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Research Article

Survey and Analysis of Onion Marketing in Toke Kutaye District, West Shewa Zone, Oromia National Regional State, Ethiopia

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Abstract

Background and Objective: The sub-Saharan Africa foulest on enhancing the income of small holder within the context of trade liberalization. Small holders production and marketing of vegetable is a key for growth and development of small holder farmers, apart from their economic important they are environment friendly to fight against drought. Oromia has diverse agro-ecology and many areas are suitable for growing subtropical or tropical onion substantial areas receive sufficient rainfall and many lacks. Rivers and streams could also be used to support onion production despite this potential the total land area under onion production is very small and minimum. The study was initiated with the objectives of survey of onion marketing and identifying of challenges and opportunities of onion marketing in Toke kuttaye district, West Shewa, Oromia, Ethiopia. **Materials and Methods:** Sample of respondents was selected purposively to its population size. Data come from a total of 95 samples. Data were analyzed by descriptive statics. **Results:** Weak extension support, lack of credit facilities, poorly constricted in fractures and limited seed supply system largely hinders production, productivity and marketing of onion in the study area. On the top of this, limited accessibility of chemicals and fertilizers within the district are the key constraints. Irrigable land, fertile land and committed farmers work and grow were found to have some of the opportunities. **Conclusion:** Total quality onion produced was positively affecting the level of onion sale. The possible recommendation of forwarded strengthening market information and extension system, intervention to increase production and productivity by using improved agricultural inputs, promoting family planning are the recommended policy implications.

Key words: Productivity, marketing, small holders, margin, whole sellers

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INTRODUCTION

Fresh tropical vegetables are on winning ground in world markets to recent statistically figures its production and has 7% annually since 1997 and the bulk of these vegetable (98%) were grown in developing country¹. The latest figure show that tomato accounts for 44% of the total fielded volume followed by potato (27%), cabbage (12%) and onion (71%) the main reason for increase in demand of tropical vegetable is the growing familiarity of consumer with tropical vegetable of their taste nutritional value and looking qualities.

Small holders production and marketing of vegetable is a key for growth and development of sub Saharan African countries Most vegetable perennial trees can live more than 50 years (e.g., potato) a part from their economic important they are forest and environment friendly to fight against drought use as shads fine wood, food security and agro industry export².

Ethiopia has variety of vegetable crop grown in different agro-ecological zone which could be produced though commercial as well as source of income and food. However, the type of limited too few crops and production was concentrated to some pocket areas. In spite of this the production was up to a large scale production for a domestic and export market.

Oromia has diverse agro-ecology and many areas were suitable for growing temperature. Subtropical or tropical onion substantial areas receive sufficient rainfall and many lacks, rivers and streams that could also be used to support onion production despite this potential the total land area under very small and mainly small holder based. According to CSA the area under vegetable is about 18,313 hectares³.

The production potential of onion is not widely and evenly distributed across the various regions of the country. According to the CAS³, 54567 ha are under vegetable. An annual production of 124, 613.5 quintal was estimated from vegetable by the same year of which onion constitutes 80,588 qt. Toke Kuttaye were focus one of the natural endowed district in terms of capacity to grow onion marketing.

The natural production on one hand and the lack of organized market system on the other would be resulted in low producers' price. There were marketing problems such as lack of transport, storage, post-harvest handling facilities, organized marketing system from the marketing side, again there were different constraints such as shortage of rainfall, weak cooperatives, inadequate transportation system, limited land holding activities. This therefore demands a holistic study of the system in the market chain of farmer.

A number of factors related to technological, institution and political situation influence competitiveness of market chain. So information on factor that affects competitiveness of onion market was essential for the design of any strategy or policy that has onion objective intervention. Identification, characterization and evaluation of market chain help to remove barriers affecting performance and to strengthen strong side. Although fruit and vegetable were economically important commodities that there were no study made on fruit and vegetable marketing to identify the key constraints and potentials on system in the district. There was adequate information on the supply of onion because of onion was the major abundant horticultural crops in Negafile peasant association of Toke Kutaye district.

The area coverage of this study was Nagafile kebele of Toke kutaye district in West Shewa zone, with specific focus in onion marketing in the district and pass through a number of marketing. These account for the major proportion of onion marketing in the district and pass through a number of marketing stages because of the limitation of finance, time and transportation to do in other district.

The commodity approach to market study was used to analyze onion marketing, the study emphasized different market levels, roles of market players in marketing channel, market direction and price formation and bargaining power of producer, traders, buying and selling strategies, storage, transport, information involves on onion in the center of study.

The study was to generate important information useful to formulate onion marketing development programs and guidelines for intervention that improve the efficiency of onion marketing. The potential user of the results of this study could be farmers, traders, policy makers and suppliers, governmental and non-governmental organization that wants to introduce intervention in onion marketing. Furthermore, this study could be used as source materials for future study and research.

The marketing of onion, purchasing onion from different parts of the country requires equipping and saving it from damaging during transportation. Now day's onion is well known on the market. Onion is one of the horticultural plant. It is used as a source of income, protein or vitamin. In addition to this it was also helped to make appropriate decisions (product, market) by the producers, consumers, traders, investors and others.

The study analyzed the vegetables value chain from production to consumption within the area. It also provides a holistic picture of existing challenges, opportunities and entry points in the onion value chain. Moreover, this study provides information on the analysis of onion value chain and

examination of the capacity of the actors in the chain, identify marketing channels of onion and identify the constraints and opportunities of onion production and marketing in the study area. Therefore, it could be shed light on required efforts to enhance the production and utilization of onion at larger scale to bring about economic development in the area. The information generated may also to help a number of organizations as source for further studies including, research and development organizations, traders, producers, policy makers, extension service providers, government and non-governmental organizations to assess their activities and redesign their mode of operations and ultimately influence the design and implementation of policies and strategies. It could also help different actors to identify and analyze new ways of stimulating innovation.

Marketing function studies marketing in terms of the various activities that were performed in getting farm product from the producer to consumer. According to Saccomandi⁴ marketing function can be classified on objectives, such as logistical, marketing and economics objectives. Logistical functions are related to the concentration, transport and preservation of products. Marketing function is dedicated to classifications include financing, risk bearing and facilitation of exchanging. Marketing of agricultural products consists of moving products from production sites to point of final consumption. In this regard, the market function involves, buying, selling and pricing.

Transportation, product transformation and storage are physical functions, while financing, risk bearing and marketing information are facilitating functions before a commodity be available to the urban consumer to include the temporal, spatial and farm dimension. A clear understanding of marketing function with an investigation of strength and weakness help where to improve the marketing system. The level of functions could different from product to product and hence in the onion marketing study this part always draws attention⁵.

Agricultural product was different from manufactured goods in terms of supply and demand. Agricultural products supply was different because of the very seasonal biological nature, while their demand was comparatively constant throughout the year. In economic theory, the analysis can identify factors that determine market supply.

A clear understanding of the determinants could be focused to enhance production and marketable supply. The study of market supply helps to fill the gap success of commercialization. There are different factors that can affect market supply.

Market supply refer to the amount actually taken to the market irrespective of the need for home consumption and others requirement, whereas, market surplus was the residual with the producer after meeting the requirement of seed, payment in kind and consumption by peasants at source⁶.

Market surplus was defined as the production of out that marketed. Marketed supply may be equal to marketed surplus but may be less if the entire marketed supply is not sold out and farmers retain some stock and if loses are include at the farm of during the transit⁷.

Onion (*Allium cepa*) is one of the most important commercial vegetable. Onion is a cool seasonal crop. However, it can be grown under wide range of climate conditions. It grows well under mild climate without extreme heat or cold or excessive rainfall. The principal alliums rank second in value after tomatoes on list of cultivated vegetable crops worldwide⁸. These people also reminded that all plant parts of alliums may be consumed by humans (except perhaps the seed) and many wild species are exploited by local in habitants. Careful handling and the choice of suitable storage method for the cultivar type in question were vital to insure that the product retain its quality until it reaches the consumer. "Cosmetic quality is of increasing importance in competitive market. The product is produced both for consumption and for market. According to productivity, 48.2% was utilized for sale, 39.9% for household consumption in construct tomatoes where 66.7% the total production is send to market³.

According to Bedada⁹, in Ethiopia onion was produced in many parts of the country by small farmers, private growers, state enterprise mainly in Awash Valley and lake region while the bulk of dry bulbs and seed were produced. Recent statically data indicated the total hectare under onion was about 20,444 ha with total production of 2,572.053 quintals dry bulbs per annum. Globally onion is produced to nearly 35 million meter tones per annum¹⁰. However, despite the enormous merits and potential, in Ethiopia the existing crop productivity has been low and variable under adapted varies to different agro-ecologies. Lack of input, lack of improved crop varieties, shortage adapted varies to different agro-ecologies, lack of appropriate agronomic package, disease and poor extension activities.

Marketing actors: The major market players include producers, rural assemblers, whole seller, retailer, transporter and consumers.

Producers: These are primary of first link actors of the market channel who cultivate and supply surplus onion to the market.

Rural assemblers (loan collectors): These are one of the actors in the market link. Through rural assembler found in Toke Kutaye Woreda were limited in number they play very crucial role in the market chain since they had close link with whole seller who come from large market size centers product owners and brokers.

Whole sellers: These are known for purchase of bulky product with better financial and information capacity. They buy onion from assemblers and/or a roadside with a large volume than any other marketing actors does. They relatively spend their full time in wholesale buying throughout the year in and out of the district.

Retailers: These are known for limited capacity of purchasing and handling products and low financial and information capacity. Beside this, these are the ultimate actors in the market chain that purchase and delivered onion to consumers.

Consumers: These are marketing actors who purchase the onion from retailers, whole sellers as well as some times producers and they are the end marketing channel. They add value on the product when they buy from the former market actors.

Factors for entry and exit on onion marketing

Licensing: Based on the informal survey almost all rural assembles and retailers under take onion trading with having no license. According to this study, though stalls are limiting factor for retailers, there was no strong restriction to enter onion marketing with respect to license. Whole sellers were relatively free to enter the market as far as they had the desired amount of capital and access and availability to different infrastructure. That called facilitate their bargaining power.

Capital: Capital is substantially important to undertake any business activity: Though capital is important to all market players for the degree of importance varies.

Properties of vegetable marketing: A number of factors that can be attributed to production product and market characteristics influence vegetable marketing.

Perishability: As vegetable are highly perishable, they start to lose their quality right after harvested continued throughout the process until is it consumed, for this purpose elaborated and extensive marketing channels facilities and equipment vital.

Price/quality risk-the crops are subjected to high price and quantity risk with changing consumer, demands and production conditions. Unusual production or harvesting weather or major crop disease can influence badly the marketing system.

Seasonality: Vegetable has seasonal production directly influencing their marketing. Normally they have limited period harvest and more or less a year round demand.

Product bulkiness: Water is a major component of the product hence it makes them bulky and low value per unit that is expensive to transport in fresh from every large time. This, therefore, exposed farmers to lose large amount of product in the farm unsold.

The study was initiated with the objectives of survey of onion marketing and identifying of challenges and opportunities of onion marketing in Toke Kutaye district, West Shewa, Oromia, Ethiopia.

MATERIALS AND METHODS

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 10 km from Gorosole town to the North.

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. The total population of the district was 119,999 from these 59,788 males, whereas, 60,211 were females Toke Kutaye is one of the most agricultural potential area of West Shewa zone. Farmer in district extensively cultivates creels and vegetables and rise medium amount of shoot and cattle the shortage of rain fall (moisture stress) at some times is major constraints of agricultural production in the district. The climatic condition of the area is 27% high land, 55% mid altitude and 18% lowland.

Sampling procedure: Purposive sampling technique was employed. The sampling had covered farmers and traders to probability to sample size. The purposive sampling technique was employed for farmers, consumers, retailers and whole sellers.

Farmer's sampling: Toke Kutaye district is one of the 18 districts in West Shewa Zone with 35 kabeles. To carry out the study 50 farmers were selected purposively out of

119,999 people in district and 350 onion producers in Nagafile kebele the survey was conducted in 2016. 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. Nagafile kebele was one of the 35 kebele in Toke Kuttaaye district having a total population of 5,665 with 2768 males and 2897 females. In the district 871 males and 367 females with the total of 1248 were the land owners. The climatic condition of the kebele was 0% high land, 98% Midland and 2% low land. The rainfall condition of the kebele was during spring season, particularly in April and in May and in summer season. The soil condition of the kebele was 65% loamy soil, 25% clay soil and 10% sandy soil.

Trader sampling: Having possible level ten representative traders was purposively selected out of 100 traders in a district to carry out the survey study.

Types and methods of data collection: Data was collected from both primary and secondary sources.

Primary source: The incorporated entire situation source of marketing system from the producing farmer up to trade through structured questioner, interview and observation.

Secondary source: On total land size trend of onion production, marketing, population types and other data relevant to the study was prepared for collection and collected from Agriculture and Rural Development Office of the district.

Methods of data analysis

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

Onion marketable supply analysis: To commercialization effective producer need to produce and supply substantial volume to the market. Market supply can be increased through provision and use of superior production technologies and through provision of improving other relevant factors too it was therefore, essential to recognize and realize patterns of these influencing factors.

Analysis of market structure: Market structure is the environmental in which the firm operates. It includes the following elements buyers, seller's concentration, product service differentiation and entire barriers¹¹.

The market conduct around study area was competitive market. It was market structure, where there are many sellers and many buyers and actors entry or exit market freely.

Statistical analysis: Descriptive analysis employed to describe the socio demographic characteristics of sample farm house holds, structured conduct and performance and extension support service of onion were discussed.

RESULTS AND DISCUSSION

Demographic characteristics: In Table 1 indicated the proportion of the sample respondents whose ages between different age groups show different percentages. According to Table 1, younger households were more participating in onion production and marketing. This finding was similar to Dessalegn *et al.*¹².

As discussed in the Table 2 about 75.55% of the sampled respondents were males where as the remaining were females. This finding indicates that male households were more participating in onion production and marketing and it was similar with Cunningham *et al.*¹³.

The education status of the households indicates that there was no one whose education is zero, read and write were 44.44%, grade 10 complete were 33.33% and completed above grade 10 were found to be 22.22%. This finding was in line with Takele¹⁴. The Marital Status of Sample Respondents showed that 55.55% of the respondents were married, 22.22% were single and 22.22% were divorced, respectively.

Input used for onion production: Agricultural input was an element for production and productivity. As a result the typical inputs utilized for production of onion was local and improved seed, irrigation facilities, labor, land, chemicals and fertilizers.

Table 1: Age of sample respondent

Age group	Number	Percentage
15-25	21	35.55
26-35	14	31.10
36-45	9	20.00
Above 46	6	13.33
Total	50	100.00

Table 2: Gender and educational status of the sampled respondents

Gender status	Sex	Number	Percentage
	Male	34	75.55
	Female	16	24.44
Total		50	100.00
Educational status		Number	Percentage
Illiterate		0	0.00
Who can read and write		22	44.444
Grade 10 complete		18	33.33
Above grade 10		10	22.22
Total		50	100.00

Onion were planted with seedling raised in small plot at home. Seeds for onion were supplied from cooperatives and private traders. However, seeds, chemicals and fertilizers were with high prices and timely they were not available. This study was in line with ATA¹⁵.

Access to service

Extension service: The rural extension service was on average to shift in service delivery through the farmer training center system. Accordingly, extension service was mainly delivered by the District office of Agriculture and Rural Development Office Workers and Development Agents in the peasant association but in the study area the extension delivered was not enough for onion producing and marketing small holder farmers. This shows similar findings with ATA¹⁵.

As indicated in the Table 3 the market information got from producers, whole sellers and retailers were described. There was lack of market information for all actors.

Access to and availability of credit: Credit is important to facilitate the introduction of innovative technologies and for input and output market arrangements. However, the lack of definite credit service delivery for vegetable and fruit producer and the nature of production system at the harvest period opened an opportunity for farmers not to request credit. Furthermore, producer develops cash on hand system.

As indicated from the Table 4 most of the market respondents, 77.778% are non-users of credit and 22.222% are users of credit. These show that there were chronic shortage and absence of credit in the study area. This finding was in line with Shiferaw *et al.*¹⁶.

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. Personal observation was

Table 3: Source of market information

Source of information	Number	Percentage
Producer	38	77.778
Whole seller	5	6.667
Retailer	4	8.889
Consumer	3	6.667
Total	50	100.00

Table 4: User and non-user of credit

Credit user	Number	Percentage	Noncredit user	Numbers	Percentage
Producer	0	0.00	Producer	35	77.778
Whole seller	3	10.00	Whole seller	5	6.667
Retailer	3	10.00	Retailer	7	8.889
Consumer	2	6.67	Consumer	3	6.667
Total	8	26.67	Total	50	100.00

the information that finds a price of commodities by himself either from local market and zone market. Others source of information for the community includes, telephone, radio and friends. This finding was in line with Daniels and Fors¹⁷.

Transportation: Onion was transported from field to market place with head load, pack animal, cargo and izuzu. 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. This finding was similar to the findings of ATA¹⁵ and Bahta and Bauer¹⁸.

Information and price setting: The survey results indicate that respondents obtained information from producers, traders, local friends and consumers. Market information supply was not transparent between level that created price discrepancy and difference among selling farmers in onion. Whole sellers have got better price information access from their alimnt friends in Ambo and Addis Ababa while the other actors like producers did not have access to market information. The finding was in line with Makhura¹⁹.

Market outlet: From producers (farmers) on the average each producer produces 20 quintals per season.

- Producer→Consumer (40%)
- Producer→Retailer (15%)
- Producer→Whole seller (45%)

Analysis of market performance: The method of employment for analysis of performance were channel comparison and intended to provide a systematic knowledge of the flow of goods and service from its origin of production to final destination (ultimate consumer).

Onion market channel:

- Producer→consumer
- Producer→retailer
- Producer→whole seller→retailer→consumer
- Producer→rural assembler→whole seller→retailer→consumer

Market margin: Marketing margin means the difference between the producer's price and the end consumer's price. The margin of each and every actor is listed below.

The price of rural assembler paid to producers was 5 birr, the price of whole seller paid to rural assemble was 6 birr, the price retailer paid to whole seller was 8 birr, the price consumer paid for retailer was 10 birr. This finding was similar to the findings of Bedada⁹.

$$\begin{aligned} \text{Assembler gross margin} &= \frac{\text{Wholeseller price} - \text{Producer price}}{\text{Wholeseller price}} \times 100 \\ &= \frac{6 - 5}{6} \times 100 \\ &= 16.7\% \end{aligned}$$

$$\begin{aligned} \text{Retailer market margin} &= \frac{\text{Cusumer's price} - \text{wholeseller's price}}{\text{Consumer's price}} \times 100 \\ &= \frac{10 - 8}{10} \times 100 \\ &= 20\% \end{aligned}$$

Major production and marketing constraints: There were factors that affect the production and marketing of onion in toke Kutaye district, Oromia Regional state, Ethiopia. According to the focused group discussion, weak extension support service, limited land holding, lack of access to credit, insufficient product handling, outbreak of disease and pest, shortage of human labor from the production side, un fair price quotation, lack of standard and lack of cooperative from the marketing side were some of the most important problems reported by sample respondent of onion producers. Besides, limited accessibility to different chemicals, Knapsacks, lack of fertilizers, high price of fertilizer, lack of improved variety seeds and lack of market information within district were the other constraints stated by the respondents. This findings were similar to findings Hailu²⁰ and Tadesse²¹.

Major production and marketing opportunities: Good weather condition for production of onion, good location to the central market, the presence of irrigation facilities and good market for onion product, cheap labor force and hard working farmers in the study area were some of the opportunities stated by the respondents.

CONCLUSIONS AND RECOMMENDATION

The marketing system of onion in the study area was predominantly constrained by a number of troubles like shortage of farm land, unfair pricing of products by whole

seller and watering farm field prior uprooting by farmers and weakened cooperative agreement with strong whole seller local traders to producer were some of the major constraints. The draw backs in the quality of extension service was among the strong problem mentioned, apart from, pest and disease challenges, price stability and lack of reliable, adequacy and time line marketing information.

The increasing of farmers in production and marketing apparent by increasing land allocation and increasing numbers of participating market actors were indicators, for commercialization:

- Whole sellers isolate the producers from the traders and make price margin often to them. Therefore, government attention is needed in improving the in sufficient market chain through strengthening institutions like cooperatives
- There were abundant cheap labor force existing in the study area which can be utilized for onion production and onion marketing

The following recommendations are given as to be considered based on the result study of onion marketing in toke Kutaye district:

- Onion production should be increased and diversified to satisfy the wider regional market demand and to gain normal profit for all market actors
- 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
- 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
- Government should give more due attention in improving the production and productivity of onion by giving better extension service, improved technologies and seeds timely.

SIGNIFICANCE STATEMENTS

This study discovers that the onion production and marketing of study area have mainly constrained by lack of stable seed supply system, lack of appropriate pre and post-harvest handling technologies and limited land holding at farmer level followed by weak market linkage and knowledge by the different marketing actors. Besides Pest and

disease challenges there was price instability, lack of adequacy and time line marketing information. On the other hand, the study discovers that there is cheap labor for onion production, suitable farm land and motivated farmers to produce and market onion and irrigation facility in the study area that can be beneficial for the GOs, NGOs, researchers, agricultural workers, farmers and traders. This study will help the researcher to uncover the critical areas of onion production and marketing.

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