

Research Article

Onion Market Chain: The Case of Toke Kutaye District, Oromia, Ethiopia

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Abstract

The research was conducted in two onions producing kebeles of Nagafile and Gorosole in Toke Kutaye district, west shewa Zone of Oromia national regional state to analyze Onion market chain. The research data were collected from 120 producers, 10 traders, and 12 consumers. The data for the study was gathered both from primary and secondary source. Specifically, the study attempted to address the main actors involved, structure-conduct-performance and challenges and opportunities of onion market chains in the study area. Analysis of the study clearly identified what Onion market conduct, structure and performance look like in the study area. The Onion market chain in the study area was characterized by inefficient market structure. The major threats to enter into Onion market chain was capital requirement and cost of licensing. The available opportunity and challenge in the study area were high demand from consumer, suitable climate for production and poor credit service, lack of market information, lack of suitable storage respectively. On the contrary, the level of consumption is very low for reasons of unavailability and market chain imperfection. Building active linkages among all actors in the chain, Existence of institutional support especially extension service on product handling and marketing and improving market information and cooperative

Keywords

Market Chain, Onion, Nagafile, Gorosole, Toke Kutaye

1. Introduction

1.1. Background

Agriculture is Ethiopia's most important sector, basis for the country's food security and the livelihoods of nearly 85% of its people. 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 [5].

Several studies have shown that traditional Onion have high market potential and contribute substantially to house-

hold incomes and nutrition. Until recently however, the scientific and donor community often give less attention to research on traditional Onion crop value chains. The resurgence of traditional Onion importance in human nutrition is accompanied by a need to understand the interactions among various actors in their value chain to determine ways to add value to produce and improve Onion marketing efficiency and marketing chain. Linkages between value chain actors were found to be weak; mostly based on spot market transactions, except for those between retailers and supermarkets, which

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were based on relationship of marketing chain [11].

As urbanization increases, the need for sufficient food also increases. The opportunity to grow and/or acquire food produced locally, therefore, becomes a critical component in surviving in the city. It is well known that cultivating vegetable crops is the most common agricultural activity by the urban crop producers.

Onion (*Allium cepa*) are group of horticultural plants which are grown or produced both for human consumption and for the commercial purpose. According [9], worldwide production of Onion crops is growing faster than any other cereal crops. The reason for the fast growth of Onion is: horticultural crops are profitable or they provide higher returns compared to many cereal crops. They also need small land and short duration of their maturity and collection or harvesting makes them to be produced highly.

Onion (*Allium cepa*) production has a vital role in reducing poverty through generating employment, improving the feeding behavior of human kind and creating new opportunities for poor farmers. In Ethiopia, one of the most important activities to be carried out towards the attainment of food security and rural development is transforming the currently prevailing predominant subsistence agricultural practices in to market led production practices.

Markets are important for economic growth and sustainable development of a given country, but, emphases in development policies in agrarian countries have usually been placed on increasing agricultural production to serve as a base for rural development. In the absence of well-functioning markets, agricultural production can experience several drawbacks [1].

1.2. Statements of the Problem

Production of Onion results a vital importance in minimizing poverty through promoting employment, improving the feeding behavior of human kind and creating new opportunities for poor farmers. Horticultural production contributes commercialization of rural economy and many off-farm jobs.

There is contradicting idea of the above explanation i.e the various marketing inefficient challenging vegetable development in the developing nations. Among the problems, absence of storing warehouse, processing material, marketing problems (marketing information), and organized market system from the marketing side are the mains ones.

There are factors hindering Onion market performance in terms of technical, institutional, organizational and political situations. Identification, characterization and evaluation of market chain help to remove barriers affecting performance and to strengthen strong sides. Moreover, the nature of the product on one hand and lack of organized market system on the other hand frequently resulted in low producers' price (profit margin). Despite high demand for vegetables in major towns, the majority of small farmers are unable to reach those markets and sell their products at the farm-gate to brokers. Only a few producers transport their products directly to po-

tential buyers at the market in district towns.

1.3. Objectives of the Study

1.3.1. General Objective the Study

The overall objective of the study was to analyze the Onion market chain in Toke Kutaye District.

1.3.2. Specific Objectives of the Study

The following specific objectives were addressed in this study.

To assess the actors of Onion market chain and their role in the study area.

To analyze the structure - conduct - performance of Onion market in the study area.

To identify the existing opportunities and production constraint for Onion market chain in the study area.

1.4. Research Questions

The study tries to answers the following study question.

Who are the Actors of Onion Market chain and their role in the study area?

What does structure -conduct - performance of Onion market look like in study area?

What are the existing opportunity and Production constraint?

1.5. Scope and Limitation of the Research

The site selected for this study was Toke kutaye Woreda. The scope of the study was also restricted to the study area specifically in Toke kutaye Onion marketing chain analysis. The types of crops were limited to onion for their increasing coverage and marketing problems they were facing. Lack of sufficient data due to political instability from the study area.

1.6. Significance of the Study

The significance of the study was analysis of the whole system market chain actor and identifying the opportunities, constraints and analyzing structure, conduct and performance of onion market that benefit producer, market actor to take appropriate decision to improve their performance.

2. Literature Review

2.1. Definitions

Market is a place or mechanism where buyers and sellers exchange goods, services, or assets. It can be a physical location like a store or a virtual space like an online marketplace.

Marketing channels are the avenues or pathways used to move products or services from a producer to a consumer.

They encompass the people, organizations, and activities involved in making goods and services available for purchase or use. Essentially, they are the "distribution channels" that businesses use to reach their target audience and facilitate sales.

Agricultural marketing - is defined as agriculturally oriented marketing. It embraces all operations and institutions involved in moving farm products from farm to consumers it covers all the activities associated with the agricultural production and food, feed, and fiber assembly, processing, and distribution to final consumers, including analysis of consumers' needs, motivations, and purchasing and consumption behavior.

It is both a physical distribution and an economic bridge designed to facilitate the movement and exchange of commodities from farm to fork. Food marketing (of branded foods) tends to be inter-disciplinary, combining psychology and sociology with economics, whereas agricultural marketing (of unbranded products) is more mono disciplinary, using economics almost exhaustively.

Agricultural and food marketing system- It refers to business activities leading to the production of agricultural produce on the farm and associated with its movement to the consumer or manufacturer. It includes the marketing of agricultural inputs (e.g. fertilizer) to farmers, as well as initial processing and packaging, handling, transporting, assembling, storing, wholesaling and retailing agricultural products.

Value chain: The value chain describes the full range of activities that firms and workers perform to bring a product from its conception to end use and beyond. The activities that comprise a value chain can be contained within a single firm or divided among different firms.

2.2. Market Chain Analysis

A marketing chain is used to describe the numerous links that connect all actors and transactions involved in the movement of agricultural products from the farm to the consumer. It is the path one good follow from their source of original production to ultimate destination for final use.

Market chain analysis, therefore, identifies and describes all points in the chain (producers, traders, transporters, processors, consumers), prices in and out at each point, functions performed at each point /who does what? /, market demand /rising, constant, declining, approximate total demand in the channel/, market constraints and opportunities for the products.

2.3. Marketing and Actors in Onion Market 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. 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.

Input supplier actors: At this stage of the chain, many actors are involved directly or indirectly in agricultural input supply in the study area. Onion growing farmers are 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 chain actor 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 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 assembly product and markets are the main centers for onion in the surrounding areas. They have better storage, transport and communication access than another 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.

2.4. Onion Market Structure, Conduct and Performance

2.4.1. Structure of the Market

Market structure is defined as characteristics of the organization of a market, which seem to influence strategically the nature of the competition and pricing within the market.

Market structure refers to the number, size, and diversity of participant at different levels of marketing system. Market structure includes the characters of the organization of a market that appear to exercise a strategic influence on the nature of competition and pricing within the market. The most important aspects or dimensions are sellers and buyers' concentration, the degree of product differentiation among the outputs of the various sellers in the market, and barriers to entry and freedom of exit.

2.4.2. Conduct of the Market

Market conduct relates to the behavior of the firms or the decision that firms make in relation to their pricing and output policy and other competitive tactics [12]. In other words, market conduct refers to the actions which firms follow in adopting or adjusting to the market in which they buy and sell. It includes the methods employed by group of firms in determining price and output, sales promotion policies that are directed at altering the nature of the product sold and various selling tactics that are employed to achieve specific market results.

It also pointed out that the most important factors used in assessing market conduct are methods of determining price and output, sales promotion policy, product policy, the presence or absence of exclusionary tactics directed against established rivals or potential entrants and research and development. Market conduct is heavily influenced by the market structure.

2.4.3. Performance of the Market

Market performance refers to the composite of end results which firms in the market arrived at by pursuing whether lines of conduct they espouse-end result in the dimension of price, output production and selling cost, product design and so forth (Bain, 1968).

2.5. Marketing Functions

Marketing function is a fundamental or basic physical process or service required to give a product form, time, place, and possession utility a consumer desires.

The most important characteristics of a marketing function is that it is a physical process or facilitating service which must be performed one or more times within the marketing system. Generally accepted functions are assembling, grading, storing, processing, packaging, storing processed products, distributing and transporting. Marketing functions can be seen as essential link between producers and consumers in two different and yet simultaneous and connected ways. First, the marketing agents link producers and consumers physically, by actually buying, storing, transporting, processing, and selling commodities.

2.6. Status of Onion Production in Ethiopia

Ethiopia has a variety of Onion crops grown in different agro ecological zones by small farmers, mainly as a source of income as well as food. The production of Onion varies from cultivating a few plants in the backyards, for home consumption, to large-scale production for the domestic and home markets. According to [3] the area under these crops (Onion and root crops) was estimated to be 356,338.82 hectares with a total production of 12.5 million tons in the year 2001/2.

It is widely accepted and commonly used in a variety of dishes as raw, cooked or processed products more than any other vegetables [6]. Onions vary in visible fruit characteristics important for fresh market and processing Onion- Onion, the principal Alliums, and ranks second in value after tomatoes on list of cultivated vegetable crops worldwide [7]. These people also reminded that all plant parts of alliums may be consumed by humans (except perhaps the seeds), and many wild species are exploited by local inhabitants. Careful handling and the choice of suitable storage method for the cultivar type in question are vital to ensure that the product retains its quality until it reaches the consumer.

The product is produced for both consumption and market. According to [4] out of a yearly production, 75 percent was utilized for sale, 25 per cent for household consumption.

2.7. Properties of Onion Marketing

Onion marketing is influenced by a number of factors that can be attributed to production, product, and market characteristics.

Perishability-as Onion are highly perishable; they start to lose their quality right after harvest and continued throughout the process until it is consumed. For this purpose, elaborated and extensive marketing channels, facilities and equipment are vital.

This behavior of Onion exposed the commodity not to be held for long periods and fresh produce from one area is often sent to distant markets without a firm buyer or price. Prices may be negotiated while the commodities are in route, and they are frequently diverted from their original destination of a better price can be found. Sellers might have little market power in determining a price. As a result, a great deal of trust and informal agreements are involved in marketing fresh tomato. There could not always be time to write everything down and negotiate the fine details of a trade [13].

Price /Quantity Risks- The crops are subjected to high price and quantity risks with changing consumer demands and production conditions. Unusual production or harvesting weather or a major crop disease can influence badly the marketing system.

Seasonality- Onion has seasonal production directly influencing their marketing.

Normally they have limited period of harvest and more or less a year-round demand.

In fact, in some cases the cultural and religious set up of the society also renders demand to be seasonal. This seasonality

also worsened by lack of facilities to store.

Product bulkiness- water is the major components of the product. Hence it makes them bulky and low value per unit that is expensive to transport in fresh form every time. This, therefore, exposed farmers to lose large amount of product in the farm unsold.

2.8. Review of Empirical Studies

Marketing system of vegetable in Ethiopia was found as poor due to limited access to market information and weak market linkage or non-existent [2]. This was exacerbated by inadequate seed regulatory frameworks and supply of seeds of poor quality, poor post-harvest handling which are attributed to low capacity and capability for policy implementation as well as unregulated vegetable seed supply.

The main actors who participate in onion market chain in Humbo Woreda of Wolaita zone are producers, Kebele collectors, commission agents, semi- wholesalers, brokers and consumers by which the major share is concentrated on semi-wholesalers by 35 percent. The study also found that the most frequent channel which accounts for the total flow of about 80 percent onions volume in the chain is the chain which starts from farmers and passes to collectors then to semi wholesalers and finally consumers [11].

The major challenges of fruit marketing in Bench Maji zone as seasonality, few number of big traders, lack of organized market centre and brokers interference which imbalance the marketing margin of fruits in the market chain [8].

Measuring the marketing performance, found that the farmers cost is the highest cost from other actors. This was due to the higher cost of inputs used by red pepper farmers in Abshege Woreda of Gurage zone. The study also found that the traders profit margin is more than the two-fold of that of farmers by which the traders took a total of about 61 percent out of the total profit margin [10].

3. Methodology

3.1. Description of Study Area

Study area: Toke Kutaye district is one of the 18 districts in West Shewa zone, Oromia, Ethiopia, located at 135 km West of Addis Ababa, districts capital city is known as Guder which is located at 9 km from Ambo zonal city. There area of Toke Kutaye is about 78,887 ha of which 45,651 ha was used for social service, 11,602 ha for grazing, 3651 for forest about 4,579 ha is for road and other services. Toke Kutaye is one of the most agricultural potential areas of West Shewa zone. Farmer in district extensively cultivates creels and vegetables and rise medium amount of shoot and cattle the shortage of rain falls (moisture stress) at sometimes is major constraints of agricultural production in the district.

3.2. Types and Sources of Data

Both qualitative and quantitative data type was used during the study. There were two of data regarding sources. These are primary and secondary data. Both primary and secondary data were required to meet the objectives of this study. The sources of primary data were personal observation or formal communication, interviews, group discussion while the sources of secondary data were from different documents both published and unpublished and from web search.

3.3. Sampling Technique and Sample Size

Multi stage sampling technique was used during the study. In the first stage, the study area was selected purposively based on Onion production potential of study area. In the second stage, two Onion producing kebeles i.e Nagafile and Gorosole were selected purposively because of their high potential in terms of Onion production capacity. The sampling had covered farmers and traders to probability to sample size. The purposive sampling technique was employed for farmers, consumers.

Farmer's sampling: Toke Kutaye district is one of the 18 districts in West Shewa Zone with 35 kabeles. To carry out the study, 120 farmers were selected purposively out of 6,420 populations in district and 3050 onion producers in Nagafile and Gorosole kebele. The farmer samples for the survey are those that produced and experienced in onion marketing also those farmers who are mostly convenient on onion production and marketing.

$$n = N/1+N(e)^2 = 3050/1+3050(0.09)^2 = 120$$

Table 1. Sample of onion producers in selected two Kebeles.

No.	Selected kebeles	Ni (Onion producers)	ni (Onion producers)
1	Nagafile	1560	62
2	Gorosole	1490	58

3.4. Methods of Data Collection

The data for this study was collected both from primary and secondary sources. Primary data included the whole situations of the marketing system from the producing farmer up to the end consumer. It was through questionnaire-administered survey as well as informal and unstructured approaches the data were collected.

The main data types collected include production, buying and selling patterns, challenge and opportunities, etc. characteristics of the market. Besides, secondary data on total population types were consulted.

3.5. Methods of Data Analysis

The Onion market information was analyzed using descriptive statistics. Moreover, descriptive statistics like, percentage and tabular analysis was employed where ever they were convenient in the study to examine analysis of Onion market chain in the study area.

3.5.1. Descriptive Statistics

Analysis of descriptive statistics: To determine the characteristics of market players and to identify key constraints and opportunities in onion market descriptive statistics was used.

3.5.2. Structure Conduct and Performance (S-C-P) Model

The structure conduct performance (S-C-P) approach was developed in the United States as a tool to analyze the market organization of the industrial sector and then it was applied to assess the agricultural marketing system (Pomeroy and Trinidad, 1995). Hence, this approach is applicable to analyze performance of vegetable market chain.

The model examines the causal relationships between market structure, conduct, and performance, and is usually referred to as the structure, conduct, performance (S-C-P) model used this model to study the performance and challenges of vegetable market.

4. Result and Discussion

4.1. Demographics Characteristics

4.1.1. Age of Respondent

As indicated in the Table 1, the proportion of sampled respondents whose age ranges between the age group 25- 30 years to 51- 60 years old is around 15% and 9.2%. According to Table 1, active labor force was more participation in onion market chain which accounts 41.7% which is in contrast to Dessalegn.. The overall result of the study has thus indicated that producers are at the right age to use efforts with expected positive effect on marketing their produce of onion to the market.

Table 2. Age Structure of the Sampled Respondent N=120.

Age category of the respondents			
Age group	Frequency	Percent	Valid Percent
25-30	18	15.0	15.0
31-40	50	41.7	41.7
41-50	41	34.2	34.2
51-60	11	9.2	9.2
Total	120	100.0	100.0

Source: survey result (2025)

4.1.2. Education Status

Table 3. Education level of the Sampled Respondent.

Level of Education			
Education level	Frequency	Percent	Valid Percent
Illiterate	3	2.5	2.5
able to read and write	24	20	20
Grade 1-4	18	15.0	15.0
Grade 5-8	12	10	10

Level of Education			
Education level	Frequency	Percent	Valid Percent
Grade 9-12	63	52.5	52.5
Total	120	100.0	100.0

Source: survey result (2025)

From the [table 2](#), we can understand that about 52.5% of the sampled respondents were attended up to grade nine (Grade 9 -12), and where as 2.5% of sample respondents were unable to read and write. The results of the study in line with the findings of Adugna (2009) who found a greater dominance of secondary education among the fruit and vegetable producers in Alamata, southern zone of Tigray.

4.1.3. Marital Status of Respondents

Table 4. Marital Status of the Sample Respondents.

Marital status of Household			
Marital Status	Frequency	Percent	Valid Percent
Single	12	10.0	10.0
Married	88	73.3	73.3
Divorced	14	11.7	11.7
Widowed	6	5.0	5.0
Total	120	100.0	100.0

Source: survey result (2025)

Most of respondent that were interviewed have married and they were struggling to feed their families. As indicated in [table 3](#), 73% of the respondents were married, whereas the remaining 10%, 11.7% and 5% represents single, divorced and widowed respondents respectively.

4.1.4. Religion of Respondent

Table 5. Religion of the Respondent.

Type of Religion	Number of Respondents	Percentage
Orthodox Christian	28	23.33
Protestants	74	61.66
Wakeffata	14	11.66

Type of Religion	Number of Respondents	Percentage
Muslim	4	3.33

Source: survey result, 2025

From the above [table 4](#), among the total respondents 23.33% of respondents are orthodox, Wakeffata which account 11.7%, whereas Muslim account 3.33% and 61.7% the respondents were Protestant.

4.1.5. Access to Service

Woreda Office of Agriculture: at woreda level it provides advisory and practical services to farmers producing onion. The woreda office of Agriculture encourages farmers to saw onion in rows, use drip irrigation, use improved onion seed. Advice on agronomic practices, seed supply, post-harvest handling etc. is being provided to farmers.

Access to and availability of credit: Credit is important to facilitate the introduction of innovative technologies and for input and output market arrangements. Granting of agricultural production loans to farmers is based on business plans submitted by the loan seeker, which are appraised by OCSI for borrower's eligibility and loan feasibility. The amount of loan taken by farmers ranges between birr 4,000-5,000 for onion production at an annual interest rate of 18%. Loans to individuals are usually provided against group collateral. All loans have to be repaid within one year.

Access to market information: The sampled respondents relived that the major source of market information were traders, assemblers, whole sellers, brokers, cooperatives, personal observation and others.

Table 6. Source of Market Information.

Source of information	Number	Percentage%
Producer	10	16.6
Whole seller	10	16.6
Retailer	15	25
Traders	15	25

Source of information	Number	Percentage%
Consumer	10	16.6
Total	60	100%

Source: survey result (2025)

4.1.6. Experience of Respondent with Onion Production

The respondent of study area have mean 3.95 years of Onion cultivation experience with a minimum of one and maximum of eight years of experience in onion production.

4.2. Onion Market Actors and Their Function

Market structure in food marketing is analyzed based on the numbers and sizes of enterprises within the system, and the potential access of additional participants to it (licensing procedure, lack of capital and know how, and policy barriers) and the degree of transparency.

4.2.1. Market Participants

The main actors involved in the system were producers, collector, rural assemblers, wholesalers, retailers, transporters, brokers and consumers.

Producers-These are those types of the actors who farm and sale onion. They would either have their own land or rented to produce crops. These farmers after they produced, they sold on either farm field or roadside. According to the study 75 percent of the respondents sold at farm field. Obviously, the rest sold in different markets of their choice.

Farmers used Kirchat and wooden boxes for collection as well as product delivery. Buyers delivered boxes early in the afternoon to farmers for collection of good quality Onion.

The selling usually carried out in the morning after buyers arrived from their residence.

Price discovery followed no scientific measurement rather volume. Estimated holding capacities of box for onions were 50kg.

Collector: These actors collect volume of products from producer to sale onion to broker and wholesaler.

Rural assemblers-These market actors are next to farmers along the chain who used to live either at rural Kebeles. They used to buy small amounts from surrounding farmers at the roadside and took the market for sell. Rural assemblers follow strict sorting for Onion. Sorting in Onion based big size, pest free, firm and qualities.

Brokers -These participants of the system were those who exist between producers and bulk buyers. They did not handle any product but facilitated the buying and selling activities between farmers and wholesalers. Many of them brokered onion marketing than other Vegetable. All were male and their age ranged from 18-45 years.

Wholesalers- These were those participants of the marketing system who used to buy onion on the farm field with a larger volume than other actors did. They loaded one or more Isuzu of onion per day or per week.

Retailers- These are the final link in the chain that delivered onion to consumers.

They are very numerous as compared to wholesalers and rural assemblers and their function were to sell to consumer in pieces after receiving larger volumes from wholesalers or rural assemblers.

4.2.2. Onion Market Function

Almost many of the traders and consumers expressed quality onion based primarily on compact dryness (matured) followed by size and color. Onion sorting based size, compact dry, pest free, sprout free and color.

1) Packaging

Containers for this commodities onion collected and packed with a sack, or free disposal on car. The only thing required was to pad walls of a car with polyethylene sacks.

Table 7. Packaging material by Trader.

Variable	Category	Frequency	Percent (%)
Packaging material	Madaberya	95	79
	Jonia	2	1.7
	Basket	23	19
	Total	120	100%

Source: own survey (2025)

2) Transportation

Onion transportation took different forms, head load to bus.

Onion was transported from field to market places with head load, animal back, equine pulled cart, and Isuzu. Isuzu took

onion from many places with limited transport of cart and donkey load. The capacity of carrying the product to the market is different for each mode of transportation. FSR can carry more quantity than Isuzu and equine pulled cart. The common transportation from guder, ambo, Addis Ababa, wollega and other far towns were by Isuzu than by buses due to its bulk quantity of onion products. In here feeder roads were poorly constructed which negatively affect onion production and marketing.

Table 8. The capacity of Carrying for Each mode of Transportation.

Variable	Category	Frequency	Percent (%)
Mode of transports	Isuzu	58	48
	Equine puuled cart	38	31.7
	Head	8	6.7
	Animal	16	13
	Total	120	100

Source: Survey result (2025)

3) Storage

The study shows that the possibility of onion to be stored up to 1 month when the provided proper post and pre-harvest handling practices is good.

4) Market Information and Price of Onion

Market information specifically included information on price, product demand, product supply, market place and buyers and sellers. As Table 8 shows, out of the 120 of total interviewed 80 respondents got market information from other traders, 25 from telephone, and 15 respondents were from the personal observation, i. e they had accesses to market information on price and buyers. The sources were personal observation for about 12.5 percent of the respondents.

Table 9. Sources of Market Information.

Source of information	Number	Percentage
Others traders	80	66.7
Telephone	25	20.8
Personal observation	15	12.5

Source of information	Number	Percentage
Total	120	100

Source: survey result (2025)

From Table 8, 12.5% of the respondents get the market information from personal observation, whereas, the remaining 66.7% and 20.8% show from other traders and sources (television, radio, newspapers and etc.) and telephone respectively. The information obtained from these sources help the marketers to determine their performance relative to their competitors in the market to be successfully survive in this ever-changing environment.

5) Source of Working Capital

Most of sampled traders in the study are based on their own source as a working capital, about 75% of them were use their own income as a source of capital and the remaining 16.6% of use loan from union, microfinance institution and from their friends as their source of working capital and 8.3% from other saving.

Table 10. Source of working capital.

Source	Frequency	Percent (%)
Own	97	80%
Loan	14	11.7%
Other saving	9	7.3%
Total	120	100

Source: Survey result, (2025)

6) Mechanisms of Traders Used to Attract Buyers

Delivering of quality product is the dominant role player in attracting huge number of buyers relative to others, because buyers are demanding high quality product even by higher price. About 11.7% of them were using delivering of fresh quality product as a good way for attracting of buyers but not greater than better price and quality product, and the rest 6.6% were giving by better price, fair scaling, by giving credit and by both giving by a better price relative to competitor and supplying quality product.

Table 11. Mechanisms of Traders to attract buyers.

Variable	Category	Frequency	Percent (%)
Mechanism traders	Giving by better's price	74	61.7%

Variable	Category	Frequency	Percent (%)
	Quality and fresh product	14	11.7%
	By giving credit	12	10%
	Fair scaling	12	10%
	By better price and quality product	8	6.6%
	Total	120	100

Source: own survey (2025)

4.3. Analysis of Conduct, Structure and Performance of Onion Market Chain

The structure of the market refers to characteristics of the organization of the markets that seem to exercise strategic influence on the nature of competition and pricing within the market. In food marketing, very large number of producers and consumers at each end of the marketing chain is suggestive of competitive conditions and, therefore, the focus in analyzing market structure is on the numbers and sizes of enterprises within the system, and the potential access of additional participants to it. A high number of buyers and sellers along the marketing chain, ease of entry into all functions, and widely available market information, together carry a strong presumption of competitive conditions.

The following tools were employed to study the market structure.

Concentration ratio- Market concentration is defined as the number and size distribution of sellers and buyers in the market. It is felt to play a large part in the determination of market behavior within an industry because it affects the interdependence of action among firms. The greater the degree of concentration, the greater will be the possibility of non-competitive behavior, such as collusion, existing in the market.

Barriers to entry- The ease with which potential participants can enter various functions is commonly used as a means of assessing the degree of competition in an industry (The modes of entry into trade, means of building capital, means of acquiring marketing skills and contacts, periods of apprenticeship, trader's perceptions of barriers, the origins and levels of initial capital required for traders of different sizes (functions, or commodities), and the degree of mobility between functions and commodities can be used as center of data to see the barriers to entry. Market structure is most commonly evaluated by examining trends in the numbers and sizes of firms relative to each other, and to number of consumers and producer, in particular times and places. The market structure criteria states concentration ratio was measured by percentage share of volume of onion handled by largest four traders in the market. Thus, the onion market shows oligopoly market which is 57.4 percent. This suggests

that there was market concentration by few firms.

4.3.1. Analysis of Market Conduct of Onion

Market conduct refers to the patterns of behavior that firms follow in adopting or adjusting to the markets in which they sell or buy. In other words, market conduct focuses on traders' behavior with respect to various aspects of trading strategies such as buying, selling, transport, storage, information and financial strategy.

Purchasing, and pricing strategy.

Table 12. Method of Attracting buyer and seller.

Method of Attracting buyer and seller	Frequency	percentage
Giving better price	84	70
Fair scaling	20	16.7
Visiting	16	13.3
Total	120	

Source: survey result, 2025

The report showed that, about 70 percent of traders attract their suppliers by giving better price where as 16.7 percent of them attract by keeping fair scaling weight of measurement and 13.3 percent of them visiting the product to customer.

Terms of Payment: According to Alton (2018), there are two types of agricultural markets on basis of terms of payment i.e. spot/cash markets and future/forward markets. A market in which goods are exchanged for money immediately after the sale is called the spot or cash market. On the other hand, Futures market is a market where traders buy and sell futures contracts. The study revealed that 42.5 percent of the sample respondents supply and sell their produce at a credit basis and 15.8 percent, 16.7 percent and 10 percent of them receive their money after a week, after two weeks and after a month respectively. Majority (57.5 percent) of the producers sold their commodities at cash basis and it is possible to conclude that Onion market in the area is characterized by spot/cash market.

4.3.2. Analysis of Market Performance of Onion

Market performance refers to the impact of structure and conducts on prices, costs, and volumes of output. Investigations of market efficiency are one approach to evaluate the degree of market performance.

Marketing efficiency has the following two major components: (i) effectiveness with which a marketing service would be performed and (ii) the effect on the costs and the method of performing the service on production and consumption. These are most important because the satisfaction of the consumer at the lowest possible cost must go hand in hand with maintenance of a high volume of farm output.

Table 13. production cost and profitability of onion birr/ha.

Item	Onion (120)
Urea	4718.4
Dap	5210
Seed	9825
Chemical	8329
Labor	2459.7
Total variable cost	30542.1
Land rent	6570
Depreciation of farm implements	1345
Total fixed cost	7915
Total production cost (birr/ha)	38457.1

Item	Onion (120)
Yield (quint/ha)	122
Income	1464000
Net Return	1425542.9
Cost (birr/qty)	315.2

Source: survey result, 2025

Marketing Margin

A marketing margin can be defined as a difference between the price paid by consumers and that obtained by producers; or as the price of a collection of marketing services that is the outcome of the demand for and supply of such services). It measures the share of the final selling price that is captured by a particular agent in the marketing chain.

The price of rural assembler paid to producers was 60 Birr, the price of whole seller paid to rural assemble was 80 Birr, the price retailer paid to whole seller was 100 Birr, the price consumer paid for retailer was 120 Birr.

Marketing channels -The analysis of marketing channels is intended to provide a systematic knowledge of the flow of the goods and services from their origin (producer) to final destinations consumers. This is acquired through studying the participants, with the first step to determine what and which final markets are. While the source and destinations are clearly identified the study of participants within the channels, the activities they perform and the overall actions can easily be investigated.

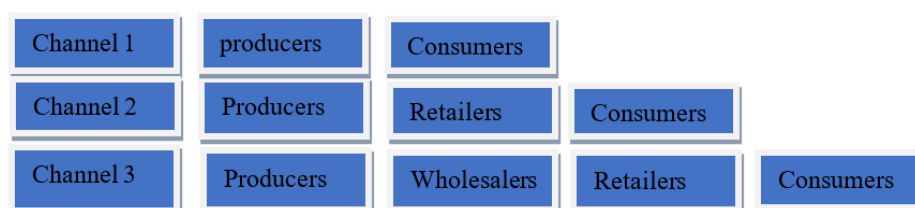


Figure 1. Market channel of onion.

4.4. Production and Marketing Problems and Opportunities

The rapid growth in the production and marketing of onion and tomato was not free of the problem. For sake of clear understanding problems are divided into marketing and production problems.

4.4.1. Production Problems

Limited Access to Improved Seeds:

A significant portion of Onion seed in Ethiopia relies on imports, with inadequate policy attention and basic seed supplies hindering local production.

Inadequate Irrigation:

Onion production relies heavily on rainfall, making it vulnerable to droughts and irregular rainfall patterns.

Pest and Disease Management:

Infestations of diseases and pests can significantly impact

Onion yields, and there are challenges in implementing effective control measures.

Post-Harvest Losses:

Lack of post-harvest handling can lead to significant losses, further reducing the profitability of Onion production in the study area.

Poor Agronomic Practices:

Traditional farming methods and a lack of knowledge regarding modern techniques can result in lower Onion productivity in the study area.

4.4.2. Marketing Problems

Lack of standardization and grading:

This can make it difficult for buyers to assess the quality of products and can lead to price disputes.

Financial challenges: Limited accesses to financial services are the main struggles of MSMEs in the Agri-business value chain in the developing countries. Many reasons can be discussed in this regard some of them are related to the financial institution and some others to the MSMEs. The financial institution is less attracted to this sector.

Poor Infrastructure: Inadequate roads and transportation make it difficult and expensive to transport agricultural products to markets, leading to higher prices and potentially lower profitability for farmers.

Lack of innovation: Agri-business of Onion producers is not very innovative, and the majority of the products that they produce are based on outdated technologies. There is a severe lack of entrepreneurs in this sector, which has prevented it from adopting new technologies and tools. As a result, these onion farming have had to struggle with outdated technology as well as low levels of productivity, especially when compared with larger firms.

Lack of contract farming: farmers were 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.

Absence of market information - Farmers may not have access to reliable information about market prices, demand, and opportunities, making it difficult for them to make informed decisions about what to produce and where to sell.

Lack of storage facilities:

Post-harvest losses are common due to the lack of proper storage infrastructure, which can lead to reduced shelf life and spoilage.

4.4.3. Opportunities

Based on survey result, the following opportunities were identified with regard to production of Onion in the study area.

Labor Availability: The study area has a large, trainable labor force, contributing to the efficiency and affordability of Onion production. Onion farming is high labor-intensive,

requiring 30- 35 laborers per hectare per day. Since study area has abundant supply of unskilled labor at Birr 150- 200 per day.

Government Support: The Ethiopian government has implemented policies and initiatives to support the agricultural sector, including research, extension services, and investment in infrastructure.

Market Access: While post-harvest losses and market information remain challenges, efforts are underway to improve market infrastructure and access for Onion producers.

Growing Demand: The increasing urbanization and rising disposable incomes of consumer have led to a surge in demand for fresh Onion, creating a substantial market for producers.

Existence of institutions supporting the development of the horticulture sector.

In Ethiopia, there are a number of public organizations supporting the development of horticulture, including vegetables. Notable ones include, Ethiopian Horticulture Development Agency, Ethiopian Horticulture Producers-Exporters Association, Ethiopian Fruit and Vegetable Marketing Enterprise, Ethiopian Horticulture Development Corporation, National Agricultural Research System operating in decentralized system, Ministry of Agriculture and regional bureaus of agriculture as well as a number of vegetable seed importers with their own distribution channels. The regional bureaus of agriculture also play key roles in developing and promoting irrigated vegetable production, which increases vegetable use.

Climate

Toke kutaye district, especially Negafile and Gorosole agro-Climatic conditions make it suitable for the production of a broad range of Onion. The range of altitude, temperature and soil variability of the country has created an enormous ecological diversity and a huge wealth of biological resources. In other words, the wide ranges of ecological conditions that prevail in the country have created a favorable habitat for diversified forms of life including plants, animals and microorganisms.

Some of opportunities relate to marketing of Onion

Rising Consumption:

Study area urbanization and economic growth are fueling a surge in domestic demand for Onion, including fresh.

Unserved Market Potential:

Despite the recent growth, Ethiopia's per capita consumption of Onion is still significantly lower than regional averages, indicating a large unserved market.

5. Conclusions and Recommendation

5.1. Conclusions

The study was conducted to analyze the Onion market chain in two onions producing kebeles of Nagafile and Gorosole of Toke Kutaye district oromiya region. The specific objectives included analyzing of the Onion market actors, identifying onion market conduct, structure and performance and Onoin market opportunities and challenges in the study

area.

The market chain of Onion in the study area was primarily constrained by absence of farm land, unfair pricing of products by whole seller, weak cooperation agreement among whole seller, local traders and producer were some of the major constraints.

Absence of well-trained of extension service also the major problem mentioned, apart from, pest and disease challenges, price stability and lack of reliable, adequacy and time line marketing information.

Therefore, government intervention is needed in order to improve the insufficient market chain through strengthening institutions like cooperatives, linking them with financial institution, and contract farming.

5.2. Recommendation

Here bellows are some of recommendations given to be considered based on the result study of Onion market chain in the study area:

- 1) Onion production should be increased and diversified to satisfy the wider regional market demand and to gain normal profit for all market actors.
- 2) Training on pre- and post-harvest handling has to be given to produce and development agents so as to improve the shelf life of the study crops that can generate a better income to producer and relatively even supply for consumers.
- 3) Group organization like water use association and coops union are assumed to play significant role in improving the bargaining power of the onion producers and creating employment opportunities.
- 4) Government should give more due attention in improving the production and productivity of onion by giving better extension service, improved technologies and seeds timely.
- 5) Producers bought onion seed from a shop from which they are not sure of its validity. So, it also necessary to enhance institutions that provide reliable source of onion seed for the farmers.

Abbreviations

SCP	Structure Conduct Performance
MSME	Micro Small and Medium Enterprise

Consent for Publication

The authors have agreed to submit for international journal of Agricultural Economics and approved the manuscript for submission.

Ethics Approval and Consent to Participate

Ethical clearance letters were collected from West shewa Zone administrative office to care for both the study participants and the researchers. Before data collection and field visit, each districts and sub districts have got official letters. The study area was already informed the reason why the study has done and by whom. There was high clarity of objectives and other study issues for all study participants and others. Because of that the research was done without compromising anybody's interest.

Author Contributions

Dinkisa Mekurya is the sole author. The author read and approved the final manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest.

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