 D. Above 32
- ii. What amount of onion are produced during 2018?

Vegetable crop	Quantity produced(qt)	Quantity consumed(qt)	Quantity sold(qt)	Average selling price
Onion				

- i. How is the price trend of onion in the market?
 - A. increasing B. decreasing C Constant

Part Two: Economic Factors

1. do you own or rent land for your onion production in 2018?

2. What is the size of land covered by onion crop?

Description	Hectare
Owned land	
Rented land	
Total land holding	

3. did you used improved seeds in your own or rented land in the recent harvest year?

A. Yes B. No

4. If your answer for question number 3 is yes, how many hectare of land did you use improved seeds? -----

5. Did you used fertilizer inputs in your own or rented land in the recent harvest year (2018)?

A. Yes (1) B. No (0)

6. If your answer for question 5 is yes, how many kilograms of inputs did you used in your own and rented land?

A. Own (Kg) ----- B. Rented (Kg) -----

7. What are the inputs material used for onion production?

A Urea B. DEAP C Manure D. Compost Chemicals (Herbicides, pesticides)

Part three: institutional Factors

1. do you have access to irrigation facilities for onion production? A. Yes B. No

2. If your answer for Q.1 is yes, what is source, frequency of use.

Vegetable crop	Method of production	
	irrigations	Rain fed
Onion crop output in quantal		

3. Do you have extension contact with regarding to your onion production in the 2018 cropping Season? A. Yes B. No

4. If your answer for question 3 is No, why? Express your reason -

5. If yes, your answer for question (4) how often extension agent contacted you?

A. Weekly C. Once in two week
B. Twice in the year D. Monthly

6. Did you get credit service for your production onion?

A. Yes B. No

7. If yes for question 6, where did you get.

A. Micro finance formal Credit service nk

8. Distance from production area to the market center.

NO	Item	Description(KM)
2	Distance from production center to woreda market.	
3	distance from production to gravel road	

- How long did you travel, to reach the market? -----
- What factors do you consider, when you sell your product?
 - Transport availability
 - Fairness of scaling
 - Closeness in distance
 - Price
- What type of transportation you used?
 - Vehicle
 - Cart
 - Manpower
 - donkey

Part Four: market channel and actors in onion value Chain?

- Do you have perfect information about onion marketing channel for your product?
 - Yes
 - No
- If your answer for question 1, is yes, what type of information did you get?
 - market place information
 - Demand for the product information
 - of product information
 - Supply of product information.
- Which market channel do you follow?
 - Farmers ~~→~~ Wholesalers ~~→~~ Retailers ~~→~~ Consumers
 - Farmers ~~→~~ Retailers ~~→~~ Consumer
 - Farmers ~~→~~ input supplier ~~→~~ Consumers
 - Farmers ~~→~~ consumer
- Who are the actors participated in onion value chain?

- With regarding to your onion value chain what seem like marketing channel all about?

Part five: constraint and opportunities of onion value chain.

1. What are the constraint and opportunity of onion value chain in your woreda? Indicate the causes with its possible solutions below.

No	Problem faced in the study area	Yes(1) No (0)	If yes, what do you think the cause of this problem?	What is your solution to solve each problem?
A	Production problems			
	Low supply of input			
	Low irrigation facility			
	Poor disease control			
	Lack of technical training			
	High cost of inputs			
	Low demand			
B	Transportation problem			
	High transport cost			
	Poor road access			
	Shortage of truck			
C	marketing problem			
	disease and pest problems			
	unfair pricing			
	Lack of credit			
	Lack of strong cooperation			
	Lack of market information			
	Poor linkage with value chain of actor			

2. What opportunities did you get from onion production?

3. What expectation do you have over the value chain activities of your product in your area?

7.2. Questionnaire for trader

Part one: Demographic characteristic of trader and areal information put mark in the box below (√)

Name of the respondent: -----

Zone-----Woreda----- kebele ----- town -----

1. Age of the house hold head:

A 14-24 B. 25-34 C. 35-44 D. Above 45

2. Marital status of respondent A single B. Married C divorced

3. Sex of the Household Head: A. male (1) B. female (0)

4. Educational level of hose hold head:

A 1 - 4 5 - 8 12

4. Have your partnership in trading how many are they?

Number of partnership		
Male	Female	Total

5. How long have you been in onion marketing experience? express in year-----

i. Did you sell onion in the year 2018)? A. Yes

ii. If your answer for Q1 is yes, how much and to whom did you sell and buy your product?

iii. How is the price trend of onion in the market?

A. increasing B. decreasing C Constant

6. What is your source of working capital for onion trading?

A. Own C. Loan

B. Gift D. Others specify-----

7. If loanQ6 from whom did you get credit service?

A. Bank B. Microfinance insns C. Ree/family

D. Other traders -----

Part two: constraint and Opportunity in onion value chain in your study area town.

NO	Problem faced in the study area.	Yes or No	If yes what do you think was/ were) the cause(s) of this problem?	What is your suggestion to solve each problem?
A	Marketing			
1	Unfair pricing and fluctuation			
2	Shortage of supply			
3	Brokers intervention			
4	Too much competition			
5	Transportation cost			
6	High transport cost			
7	Shortage of truck			

8. What are the opportunities in onion trading?

9. What is the general overview of the value chain activities of onion in the area? --

Part three: Evaluation of existing market channel and actors in onion value chain.

i. Do you have perfect information about onion marketing channel for your product?

A. Yes B. No

ii. Which market channel do you follow?

A. Farmers  Wholesalers  Retailers  Consumers

B. Farmers  Retailers  Consumers

C. Farmers  input supplier  Consumers

D. Farmers  consumer

4. Who are actors participated in onion value chain? -----

5. With regarding to your onion value chain what seem like marketing channel all about

Part four: Questionnaire for Farmers focus group discussion

Instruction

Group members should:

- ✓ Respect each other's and their views
- ✓ Strive to be honest and transparent
- ✓ Recognize and acknowledge social reactions

Moderator should

- ✓ Act as catalyst between individuals of the group
- ✓ Strive to enhance capacity of rural people in analysis of problems and opportunity.
- ✓ Make sure that the group keeps to the topic but flexible in handling additional information
- ✓ Take care of time management
- ✓ Listen carefully to any group member and does not much

Name of Woreda -----

Name of Kebele -----

Date -----

1. Who are the main actors participated in onion value chain?

2. What are the opportunities production& marketing of onion?

3. What are the constraint in onion production and marketing?

4. What is your possible solution to rectify the production and marketing related problems?

APPENDIX D

ውድ የዝሀቃል መጣይ ቅምለሻቸው

እኔ በጅምየደብርስት በብዝሃነት እና በኢኮኖሚ ስኬት ለጅምለኮኖሚ ከሰድጋር ትምህርት በልማት ምጣኔ ሁብት ሁለት ፍዲግ ረገጥ ረገጥ ለምሳሌ ከትተለለይ እጋኛለሁ።

የዝሀቃል መጣይ ቅምለኛ አለማው የሹንኩር ትምህርት ገብቶ አጣቃቅም ስንሰለት ትንተነብ ሚል ልርዕስ ምረምር ለይመር ጀለመስ በስብናው። ስለዝሀቃል ትምህርት ለዝሀቃል መጣይ ቅምለኛ ለምሳሌ ሁ። ይህን ቃል መጣይ ቅምለኛን በታመኝ ነት እንደት ሚሉ በአክብሮት አጣይቃሎ።

አርሰኦደር ቃለ መጠይቅ

የቃል መጠይቅ ስም: _____

ወርዳ _____ ቀበሌ _____ ከታማ _____

1. ዕድሜ: 0-14 15-24 25-34 35-44 ም. Above 45
2. የታህሳስ (1) ት (0)
3. የትደርሁን ተሀያገባለህ ለገባህ ለፈታ
4. የትምህርት ደረጃ : 0-4 B. 5-8 C. 9-12
5. ስለቤተሰብ መጠን ከሹንኩር ትምህርት ጋር የተያየዝ (family size)

1. ለእርሻ መርት በቁየህ የቤተሰብ መጠን አለ (ሺ) ? ሁአም ለአይደለም
2. ለጥያቄ ተረክኑ (1) አሆኑ ስንት ገብተዎት ስርተኛን ቀጠረክ? (2017/2018)

የገብተዎት ስርተኛዎች			ደምዘብ አማካይ
ወንድ	ሴት	ደምራ	

5 ከሹንኩር ትምህርት ጋር የተያየዝ የግብርና ልምድ (farming experience)

1. ስንት ዓመት የሹንኩር ትምህርት ልምድ አለክ (ሺ)? _____
2. ስንት ኩንታል ሹንኩር ትምህርት በዝሀቃል መትኦ መረት ከ2018)? ለማንኛው የሚትሸጠው?

የአትክልት ስም	የምረት መጠን በኩንታል	ለመብል የሆነው	የተሸጠው	ዋጋው	ለማንኛው የሚትሸጠው	የገበያ ቦታ
ሹንኩር						

3. የሹንኩር ትምህርት ገብቶ አጣቃቅም ሁኔታ እንደትናው ሁእጨመርናው ለእየቀነሰ ድአይነት

6 ስንት ሄክታር ለማንኛው ለሹንኩር ትምህርት የሚትጠቀመው (Farm size allocated for onion production)

1. ማሳወያግልነውወይሰየክረይነው -----
2. ስንትሄክትረማስነውበሹንኩርትምርትየተሸፈነው ?

ገላጾ	በሄክተራ
የግልማሳ	
የክረይ	
አጣቃላይሄክተራ	

4. ከመሰናክጠቃቅምጋራየተያየዘየሹንኩርትምርት(irrigation access)

1. ለሹንኩርትምርትመሰናክጠቃመለሃ? ሀ. አዎ ለ. አይደለም
2. ለጥያቄቁጥር 1 አዎከሆነስንትኩንትልአመርትክ ?

የአትክልትስብል				የተገኛውየምረትውጤትበሄክትር
	በመስኖ	በዝነብ	ድምር	
ሹንኩርት				

5. ከሹንኩርትምርትጋርየተያየዘየሰለጣናአገለግሎት2018ምንይመሰላል (extension service).

1. ከሹንኩርትምርትጋርየተያየዘሰለጣና(20017/2018)ወስደሃል? ሀ.አዎ ለ.አይደለም
2. ለጥያቄቁጥር 1 አዎከሆነስንትጊዜነውሰለጣናንየሚተገኛት ?

ሀ. በስምንትሊ.በዓመትሀ በስምንትበሁለተመ.በ

3. በለሙያውከሹንኩርትምርትጋርየተያየዘምንዓይነትሰለጣናናውየሚስጣችሁ ?

ሀስለመድበርያአጣቃቅምሰለጣናለስለምረትቦታቅይየርሐስለምረትአያየዘመስለአሊጋዝግኝት

6. ከሹንኩርትምርትጋርየተያየዘየብድርአገለግሎት(credit access)

1. የካፒታልምንጭምንድናው ?

ሀ. የግል ለከስጦታ ሐ. ከብድር መ. ሌሎችግለፃ -----

2. ለጥያቄቁጥር 1 መልስህ (ሺ) አዎከሆነብድርንከማንነውየሚታጋኛው

ሀ. ካባንክሊ. ከአምማይኪር ይነንስ ሐ. ከቤተሰብ መ. ሌለውንግለፃ

7. ከምረትቦታእስከገቢያቦታያላውምንይመሰላል(distance from the market)

1. ምረትህንስትሸጢምኑንግንዘቤውስጥበመስገበት ?

ሀትርንስጥረትለዎጋንሐ ትመሌለውንግለ -----

	ተባባሪዎችን አለመቆጠጠረ			
	ስለ ጣንን አለመወሰድ			
	ከፋታኛ የጥሬ ዕቃ ወጭ			
B	የትርጓሳ ጥያቄ			
	ከፋታኛ የትርጓሳ ጥያቄ			
	የመንገድ			
	የጭነት ጋሪ			
C	የገበያ ጥያቄ			
	በሽታዎችን ተባባሪዎችን አለመቆጠጠረ			
	ትክክለኛ የገለጻ መኖሪያ			
	ብድር ያለ መገኛት ጥያቄ			
	ጠንከራ ማህበር ያለ መኖሪያ			

1. ምን ዓይነት ዕድል ነው ከሹንክርት ምርት የምትገኛው

2. ከሹንክርት ምርት ጥቅም ስለሌለው ገርቶ የታየ የዘመን አይነት ዕቅድ አለክ (ሺ) ?

3. በጥንት ቦታ አከበቢ የሹንክርት ምርት በአጠቃላይ ምን ይመስላል?

ነጋዴዎች ቃለ መጠይቅ

የቃል መጠይቅ ስም -----

ዞን ----- ወርዳ ----- ቀበሌ ----- ከታማ -----

- ዕድሜ: ሀ 14-24 ለ 25-34 ሐ 35-44 መ. Above 45
- የታህሳስ ዓይነት (1) ሴት (0)
- የትደርሁን ተሳታፊነት ለገባሉ ለገባሉ ለገባሉ
- የትምህርት ደረጃ : ሀ 1 - 4 B. 5 - 8 C. 9 - 12
- አበሮ አንተ ጋራ የሚሰሩት አለ ?

አብሮ የሚሰሩት ብዛት			ደምዘብ አማካይ
ወንድ	ሴት	ድምሪ	

6. ስንት ዓመት የሹንኩር ትምህርት ነጋዴነት ልምድ አለ (ሺ.)

7. 2018 ሹንኩር ትሸጣሃል ? ሀ. አዎ ለ. አይደለም

8. ለጥያቄ ተጥር 5 መልስ አዎ ከሆነ ስንት ኩንታል ሸጠዉ ? ለማንኛው የሚትሸጣው ?

የተሸጠው ብዛት	ለማንኛው የሚትሸጠው	ምን ያህል ኩንታል ትጣቀመለ/ሺ/
	1= ለገጠረነጋዴዎች 2= ለተጠቃምዎች 3= ችራቻ ሮሽያጭ 4= ጅምለሽያጭ	

9. በ2018 ሹንኩር ትገዛት ሃለ ? ሀ. አዎ ለ. አይደለም

10. ለጥያቄ ተጥር 7 መልስ አዎ ከሆነ ስንት ኩንታል ገዛ ? ከማንኛው የሚትገዛው

የተገዛው ብዛት	የመገኛ ስያዘዴ	ከማንኛው የሚትገዛው
	ቡብር = 1	1= ከገጠረነጋዴዎች -----
	ቡብድረ = 2	2= ከተጠቃምዎች -----
	በወለድ = 3	3= ከችራቻ ሮሽያጭ -----
		4= ከጅምለሽያጭ -----

11. የአንድክሎማረምሹንኩርትዋጋስንትነው? -----

12. የሹንኩርትገብያአዝማምሁእንደትናው?

ሀ. አጨመርናው ለ. እየቀነሰ ሐ. አንድአይነት

13. ምረትህንስትሸጢምኑንግንዘቤውስጥበመስገበት ?

ሀ. ትርንስጥረት ለ. ዎጋን ሐ. አቅርቦት መ. ሌለውንግለ _____

14. ምንአይናትትርንስጥርትነውየሚትጠቅም ?

ሀ. የጭነትመክነ ለ. ጋራ ሐ. ሰውነይል መ. አህያ

15. የአንተዋናውካፒታልምንጭምንድናው

ሀ. የግል ለከስጦታ ሐ. ከብድር መ. ሌሎችግለፃ -----

16. ለጥያቄቁጥር 13 መልስህ (ሺ) አዎከሆነብድሩንከማንነውየሚታጋኛው

ሀ. ካባንክ ለ. ከአምማይከሮፈይነንስ ሐ. ከቤተሰብመሌለውንግለፃ-----

17. በጅምላሺያጭእነበችረቻሮመከከለሀብርትአለ ? _____

18. በአርሶአደርእነበጅምላሺያጭመከከለሀብርትአለ ? -----

19. በሹንኩርትአጠቃቀምስንሰለትውስጥያሉትእንቅፈትዎችሁምንድናችውእነሥረዕድሉምንድነው?

No	የሚታየችግር	አዎ(1) አይደለም (0)	መልስህ (ሺ) አዎ(1)ከሆነችግሩምንድነው ?	የችግሩመፍተምንይመስላል ?
A	የገበያችግረ			
	ዝቅታኛየሹንኩርትዎጋ			
	ዝቅታኛተጣቃም			
	የዎጋግሽፈት			
	ደለላጠልቃገብነት			
	የንግድተወደደሪዎችመብዝት			
	B	የትርንስጥርትችግረ		
	ካፋታኛ የትርንስጥርትወጭ			
	የመንገድችግረ			
	የጭነትመክነችግረ			

20. ከሹንክርትምረት የምትገኛው ምን ዓይነት ዕድል አለ ?

21. ከሹንክርትምረት ጥቅም ስንሰለት ገር የታያዘ ምን ዓይነት ዕቅድ አለክ (ሺ)

22. በጥንት ቦታ አከበቢ የሹንክርትምረት በአጠቃላይ ምን ይመስላል ?

23. በሹንክርትምረት አጠቃቀም ስንሰለት ውስጥ ያለው የገበያ ስርጥ ወይም መንገድ እና ተዋና ዎች ሁምን ይመስላሉ ?

1. ከሹንክርትምረት ጋር የተያዘ ተክለኛ መርጃ አለ (ሺ) ? ሀአዎ ለአይደለም

2. ለጥያቄ ቁጥር 1 መልስ አዎ ከሆነ ምን ዓይነት መርጃ ነው የሚታጋኛው

ሀ. የገበያ ቦታ መርጃ ለ. የተጠቃም ዎች ፈላጊነት መርጃ ሐ. የዋጋ መርጃ መ. የአቅርቦት መርጃ

3. የተኛው የገበያ ስርጥ ነው የሚትከትለው ?

ሀ. አርሶ አደረ ጅምላ ሽያጭ ማረጋገጫ ሽያጭ ተጠቃም \implies \implies

ለ. አርሶ አደረ ሽራ ሽሮ ሽያጭ \implies ጠቃም

ሐ. አርሶ አደረ ጥሬ ዕቃ አማራጭ \implies ተጠቃም

መ. አርሶ አደረ ጠቃም

4. በሹንክርትምረት አጠቃቀም ስንሰለት ጋር ተያይዞ የገበያ ስርጥ ምን ይመስላል ?

5. በሹንክርትምረት አጠቃቀም ስንሰለት ጋር ተያይዞ የሚሰጡ ተጠቃሚዎች ሁኔታዎች ሁኔታዎች ነገሩ ?

አርሶ አደረ የቡድን ውይይት ቃለ መጠይቅ

ትዕዛዝ ለመረጃ ስበሳብ

የቡድን አባላት ከዝህባታችን ያለውን ትዕዛዝ መከተል አለባቸው

- ✓ እርስ በርስ በሀሰብ ልዩነት መከበብ
- ✓ በታመኛነት ተጠቃሚነት መታገል አለባቸው
- ✓ ቡድኖች እርስ በርስ በመወያየት ችግሩን ግልፅ አለባቸው

ቡድኖችን የሚያስተረቅ (moderator)

- ✓ በቡድኖችን መከከል ለውጥ የሚያመጠው መሆን አለበት
- ✓ ቡድኖችን በችግሩ ላይ ውይይት እንዲያደርጉ በርታትን መስጠት
- ✓ ሰዓት አጠቃቀምን መቆጣጠር

✓ የቡድንውይይትንመደመጥ

የወርደውሥም-----

ቀበሌ-----

የተስታፊዎችብዛት-----

ቀን-----

1. በሹንኩረትአጠቃቀምስንስለትጋር ተያይዞ በገበያ ስርጥ ላይ የሚስተፍት ተዋነዎችሁ እና ማን ነችው ?

2. ሹንኩረት ምርትና ገበያ ወርደው ውስጥ መኖሩ ምን አይነት ዕድል ይፈጠረል ብለችሁ ተስባላችሁ ?

3. ለሹንኩረት ምርትና ገበያ እንቅፈት የሆነው ምንድናው ?

4. ከምርትእናገበያጋራየተያየዎቻችን ለመፈታት ትክክለኛ መፈጫ ምንይመስላል ?
