MEKELLE UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

ANALYSIS OF TRENDS, OPPORTUNITIES, and CHALLENGES OF TIGRAY SESAME EXPORT MARKET (THE CASE OF -TAHTAY-ADYABO WEREDA)

Submitted in partial fulfillment of requirement for the Master of Business Administration (MA)

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DECLARATION

I, Kidu Tafere Asgedom , declare that this Master Thesis entitled “Trends, opportunities , and challenges of Tigray Sesame export market in the case of Tahtay-Adyabo wereda, Tigray region, Northern Ethiopia” is my own original work and that all the sources that I have used have been indicated and acknowledged by means of complete references. I also declare that this work has not been submitted to any institution for any other degree or fellowship.

_____ _____

Kidu Tafere Asgedom **Date**

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ABSTRACT

This study aimed to analyze the trends, opportunities, and challenges of the Tigray sesame export market in Tahtay-Adiyabo wereda by employing a mixed-methods approach and a cross-sectional survey design, using a census of the entire target population of 24 sesame market actors—including local traders, exporters, Tekeze Union, and the temporary market center—supplemented with focus group discussions and key informant interviews. Findings reveal that sesame marketing in Tigray is highly seasonal, with peak trading in September and complete inactivity from February to August; smallholder farmers supply about 95% of traded sesame, indicating heavy reliance on fragmented production systems. The study further shows that the war severely disrupted the sesame export market through the destruction of roads, warehouses, and stored commodities, causing total cessation of export activities between 2020/21 and 2023/24 and leading to a sharp decline in foreign exchange earnings. Despite this, the sector retains substantial opportunities stemming from high global demand, favorable agro-ecology, the premium quality of Humera-type sesame, and proximity to international markets; however, its performance remains constrained by conflict-related damage, limited finance, weak institutional coordination, transport shortages during peak months, price volatility, inadequate storage infrastructure, and lack of timely market information. Based on these findings, the study recommends first strengthening post-war institutional coordination, infrastructure rehabilitation, and financial support systems to restore export functionality and, second, improving market information flow and storage/transport systems to stabilize prices and enhance the competitiveness of Tigray's sesame in international markets.

Keywords: sesame seed, export marketing, local traders, exporters, sesame seed market center

ABBREVIATIONS

ASEAN: Association of Southeast Asian Nations.

BoANR: Bureau of Agriculture and Natural Resource

BoPF: Bureau of Plan and Finance

CSA (now ESS) :Central Statistical Agency (Ethiopian Statistical Services)

ECX: Ethiopia Commodity Exchange

EU: European Union

FBC: Fana Broad Casting

FAO: Food and Agriculture Organization of the United Nations

FDRE: Federal Democratic Republic of Ethiopia

FGD: Focus Group Discussion

GATT: General Agreement on Tariff and Trade

GDP: Gross Domestic Product

Ha: Hectare

HH: House Hold

Km: Kilometers

M.a.s.l. Meters above sea level

MOA: Ministry of Agriculture

NAFTA: North American Free Trade Area

RCEP: Regional Comprehensive Economic Partnership

SPSS: Statistical Package for Social Science

WoES: Woreda Office of Economic Sector

WTO: World Trade Organization

Contents

List of Tables

TABLE OF FIGURES

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

Over 133 countries contribute to the global export of Sesame Seed, India is the largest exporter of Sesame Seed, it's contribution of 82,321 export shipments attests to its significant market share of 67%. Following India, Ethiopia emerges as a key player with 9,660 shipments, securing an 8% market share. Pakistan also makes a mark with its 7,292 shipments, translating to a 6% market share. Indeed,Sesame Seed is exported to over 186 countries worldwide, with United States, Vietnam, and China being the principal importers. Collectively, these three countries consume 62% of all Sesame Seed exports globally. United States stands at the forefront, importing 34,271 shipments, which translates to a market share of 42%. It is closely followed by Vietnam, with 9,975 shipments, giving it an 12% market share, and China, with 6,663 shipments, equating to a 8% market share. Additionally key markets for Sesame Seed exports from World encompass Rusia, India, Turkey, Nigeria, South Korea, and Indonesia(ESS,2025).

The most important oilseeds in Ethiopia are sesame, soybeans, and groundnuts. Sesame is the largest exported oilseed: in 2019, sesame exports from Ethiopia were worth US$ 307 million, making it the second-largest agricultural export after coffee. Sesame is primarily an export crop. In contrast, groundnut and soybean are marketed domestically and internationally, and exports are considerably smaller (US$ 85 million combined). Sesame is an eminent crop and a significant contributor to the gross domestic product in Ethiopia (Gebremedhin et al,2019).

Sesame is Ethiopia's second most crucial export crop after coffee (Coffea arabica). In 2020, the area allocated for sesame production was 375,119.95 ha, 45.7% of the estimated area under oil crop production (Teklu etal., 2021). About 75% of Ethiopian sesame production takes place in the regions of Amhara (particularly in Gonder) and western Tigray. Smaller amounts are grown in Oromia, Benshangul-Gumuz, SNNP, and Gambella. A large majority of sesame is grown on small-scale family farms, although larger commercial farms account for about 18% of production. Almost all sesame is exported in the form of raw seed and converted to sesame oil, tahini, and other products in the destination countries. This is presumably because sesame oil is relatively expensive and not widely used in Ethiopian cooking. Most vegetable oil for domestic consumption is imported, and 90% of the imported quantity is palm oil(Girma etal.,2022).

Annually, close to 350,000 hectares (ha) of land is covered by sesame in Ethiopia. Sesame producers are broadly categorized as smallholders, who own less than 10 ha of land. labor, finance, machinery, and certified seed are the key inputs that determine the level of production of sesame in Ethiopia (Eshetie et al., 2022). If the crop is not harvested at the right time, more than 50% of the yield could be lost due to shattering (Qureshi et al., 2022). The study done by Mezgebo et al. (2021) indicated that for a hectare of land, sesame requires around 89.33 man-days per season and 60% of smallholder farmers depend on hired labor during peak times (land cleaning, weeding, and harvesting).

Israel has maintained its position as the top export destination for Ethiopian sesame seed, followed by the United Arab Emirates (UAE), and Singapore. Israel accounted for around 27 percent of the total exported volume while the UAE and Singapore respectively seized a 26 and 10 percent market share, respectively. China and Vietnam – the fourth and fifth largest destinations – accounted for 10 and 9 percent, respectively. Except for the UAE and Singapore, the major traditional buyers of Ethiopian sesame seed (such as China, Turkey, and Saudi Arabia) have reduced imports during MY 2020/21. This could be likely stem from COVID-19 economic restrictions and competition from other suppliers like Sudan (GAIN report, 2021).

According to GAIN (2020) although Ethiopia is one of the major global producers and exporters of sesame seed, the country faces increasing challenges related to both supply and demand side constraints. Some of the major supply side constraints are diminishing productivity levels, pests and diseases, and poor access to modern technology. On the demand side, perversely higher domestic price, easy entry of inexperienced traders and market distortion, and contractual non-performance of export sales. Other demand side constraints include international price instability, extremely concentrated export market, and strong competition in the international market.

1.2. Statement of the Problem

In Ethiopia Sesame is one of the key potential agricultural products generating considerable hard currency and hence playing a significant role for the country's growth and development. However; official reports indicate that export value of sesame has declined since 2015/16 crop year, and hence the earnings have also dwindled during 2015, 2016 and 2017 to 482, 431 and 307 USD, in the respective years and the country loses its' competency at international market (Assefa, 2017).

Endalkachew (2019) indicated that there is a growing demand for oil seeds especially for sesame seeds in the global market. China, Israel, Turkey and Jordan are the main destination countries for Ethiopia's sesame seed. And it gives an opportunity for Ethiopian producers and exporters to become competitive in the world market. However, the Sesame marketing has been constrained by diverse factors: shortage of modern inputs, shortage of capital, lack of timely and accurate market information, and poor quality of packing materials were few of the inherent problems. Besides, the lengthy export procedures, and corruption practices by some institutions are the main and challenging problems for the majority of traders.

There for, although a number of problems related to sesame seed export performance are studied in different researches, there are research gaps that must be fulfilled to provide trends, opportunities, and challenges on the existing sesame seed export market in Tigray region. This study was planned to be conducted with the intent of assessing the trends, opportunities and challenges of sesame seed exporting market in Tigray region, northern parts of Ethiopia.

1.3. Research Questions

The study is going to be guided by the following research questions:

1. What is the trend of sesame seed export market in Tigray?
2. What are the opportunities and future prospects of Tigray sesame export marketing?
3. What challenges do exist on sesame seed export market in Tigray ?

1.4. Research Objective

1.4.1. General objective

The overall aim of the study is to "Analyze trends, Opportunities, and challenges of Tigray Sesame export market in the case of Tahtay-Adiyabo wereda, Tigray region, Northern Ethiopia

1.4.2. Specific Objectives

1) To analyze the trends of Sesame seed export market in Tigray,
2) To identify the opportunities, and future prospects of Tigray sesame export marketing
3) To analyze challenges of sesame seed export market in Tigray under varying situational dynamics.

1.5. Significance of the Study

This study is significant to a wide range of stakeholders involved in the sesame export market in Tigray, particularly in Tahtay-Adiyabo district. The findings provide practical, analytical, and policy-oriented insights that will support improved decision-making and strategic planning.

Regional and District Government Offices (BoANR, WoES, Cooperative Agency)

- The study helps government institutions identify bottlenecks in production, marketing, and export logistics.
- It provides evidence for designing recovery strategies in the post-war period, especially in rebuilding infrastructure, storage facilities, and market centers.
- Policymakers can use the results to formulate targeted interventions, such as financial support schemes, market regulation, or exporter incentives.
- The research offers reliable data to evaluate whether the region is utilizing its potential in sesame production and export.

Sesame Exporters

- Exporters gain insight into market trends, seasonal price patterns, and factors affecting export competitiveness.

- The findings help exporters enhance marketing strategies, storage decisions, and negotiation capacity with foreign buyers.
- Understanding infrastructure and coordination challenges allows exporters to better plan logistics and reduce transaction costs.

Local Collectors (Traders)

- The study clarifies how seasonal surplus, shortage, transport gaps, and market timing affect local traders' profits.
- Traders can use the results to improve **buying, storing, and selling decisions** based on identified peak and off-peak periods.
- It highlights challenges—such as lack of capital, market information gaps, and post-war disruptions—helping traders advocate for support from financial and governmental institutions.

Cooperative Unions (e.g., Tekeze Union)

- Cooperatives benefit by understanding how to strengthen linkages between farmers and exporters.
- The study provides evidence to improve **aggregation, quality control, and bargaining power** in the export chain.
- It supports unions in designing services such as credit access, storage facilities, transportation pooling, and market information systems.

Smallholder Farmers

- Although farmers are not direct respondents, they indirectly benefit from improved market coordination, price stability, and reduced exploitation by intermediaries.
- Findings help reveal how infrastructure, market distortions, and post-harvest handling affect farm-gate prices and market access.

Policy Makers and Development Partners

- The study contributes empirical evidence for designing **post-conflict recovery programs**, agricultural development strategies, and export-promotion policies.
- NGOs and development agencies can use the findings to support interventions on roads, warehouses, financing, and market linkages.

Future Researchers

- It provides a useful reference, dataset, and conceptual framework for future studies on oilseed markets, export chains, conflict-affected agricultural systems, and regional economic recovery.
- It identifies knowledge gaps that future research can address—such as quality improvement, contract performance, digital market information systems, and value addition.

1.6. Scope and Limitations of the Study

1.6.1. Scope of the study

The study conceptually focused on the institutional and financial factors affecting sesame export performance in Tigray, Ethiopia. Key concepts include institutional coordination, access to finance, market linkages, and export competitiveness. Topics such as agronomic production practices or global price determinants are excluded.

The study used a mixed-method approach involving surveys of sesame local traders and exporters, key informant interviews with relevant institutions, and document review. Analysis relies on descriptive statistics and thematic interpretation. The study is geographically limited to Tahtay Adiyabo district in Tigray region and does not include comparative analysis with other regions.

The analysis covers the period from 2019/2020 to 2024/2025, capturing the years in which sesame export performance showed notable decline. Data outside this period were used only when necessary to explain long-term trends.

1.6.2. Limitations of the Study

The study faced several limitations. First, because the research was geographically restricted to Tahtay-Adiyabo district, obtaining a fully representative of all actors involved in the sesame export value chain was challenging. Second, although the study focused on local collectors,and exporters, other relevant actors who may influence the sesame export trends—

such as transporters, brokers, storage service providers, processors, and financial institutions—were not included, limiting the breadth of analysis. Third, since the research adopted a **cross-sectional design** and data were collected at a single point in time, it was not possible to capture seasonal variations or changes over time, which may affect the interpretation of trends and market dynamics. Finally, managing multiple data collection tasks simultaneously posed practical constraints that may have affected the depth of inquiry.

1.9. Organization of the Research Report

The report will organize into five chapters. The first chapter provides background, objectives, and organization of the report and limitation of the study. The second Chapter describes Review of related literatures; Theoretical, Empirical and Conceptual reviews. Chapter three describes methodology on data collection and data analysis. Chapter four focused on results and discussions and chapter five, summary, conclusions, and recommendations based on the research findings.

2. CHAPTER II: REVIEW OF RELATED LITERATURE

2.1. Introduction

This chapter will present literatures related to trends, opportunities and challenges of sesame export market in different areas of the globe. It will also cover the marketing channels and market arrangement for agricultural sesame crop in the study area. The literature review will serves as a benchmark to interpret the results obtained from the survey, focus group discussion and in-depth interview .The academic journal articles will be the dominant source of the literature review. This study will provide a synthesis on sesame exporting through an examination of the effectiveness of their marketing system and the constraints currently being experienced by marketers (exporters) across the study area.

2.2. Definition of Key Concepts

International trade: Refers to the exchange of goods or services conducted through imports or exports between at least two different countries.

Exports: Are goods and services manufactured or provided by businesses in one country and sold or traded in another.

Opportunities: Is a time or set of circumstances that make it possible to export sesame seed

Challenges: Something that needs great mental and/or physical effort in order to be done sesame seed export successfully

Trend: Is a noticeable patterns or direction of change in the business environment, impacting various aspects like consumer behavior, technology, or industry dynamics

Sesame seeds: are tiny, oil-rich seeds that grow in pods on the Sesamum indicum plant.

Wereda: An administrative hierarchy at district level including many kebelles

Kebelle: An administrative hierarchy at sub-district level.

Market Center: Is a designated place where sesame seed is branded and received permission to be exported

2.3. Theoretical Review

In a globalized world, international trade has become an instrument of economic diplomacy through the process of Direct Foreign Investment and enhancement of power dynamics. The trade war between the US and China reveals the strategic nature of trade as a tool of power and influence in the global arena. This explains and justifies the existence of The General Agreement on Tariffs and Trade (GATT) from 1947 to 1995 when it was replaced by the World Trade Organization (WTO) which is currently headed by Nigeria's Ngozi OkonjoIweala. Essentially, the GATT and by extension, the WTO serves as legal agreement between many countries whose overall purpose was/is to promote international trade by eliminating or reducing trade barriers such as tariffs and quotas (Wikipedia, 2021). Trade between countries has domestic origins. It starts with what is to be produced, how it should be produced, at what cost, for whom, in terms of the end users or consumers and the price regime (Chike A., etal,2025).

International trade theory has developed from the original classical trade theory to the current NN trade theory, and it is not difficult to find the trend of trade diversification. This paper focuses on the relative dualistic elements of openness and protection, and studies the important role of policy orientation in promoting economic development in the open economic form. The theory of international trade is always following the new situation of international trade, especially with the rapid development of productivity. However, history has proved that in most cases, international trade changes quietly before the theory changes. The international trade environment nowadays is particularly complex, the monopoly of developed countries accounted for most of the profits of most industries in the world, and many of the new industrial countries are in the process of industrialization of trying to get rid of the middle-income trap, the fragility of international trade is beyond imagination, but also the vitality of international trade has been a steady stream. Some protectionism is meant to make world trade fairer when industry is well developed, rather than being held down unilaterally by strong productivity. Therefore, all countries should stick to the open trade policy and encourage a certain degree of freedom of trade protection(Chen,2022).

Today's international trade landscape is increasingly regional, with the EU, NAFTA, ASEAN, RCEP and various other regional trade agreements or cosmopolitan organizations (Lu, 2021; Cai, 2003). Geopolitics will continue to play a dominant role in economic

development until energy shortages are completely resolved or transportation energy consumption is drastically reduced (Yang, Shi, & Du, 2021; Lu & Du, 2013), on this basis, the close ties between regional economies will lead to regional blockade and trade discrimination has been repeated (Zhang, 2007), developed countries use antidumping to prevent labor-intensive products from destroying their industries system, and developing countries use tariffs to protect vulnerable manufacture industries (Wang et al., 2014; Yu et al., 2018). However, as developing countries use their competitive advantages and accumulate capital to narrow the industrial gap with developed countries (Liu, 2007), there is reason to believe that free and equal trade can be achieved, to alleviate the unfair economic phenomenon in international trade (Udo, Alexander, & Vivekananda, 2019).

International trade theories can be divided into three periods namely classical, neoclassical and modern trade theories. Classical theories recommend that countries can win economically if they all implement free trade. The most known classic theories are the absolute advantage theory developed by Adam Smith and the comparative advantage theory of David Ricardo. Neoclassical theories suggest that countries can gain through free trade by producing goods in which they specialize but with efficient use of resources. The most know Neo-classical theory is the Hecksher- Ohlin Trade Theory. Modern theories support the comparative advantage theory by identifying economies of scale as an important source of economic growth (Usman, 2011 as cited in Bashir & Natacha,2021).

Before Adam Smith, there was a mercantilism theory developed in the sixteenth century. According to this theory, the country's wealth is determined by promoting exports and discouraging imports. This theory did not favour free trade and the world wealth was fixed because countries could not simultaneously benefit from trade (Berkum & Beijl, 1998).

The methodology of this study is grounded in the philosophical and theoretical traditions of pragmatism, descriptive research theory, value chain theory, and institutional economics. Pragmatism provides the philosophical foundation for adopting a mixed-method approach, allowing the researcher to integrate quantitative data on trends with qualitative insights from key actors in the sesame export chain. Descriptive research theory supports the use of a cross-sectional design, as the study aims to document and describe existing post-war market conditions at a single point in time without manipulating variables.

Value chain theory provides the conceptual basis for selecting respondents from different levels of the sesame export system—collectors, exporters, cooperative unions, market centers, and government offices—because market performance is shaped by interactions among multiple actors. Institutional economics further guides the assessment of opportunities and challenges, since export markets are influenced by infrastructure, institutions, coordination mechanisms, and transaction costs. Finally, the study uses a census sampling technique justified by finite population theory, given that the total number of active sesame market actors in the study area is very small. Together, these theories provide the methodological scope and justify the research approach used in this study.

2.4. Empirical review

FAOSTAT(2019) stated that globally, a total of 2,211,339 tons of sesame grain was traded with a monetary value of 3.4 trillion USD in 2019 of which, Sub-Saharan African countries exported about 1,465,493 tons of unprocessed sesame with a cash value of 1.9 trillion USD ; Ethiopia's sesame export share was 8.96% of global exports, valuing 307 million USD. In terms of global total sesame production, Ethiopia ranked ninth in 2019 with an annual production of 262,654 tons, after Sudan (1,210,000 tons), Myanmar (744,498 tons), India (689,310 tons), Tanzania (680,000 tons), Nigeria (480,000 tons), China (469,104 tons) and China Mainland (467,000 tons).

The top 10 sesame producing countries are Sudan, India, Myanmar, Tanzania, Nigeria, South Sudan, Burkina Faso, Chad, Ethiopia, and Mozambique contribute around 80% of the total global production. Ethiopia makes around 2.64% of the global sesame production (FAOSTAT, 2020). FAO's data show that the global sesame production level is increasing at an increasing rate. Although large-scale private investors are increasingly entering into sesame production, sesame cultivation is considered a smallholder activity in Ethiopia (Kostka & Scharrer, 2011). The crop is one of the major and strategic crops for the Ethiopian government (GTP II, 2016). It contributes about 2.32% (about 29500 tons) of grain production with a total production of 20,200 tons in the 2018/2019 production season. Production and marketing of sesame is concentrated in some parts of the country. The main sesame growing areas are the lowlands of Amhara and Tigray regional states in northwest of the country. This area alone constitutes more than 80% of the country's total sesame area and production (CSA, 2020) (Girma etal.,2022).

Globally, sesame is produced over an area of 8.8mha and annual production around 2.8mt with average productivity of 382kg/ha; whereas, in Africa, average productivity ranges from 300 to 500kg/ha in pure stand; but under good management it reaches as high as 3000kg/ha [1]. In Africa, Sudan is the major sesame(1).

Different researchers such as Kafando, Chia, Ching and Shih (2020) used Vector Error Correction Approach to study Factors Affecting Sesame Seed Exports in Burkina Faso by using time series data for the period of 47 years (1970-2016) the researchers found that in the short-run nominal exchange rate, producer price, world export volume of sesame seed as a

proxy of world demand, and world price are key factors affecting significantly the country's exports performance. Moreover, in the long-run nominal exchange rate, production, producer price, and world export price are factors determining significantly export earnings of sesame seed in Burkina Faso.

According to ESS(2004), the area sown to sesame has increased by over 300%, from under 100 thousand hectares in the 2003/04 (2003) to nearly 370 thousand hectares in 2020/21 (2020).2,3 Annual growth in acreage averaged at 11% during this 18-year period. Cultivated area ranged between 250 and 400 thousand hectares in most of the years while the maximum area was observed in 2014. The ESS data does not corroborate the observations made by our sesame stakeholders' workshop participants that sesame area is declining in recent years. Indeed, the data reveal that recent cultivated land figures are among the highest. For instance, the average annual sesame acreage over the last five years (2016-2020) was among the highest observed than in any other five-year period. Sesame is also important relative to other crops.

In the international trade, three varieties of sesame seed are well known as trade names: Humera, Gondar and Wollega. The three main export varieties have their own characteristics such as color, oil content, and taste. The Humera variety is appreciated worldwide for its aroma and sweet taste. It has good uniform white seeds, which are quite large. This makes it very suitable for bakery products. The Gondar type is also suitable for the bakery market. For this market a high level of seed purity is demanded, which has sometimes proven to be problematic for Ethiopia. The major competitive advantage of the Wollega type is its high oil content. Type and quality are very important factors in the world sesame market(ECEA,2009).

According to GAIN(2021) report, Ethiopia's oilseed sector plays an important role in generating foreign exchange earnings and supporting the livelihoods of market actors across the value chain. Oilseed crops are the third largest foreign exchange earners, next to coffee and cut flowers, and the oilseeds of sesame, soybean, and Niger seed contribute to nearly 17 percent of Ethiopia's agricultural exports. In the 2019/20 marketing year (October to September), exports of sesame, Niger seed, and soybeans generated $376 million in foreign exchange earnings. A survey report of Central Statistics Agency (CSA) shows close to 1.4 million farmers produce oilseed crops in the country.

In the western and north western parts of Tigray region (Humera, Welkayit and Tahtay Adyabo), Amhara (Wollo and Metema), Benshangul and Gambella, farmers produce sesame as a major cash crop. In Ethiopia, sesame occupied 0.62% (about 73,687.7 hectares) of the total area covered by grain crops and1.61% (about 3,277,409.22 Qt) of total grains produced during 2010/11(CSA, 2011) . The total area cultivated, production (which is 5.87% of the total World production) and productivity (which is 140.12% higher than the world record 5.176Qt/ha) in Ethiopia during 2012 was 337,505 ha,44783 tons and 7.253 Qt/ha respectively(FAOSTAT,2013 as cited in Abadi,2018).

Table2 1. Sesame production by region in Ethiopia 2014/15

Region	Area(ha)	Production	Productivity(ton/ha)
Tigray	120,855.45	85,045.133	0.704
Amhara	169,988.58	112,209.218	0.66
Oromia	82,018.04	60,276.539	0.735
Benshangul-Gumuz	40,722.60	27,809.345	0.68
SNNP	6,365.70	3,165.097	0.497

Source: Sesame Production, Challenges and Opportunities in Ethiopia(Abadi,2018)

According to Ethiopia Oilseeds annual report(2021), Ethiopia is one of the key players in the global market for sesame seed and remains a major exporter. However, annual export volume has been falling at cumulative average growth rate (CAGR) of 8.1 percent over the past decade. Industry experts mention that international price volatility, currency fluctuations, excessive speculations, distortion of local market price, illicit trade, and squeezed productivity levels are the main reasons for the deteriorating export trade performance during the previous years. The distortion of local market price was particularly evident from the significant price disparity between export prices and local trading prices at ECX. Local prices were considerably above international market prices over the past several years, and it has been common among some Ethiopian exporters to sell oilseeds and other agricultural export commodities at a loss margins and then to compensate by importing other products that may be sold locally with a higher profit margin.

Local price distortions have been tempered since the implementation of a directive by the Ministry of Trade and Industry (MOTI) that enforces registration and execution of export

contracts. During MY 2018/19, monthly average price of sesame seed at the ECX market was higher than export prices by $176 per MT. After the directive came into effect, local price distortions reversed and prices stabilized. In MY 2019/20, the monthly average export prices soared above local prices by $210 per metric ton. This positive price pattern was repeated in MY 2020/21 when monthly average export prices (October 2020 to February 2021) exceeded local prices by $115 per MT(GAIN,2021).

GAIN(2021) indicates that, an average export price of sesame seed in February 2021 was $1,490 per MT, whereas trading price at ECX market was $1,334 per MT. In February 2021, monthly average price of Whitish Humera/Gondar sesame seed on the ECX trading floor stood at $1,371 per MT compared to $1,324 per MT in February 2020. Prices of Whitish Humera/Gondar sesame contracts in February 2021 showed an increase of $47 per MT (4 percent) over the same period last year. The Whitish Humera/Gondar sesame seed contracts serves as reference price for international markets. Similarly, the local trading price for Whitish Wellega type sesame seed at the ECX increased by 6 percent when prices soared to $1,308 from $1,237 per MT during same period. Conversely, the season's average export price and local trading price of sesame during MY 2020/21(Oct-Feb) was down by 6.5 and 2.3 percent, respectively, compared to the previous season.

Table2 2. Annual Trends of Ethiopia's Sesame seed Exports, MY 2010-2021(October-September)

Marketing Year	Volume (MT)	Value (in thousands USD)	Volume Change (Year-to-Year)	
			Absolute	Percentage
2010/11	317,071	230,332	-	-
2011/12	406,741	307,911	89,670	28.3
2012/13	238,549	428,820	(168,192)	-41.4
2013/14	264,060	608,371	25,511	10.7
2014/15	318,195	509,505	54,135	20.5
2015/16	414,777	447,753	96,582	30.4
2016/17	279,347	307,918	(135,430)	-32.7
2017/18	275,021	367,072	(4,326)	-1.5
2018/19	215,190	347,252	(59,831)	-21.8
2019/20	213,905	320,197	(1,285)	-0.6
2020/21*	213,000	-	(905)	-0.4

Sources: Trade Data Monitor and FAS Addis Ababa

Notes: Export volume for 2020/21 is an estimated figure.

2.5. Conceptual Framework

The Humera type is valued worldwide for its aroma and sweet taste; it has good uniform white seeds, which are relatively larger in seed size which makes it very suitable for bakery products. According to Ethiopian Sesame seed Industry opportunity and challenges, (2016), the ample availability of manpower, land and best developed marketing value chain and practice, gives competitive advantage to Ethiopia which led the country to produce and export substantial volumes of sesame seed in the past 10 years this results establishing demand for sesame from Ethiopia.

FAO's published a report as sesame seed is currently imported by more than 100 countries worldwide and there are at least 10 countries that import 10,000 tons or more 19 annually. The global sesame market has grown in both value and volume. Between 2010 and 2016 the recorded growth rate in the world market was 32%.similarly during this five year periods exports of Ethiopian sesame seed grew by 52% in volume from 238,000 ton in 2010 to 40,000 ton in 2016. The average value of Ethiopian sesame seed per ton rose from USD 645 to a high of USD 1, 104 per ton in 2016.

Boere (2015A) explained that Sesame seed can be highly affected by drought, diseases and pests. The selling price volatility (Abera,2009), the local and international sesame prices, which are closely linked to one another, are trending downward because of increased global production levels and softening demand in China (GAIN,2016). Poor infrastructure, poor access to transportation, lack of accurate information and market channels and predominantly political instability are some of the critical challenging aspect of sesame trade in the global market.

There are many factors that are influencing trends, opportunities and challenges of sesame export. Land suitability, demand for sesame seed globally, the organic nature of Ethiopia sesame, proximity to the Middle East markets and promising policy of the country are some of the opportunities for sesame seed export. However; exporting for sesame seed do face challenges with drought, pests and diseases, poor infrastructure(ware house, road, market center) ,market inflation(price volatility) in the international market , lack of accurate market information & marketing channel, lack of capital and political instability critically affects

the trends of export market. The opportunities and challenges were expected either positively or negatively affect the trends for sesame see export in Tigray. The choice of this framework is because it is strongly information based approach, which is good for problem identification & using that as an input for mapping against the impact indicators. The questionnaire will derive from this framework.

The conceptual framework of this study illustrates how trends, opportunities, and challenges interact to influence sesame seed export performance in Tigray. Trends provide insights into historical and current patterns in sesame seed collection and export markets. Opportunities, such as favorable agro-ecology, rising global demand, and organic nature of sesame, can enhance production and market access. Conversely, challenges such as limited finance, weak institutional coordination, and lack of advanced infrastructure constrain export performance. By linking these factors, the framework guides data collection and analysis to understand the determinants of sesame export efficiency and propose interventions for improvement.

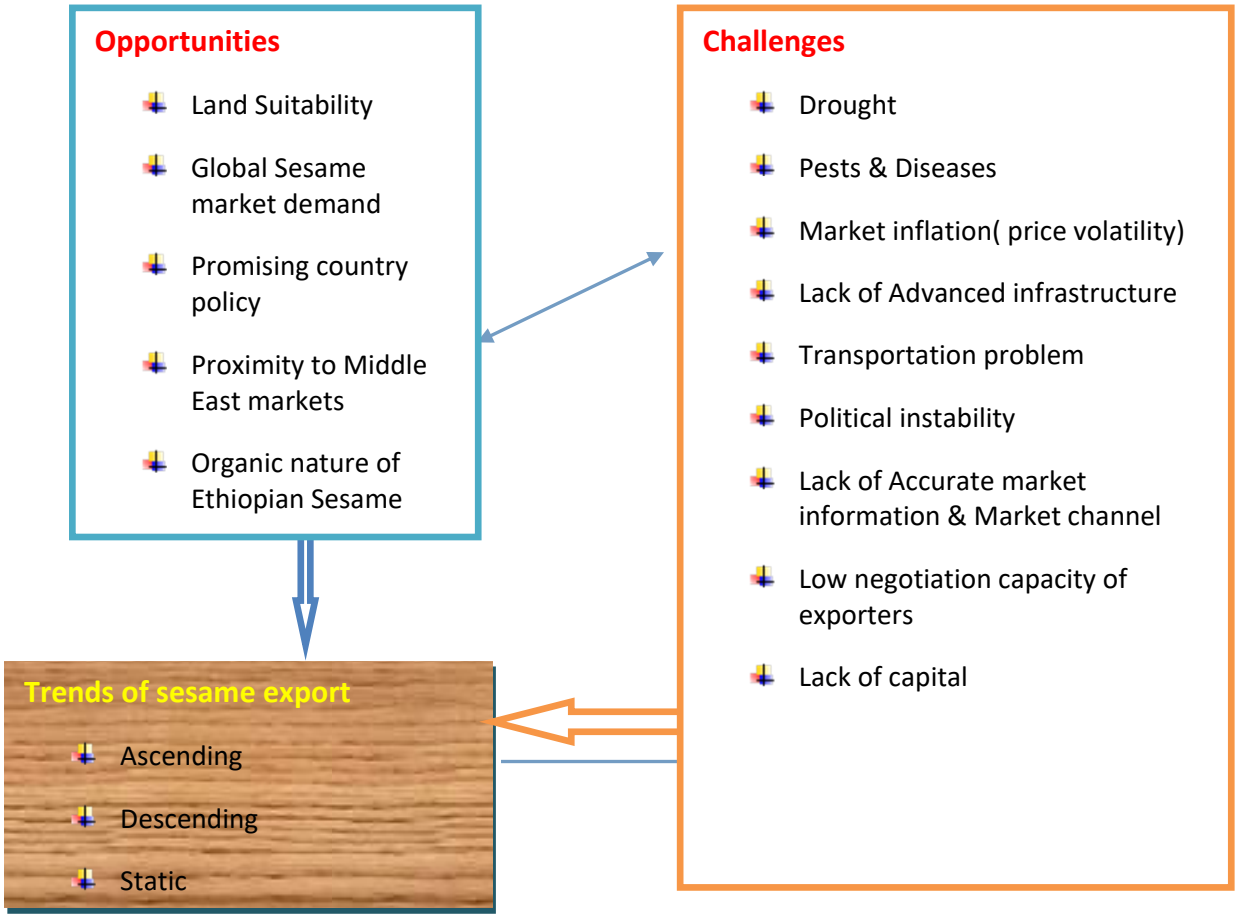

Figure2 1. Conceptual frame work for Opportunities & challenges that affect trends of sesame seed export

3. CHAPTER III: RESEARCH METHODS

3.1. Introduction

This study was conducted in Tahtay-Adiyabo district, Tigray Region State, Ethiopia. Based on the population projection 2020made by Bureau of Plan and Finance [BoPF, 2012], Tigray Region has a population of 6,005,556 of whom 2,958,221 are men and 3,047,335 women; urban inhabitants1,295,808 (21.58 %) and rural inhabitants 4,709,748 (78.42 %) of the population.

3.2 .Description of the study Area

Tigray region, situated between 12^0 15' and $14^0$57'N latitude 36^0 27'E and 39^0 59'E longitude, is in the northern part of Ethiopia. The language mainly spoken in the region is Tigrigna. Mekelle is the capital city of the region. It covers an approximate surface area of 54,593km^2. Altitude varies from about 500 meters above sea level (m.a.s.l) in the northeast to almost 4000 m.a.s.l in the southeast. According to the agro climatic classification of the area, about 53% of the land is below 1500 m.a.s.l. and is classified as lowland (kola), 39% situated at 1500-2300 m.a.s.l. and known as medium altitude (weinadega) and 8% is over 2300 m.a.s.l. and is classified as highland (dega) (Beyene, Gibbon, & Haile, 2005, p. 64, as cited in Bihon,2015,p.75).

North western Zones of Tigray region comprises 241,210 ha cultivable land has eleven rural and four town districts locally known as wereda. These rural districts are: Laelay - tselemti,Tahtay-tselemti, Tsimbila, Asgede, Tahtay-Adiyabo, Maekel-Adiyabo, Seyemti-Adyabo, Adi-daero semi-urban administrative, Tahtay-koraro, Laelay-koraro, & Zana and the town districts are Sheraro, May-tsebri, Shire and Endaba-guna. Purposively, one district, namely, Tahtay-Adyabo was selected.

Tahtay-Adiyabo district, located in the north-western lowlands of Tigray at about 1,152 km north of Addis Ababa and at about 375 km north west of Mekelle, the regional capital, is

among the major sesame-producing areas in Ethiopia. The district lies at an altitude range of 900-1,040 m.a.s.l. It is characterized by arid climatic condition with average annual temperature of 30°C and average annual rainfall of 500 mm, which ranges from 250 mm to 750 m.m. According tothe current administrative data of the woreda,the district has22,894 households (Male 13,629 , Female 9,265) and total population of 97,064 (Male 49,610 and Female 47,454).The total area of the district is 202,102.65ha. From this the cultivable land is 55,476.5 ha. The major crops grown are Sesame, sorghum and finger- millet. Livestock is also an important source of income to farmers. The district has 13 rural kebelles.

The district enjoys favorable agro-ecological conditions for sesame cultivation, including warm lowland climate and soils suited for oilseed production. Historically, the area has contributed significantly to the production of the globally demanded Humera-type white sesame. The thesis report shows that sesame production and marketable surplus had been increasing steadily through 2020, supported by the region's natural suitability and expanding cultivated area. However, production and export performance have declined in recent years due to conflict, weak institutional coordination, financial and infrastructural constraints, and disruptions in market systems. Despite these challenges, the study area maintains strong potential for sesame production and export competitiveness, making it an important focus for agricultural recovery and market development initiatives.

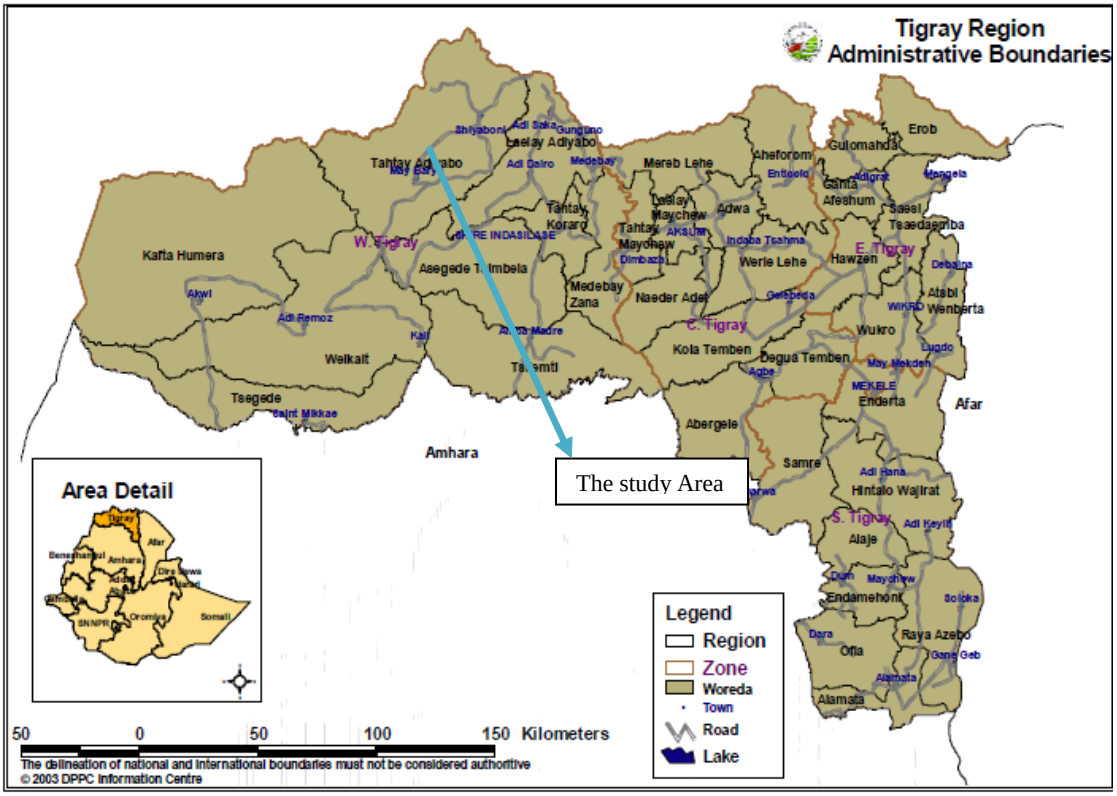

Figure 3. 1**. Map of the study area**

3.3. Research Approach and Design

A mixed research approach was employed in this study because the nature of the research questions required both quantitative evidence and qualitative explanations. The quantitative component captured trends in sesame production and export, while qualitative interviews provided insights into the challenges and opportunities faced by actors in the value chain. This approach is grounded in pragmatic philosophy, which supports using multiple methods to obtain a comprehensive understanding of complex socio-economic issues. A cross-sectional survey design was used because the study aimed to assess existing conditions at a single point in time. This design is time-efficient, suitable for the small and accessible population of sesame market actors, and appropriate for variables that are relatively stable in the short term. A longitudinal design was not adopted due to time and resource constraints, instability in the study area, and because the objectives did not require repeated observations over multiple years.

3.4. Data Type and Source

3.4.1. Data type

The study collected both **quantitative** and **qualitative** data to provide a comprehensive understanding of sesame seed production, marketing, and export in the study area.

Quantitative data are numerical and measurable, allowing statistical analysis. Continuous data included variables such as sesame collected per household (quintals), storage capacity (quintals), and income from sesame sales (ETB). Discrete data, which are countable, included the number of households participating in sesame export, the number of unions, and the frequency of extension visits. These data were used to assess potentials of sesame seed, export volume, and access to finance.

Qualitative data are descriptive and explain perceptions, behaviors, and experiences of stakeholders. Nominal data included sesame variety (white, black, brown), cooperative membership (member or non-member), and export destinations (Israel, Turkey, China, Japan). Ordinal data, which reflect a logical order but not exact intervals, included quality grading of sesame seeds (Grade A, B, C) and farmers' knowledge levels about export procedures (poor, fair, good, excellent). Narrative data from open-ended questions captured farmers' experiences with marketing challenges, institutional coordination, and recommendations for improving the sesame export system.

3.4.2 .Data source

The sources of data for the research were both primary and secondary sources. The primary data obtained from local traders, Tekeze union, exporters and Mekelle sesame seed market center; and Secondary data was obtained from different, journals and articles, institutions, annual performance reports, Data publications from Ethiopian Statistical Services (ESS), & related papers was used.

3.5 . Target Population and Selection of Respondents

The target populations of the study were sesame seed exporters, local traders (collectors), and Tekeze Union in which its export transaction was processed through Tahtay-Adyabo district. Tahtay-Adyabo woreda's data indicates that although there were many actors which were displaced from western zone of Tigray, during the study period, there were only 24 sesame seed market actors who actively engaged on sesame export marketing (02 sesame seeds exporter , 20 local traders(collectors) one temporary sesame seed market center and one Union)including those who engaged only once. Since the target population was small, the study used all the population as a sample(conducted census) therefore; the study has entertained all of the target groups by distributing 20 questionnaires. - Interviewees were selected from the sample by using convenience sampling method.

3.5.1. Selection Procedure

The study area was in need of research findings concerning the issue of sesame seed trends, opportunities and challenges on export market. In the selection of respondents, a multistage sampling technique were used; firstly, of the seven administrative zones of Tigray regional state, due to its potential to sesame seed production North western zone and Tahtay-Adyabo district has been selected purposively. For further investigation, temporary one sesame seed market center and two exporters stationed at Mekelle were part & parcel of the study. Despite the local traders and exporters are few in number and with the objective of getting quality data, census was conducted.

3.6 .Data Collection Methods and Procedures

3.6.1. Data Collection

As Creswell (2006) stated mixed methods model is attractive because a researcher is able to collect the two types of data simultaneously, during a single data collection phase. It provides a study with the advantages of both quantitative and qualitative data. In addition, by using the two different methods in this fashion, a researcher can gain perspectives from the different types of data or from different levels within the study.

A censes was conduct in Tahtay-Adyabo district(focused on respondents living in Sheraro town) ; one temporary sesame seed market center and two exporters found in Mekelle to collect primary information on the trends, opportunities, and challenges of sesame seed

export market, marketing and marketing channels. The study site, Tahtay-Adyabo district was purposefully selected in consultation with the concerned Offices and it was an instrumental for the selection of the major producer of sesame seed. The data collection was intended to generate the necessary information along the sesame seed export, marketing and marketing channels .The data collection, therefore, was required visiting different actors along the marketing channel. Accordingly, the primary data was collected from exporters, collectors (local traders), Mekelle sesame market center, and Tekeze union. The following sub-sections provided the tools used for data collection from the different sources.

Primary source

A survey was conducted in one purposively selected district in the Northwestern Zone of the Tigray Region. Training was provided to one data enumerator prior to the data collection process, and data were collected in June 2025. Primary data were gathered from respondents using a structured questionnaire. The questionnaire was pre-tested with a small group of respondents before the full-scale survey, and necessary modifications were made based on the pre-test results.

Based on the pre-test results, several revisions were made. These included clarifying ambiguous questions, correcting language issues, improving the logical flow of sections, adjusting response categories, and removing redundant items. Additional questions related to sesame production and market access were also incorporated to improve the instrument's validity.

Secondary source

Secondary source of information will collect from relevant documents of regional Bureau of Agriculture and Natural resource (BoANR), Woreda economic sector office (WoES), Federal and regional agricultural report documents, CSA, publications, and policy documents.

Focus group discussion

Besides the primary data collection from respondents, general information about the trends, opportunities and challenges for sesame seed export were assessed in the intensive focus group discussions using a detailed checklist prepared for this purpose. Focus Group Discussions (FGD) and key informant interviews made with leaders of woreda agriculture office,Tekeze union and bureau of agriculture& natural resource agricultural products marketing department, , key informants, and knowledgeable people include experienced sesame farmers, cooperative leaders, licensed exporters, extension workers, personnel who

possess extensive skills and technical understanding of sesame production, quality management, marketing, and export processes in the study area. The discussion was held with in addition to this primary data collection method stated so far, focus group discussion having nine group members was held with Local traders, Exporters, and Tekeze Union. Moreover, the data that was generated in collaboration with experts at various levels was supported by field observations.

3.7. Data Processing and Analysis

3.7.1. Data analysis

The researcher was used the Statistical Software Package for Social Sciences (SPSS-27) to compute all the data gathered from the questionnaire. The qualitative method of data analysis was employed for the analysis of data that were collected through personal interviews. The researcher was applied descriptive method for data analysis. The result was presented on frequency distribution table. After data were presented and analyzed, conclusion and recommendations was draw from the findings.

3.7.2. Validity and Reliability of the research

3.7.2.1. Research Validity

Even though a census involves collecting data from all local traders,tekeze union and exporters in the study area, ensuring the validity and reliability of the instruments is critical. Validity guarantees that the data accurately measure the intended variables, such as actual sesame production, quality, and marketing practices, preventing systematic errors that could distort findings. Reliability ensures that the data collection process is consistent and stable across enumerator and respondents, reducing random errors and enabling repeatable, trustworthy results. Together, validity and reliability enhance the accuracy, credibility, and usefulness of the census data, providing a sound basis for policy recommendations, export planning, and value chain analysis in Tigray's sesame sector.

Validity can be assessed using theoretical or empirical approaches. Theoretical assessment of validity focuses on how well the idea of a theoretical construct was translated in to or represented in an operational measure (Anol, 2012 as cited in Birtukan,2022). Internal validity was ensured by standardizing data collection procedures, controlling for confounding variables such as family size and access to finance, and pre-testing the questionnaire before

the full survey. External validity was addressed by selecting a district representative of sesame-producing areas in Northwestern Tigray and by including respondents with local traders capacity,and market access levels. However, findings may not fully generalize to regions with different agro-ecological conditions.

3.7.2.2. Research Reliability

Reliability is the degree to which an assessment tool produces stable and consistent results where validity refers to how well a test measures what it is purported to measure. In this study, the standardized questionnaire that was developed by Haish (2017) was used with some modification. To ensure the reliability of the data collection instruments, a pre-test was conducted on a small sample of respondents outside the study area. Test-retest procedures were also applied to a subset of respondents to verify stability of answers over time.

3.7.2.3. Ethical Considerations

This study was conducted in accordance with the ethical standards of a research. All participants, including local traders, exporters, and market center officials, were fully informed about the purpose and procedures of the research and participated voluntarily, with the option to withdraw at any time without consequences. Confidentiality and anonymity were strictly maintained, with data securely stored and reported in aggregate form to protect participants' identities. Care was taken to avoid any physical, social, or economic harm, and necessary permissions were obtained from relevant authorities. The research adhered to institutional and national ethical guidelines, ensuring integrity, transparency, and respect for all participants.

CHAPTER FOUR: RESULTS AND DISCUSSIONS

4.1. Introduction

This chapter deals with data presentation, interpretation and analysis of the study. Analysis is also made based upon the findings in relation with the literature reviewed. Analysis was made on trends, opportunities and challenges of sesame seed export by using statistical methods of analysis which include a descriptive statistics through SPSS version 27. To answer research questions and to meet the main objectives of the research 25 questionnaires were prepared and distributed to research respondents who are mainly involved in sesame seed export business. Twenty four of the questionnaires were collected with a response rate of 96%.

4.2. Socio-Demographic Characteristics of Respondents

The socio-demographic characteristics of sample farmers included the gender, age, educational level and family size of the respondents in the survey study.

The ages of the majority of the respondents were in the age range of 31 and 50 years (Table 4.1). The result of the study indicated that from the sampled sesame seed export market actors, 87.5 % were male headed households and the remaining 12.5 % were female headed households. The data also indicates that the majority of the respondents from the sample survey were in the category of active working age.

Table 4. 1. Age and Sex of respondents

Age of respondents	Sex of respondents			
	Male	Female	Total	%
18-30	1	0	1	4.2
31-50	14	3	17	70.8
51-60	6	0	6	25
Total	21	3	24	

Source: Survey result, 2025

To increase the productivity and efficiency of labor on sesame seed export market, it is believed that the educational background of the sampled household heads is an important factor that determines the readiness and better understanding to accept new technologies,

ideas, innovations and understand globally. Based on the categorization of educational level, the study revealed that 100% of the respondents were literate.

Table 4. 2. Numbers of Schooling years of respondents

Level of Schooling(Grade)	respondents	%
1-8	11	45.8
9-12	9	37.5
BA/BSC	2	8.3
MA/MSC	2	8.3
Total	24	100.00

Source: Survey result, 2020

From the literate sample household heads, 100% attended formal education, ranging from grade 1 to 8 (45.8%), ranging from grade 9 to 12(37.5%), BA/BSC holder (8.3%), and MA/MSC holder(8.3%).

The study from the sample house hold head indicated that 66.67% of the total respondents are married and 54.17%, 41.67%, and 4.17% of the total responded households have 5-6, 2-4, and 7-10 family size respectively. Due to the fact that the majority number of the family falls in the range of active labor, it is a good opportunity to optimize the sesame seed export market

4.2.1. Aggregator activities in the existing value chain practices

4.2.1.1. Market period

The data in figure 4.1 illustrates the seasonal pattern of sesame marketing activities over a 12-month period. The y-axis represents the percentage of marketing activity (%)**,** while the x-axis shows the months (Sep–Aug) — corresponding to the sesame activities calendar**.**

Peak Marketing Season (September):The marketing activity reaches its highest point in September**,** accounting for 87.5% of total market transactions. This suggests that the bulk of sesame sales occur immediately after harvest, when farmers bring their produce to market.

Declining Trend (October–January):The marketing activity drops sharply after September — to 43.75% in October **and** 12.5% in December/January**.** This indicates that as time passes from harvest, fewer farmers sell sesame, likely because the bulk has already been traded or stored.

Inactive Market Period (February–August):From February through August, the graph shows 0% marketing activity, meaning that sesame trading is minimal or nonexistent during these months. This period likely corresponds to the growing, harvesting, and post-harvest preparation stages rather than active marketing. In summary, the main marketing months were identified from September to January with its peak time in September(87.5%),and the off season was from February to August. There for, Sesame marketing is highly seasonal, concentrated immediately after harvest, with little to no trading during the rest of the year.

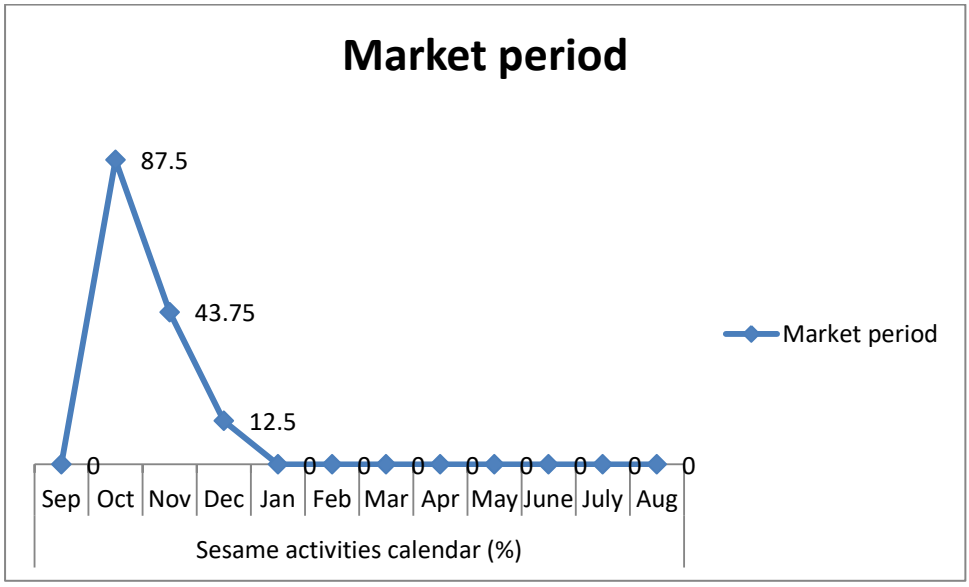

Figure4. 1. Sesame seed market period

4.2.1.2. Surplus of sesame seed period

The bar chart illustrates the seasonal availability of sesame surplus over the course of a year (from September to August). The y-axis shows the percentage of sesame surplus, while the x-axis represents the months of the year according to the sesame activities calendar. The study indicates that, **t**he sesame surplus begins to appear in November (around 55–60%)**,** indicating the start of post-harvest activities when sesame is collected, processed, and made available for sale. The highest surplus is recorded in December (about 93%)**,** followed closely by January (around 87%)**.**

This suggests that December and January are the peak months for sesame supply, corresponding to the main post-harvest marketing season when most of the sesame reaches the market. After January, the surplus gradually declines — falling to 55% in February**,** 30%

in March**,** and below 10% in April**.**

This reduction reflects the gradual depletion of stored sesame as farmers and traders sell off their remaining stock. From **May to October**, the surplus remains at **0%**, indicating there is **no significant sesame availability** in the market during these months. This period likely corresponds to land preparation, planting, and crop growth stages before the next harvest.

Table 4 3. Summary of the Surplus Pattern

Period	Activity Level	Interpretation
Nov – Apr	Active surplus period	Sesame is available in the market, especially after harvest.
Dec – Jan	Peak surplus	Maximum sesame supply; major trading months.
May – Oct	No surplus	Growing season; markets experience sesame shortage.

Source: Survey report

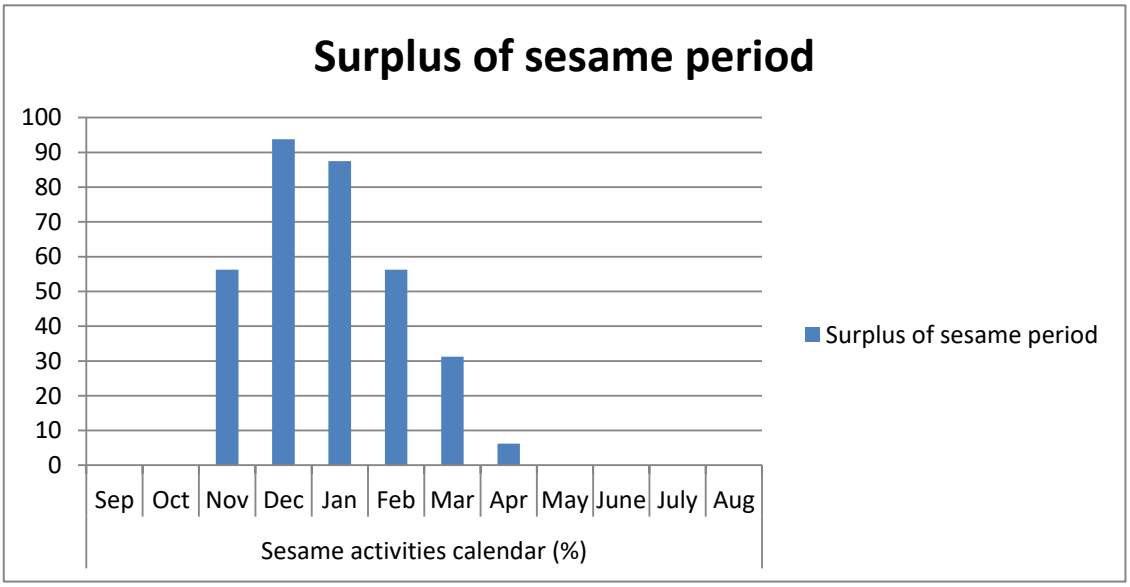

Figure4. 2. Surplus of sesame seed period

According to the study figure 4.2 demonstrates that sesame surplus is highly seasonal, with abundance between November and April**,** and a critical peak in December–January. This trend aligns with the sesame harvesting calendar in the region, where marketing and storage activities are most active immediately after harvest.

From May to October, there is virtually no surplus, emphasizing the dependence of sesame availability on the harvest cycle and post-harvest storage conditions.

4.2.1.3. Transport shortage period

Figure 4.3.illustrates the seasonal pattern of transportation shortages encountered during sesame seed marketing and movement from production areas to market or export centers across the year. The data are presented as a percentage distribution of the sesame activities calendar, showing months with varying levels of transport constraint.

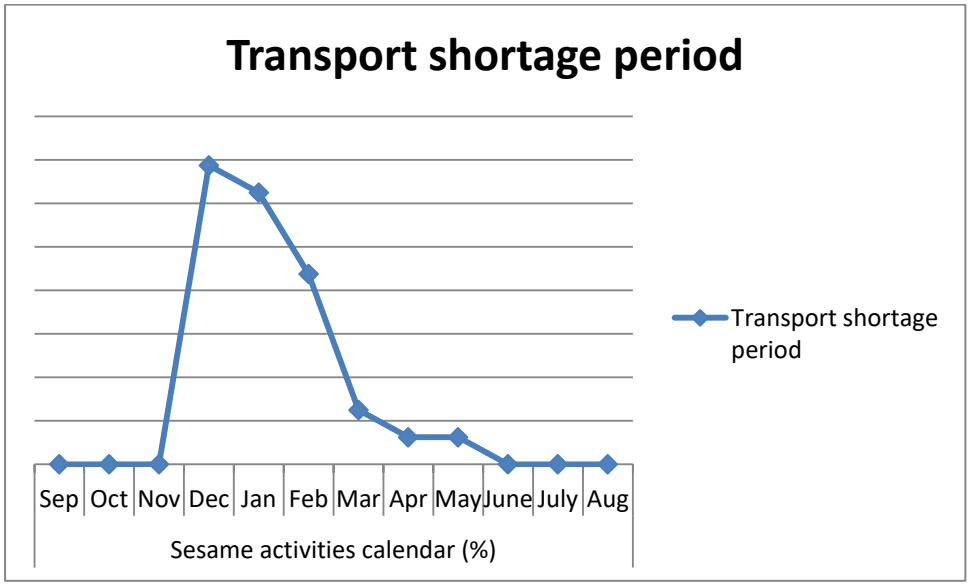

Figure4. 3. Shortage of transportation period

The diagram shows that transportation shortages reach their highest level in December, followed by a decline in January. This period coincides with the post-harvest and peak marketing season when sesame is moved in bulk from rural collection points to major markets and export centers such as Humera, Gondar, and Addis Ababa.

The shortage arises mainly due to: High demand for transport vehicles for both sesame and other crops; Limited availability of trucks caused by poor road conditions and increased fuel prices and insecurity in certain routes after the war. This period of shortage disrupts timely delivery, leading to storage delays and sometimes quality deterioration.

From February to March, the shortage of transport begins to gradually decline. This corresponds with the end of the main sesame marketing season when the bulk of produce has already reached traders and exporters. Although transport availability improves, costs may still remain relatively high due to residual demand from other agricultural commodities.

Between April and August, the diagram indicates minimal or no transport shortage. This is the off-season for sesame marketing, during which transportation activities decrease significantly. Vehicles become more available, and road conditions improve due to reduced market traffic.
During these months, sesame producers focus on land preparation and planting rather than marketing, thus reducing the need for transportation.

From September to November, there is little to no transport shortage. This period aligns with the harvest and early post-harvest phase, when only small quantities of sesame are being transported. However, as marketing activities increase toward December, the shortage quickly rises.

The seasonal trend clearly shows that transport shortage is a temporary but severe constraint, concentrated mainly between December and January. This seasonal bottleneck affects both the timeliness and cost of sesame marketing, impacting profitability and export scheduling.
Improving road infrastructure, ensuring fuel availability, and enhancing truck allocation systems during peak months would help mitigate this recurring challenge.

4.2.1.4. Shortage of sesame seed period

The horizontal bar chart illustrates the seasonal shortage of sesame across different months of the year. The y-axis represents the months (sesame activities calendar)**,** while the x-axis shows the percentage of shortage (%).

The study revealed that the shortage of sesame begins to appear gradually from January (around 10%)**,** increasing through March (about 30%)**.**This indicates that by early in the year, most of the sesame harvested and stored in previous months has already been sold or consumed, leading to declining availability. The diagram shows the highest shortage levels in May and June, reaching close to 100%.This suggests that during these months, sesame is virtually unavailable in the market.

It is the lean season, typically just before the new planting season, when stocks are fully depleted and farmers wait for the next harvest.
By **July**, the shortage slightly declines (around 15%), possibly due to early harvest preparations or small quantities entering local markets. From September to December, there

is no reported shortage (0%), corresponding to the harvest and immediate post-harvest period when sesame supply is abundant, as shown in the "Surplus of Sesame Period" diagram.

Table 4 4. Summary of the Shortage Pattern

Period	Shortage Level	Interpretation
Jan – Mar	Increasing shortage	Post-harvest stocks declining
May – June	Peak shortage (near 100%)	Critical lean period; very limited supply
July – Aug	Moderate shortage	Transition before new harvest
Sep – Dec	No shortage	Abundant sesame availability

The diagram (fig4.4) clearly shows that sesame shortage follows an inverse pattern to the surplus period.

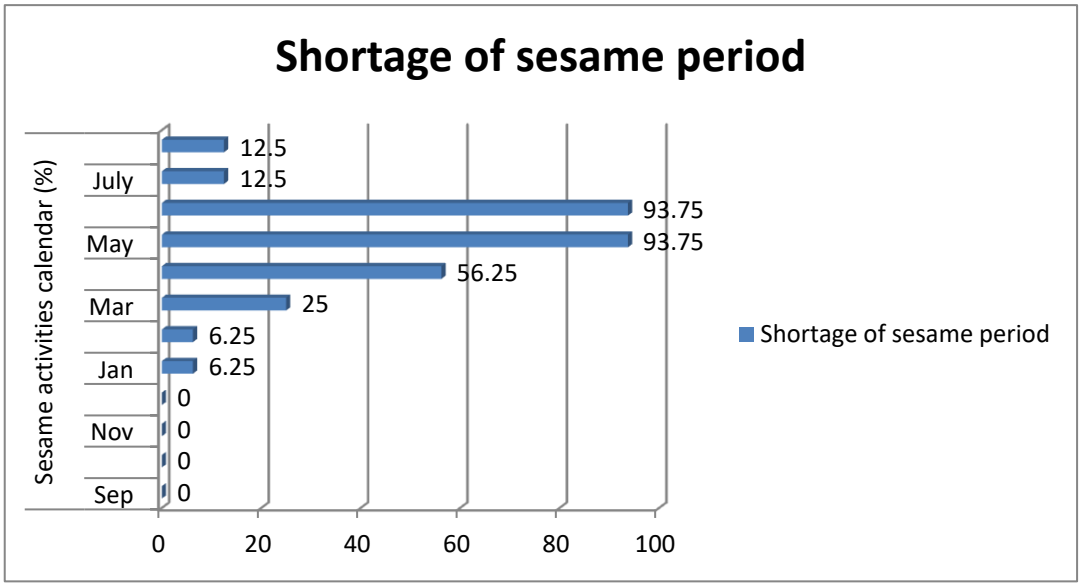

Figure4. 4. Shortage of Sesame seed period

The most critical shortage occurs between May and June, when sesame supply is exhausted and market availability is minimal. The absence of shortage from September to December indicates this is the main harvest and marketing period, with sufficient sesame supply. This cyclical pattern emphasizes the strong seasonality of sesame production and marketing**,** suggesting the need for improved storage facilities, price stabilization mechanisms, and alternative income sources for farmers during the lean months.

4.2.1.5. Price seasons for sesame seed export

According to the research findings, the high-price season begins around **October**, reaching its peak between **November and January**, when more than **90–100%** of sesame is stored. This period corresponds to post-harvest months when traders and exporters prefer to store sesame to take advantage of better market prices. The storage percentage remains high until around March**,** after which it gradually declines through April to July, dropping to zero by August**.** This pattern indicates that most sesame is stored during the harvest and early post-harvest months to benefit from favorable prices before supply diminishes and new demand arises.The medium price season overlaps partially with the high-price period, starting in October and maintaining around 90% storage through January**.** However, from February onwards, the volume stored under medium price conditions declines sharply — from 43.75% in February to less than 20% by March, and nearly zero by May–August.

This suggests that medium-priced sesame is sold gradually during the first half of the year**,** as traders release stock into the market to capture moderate price levels before the next harvest and the low-price season peaks early, showing a sharp rise to over 90% in October, followed by a quick decline to 62.5% in November, and drops to zero by December. This reflects that low-priced sesame is typically sold immediately after harvest, when market supply is abundant and prices are depressed. Few traders store sesame during this period due to limited profit potential.

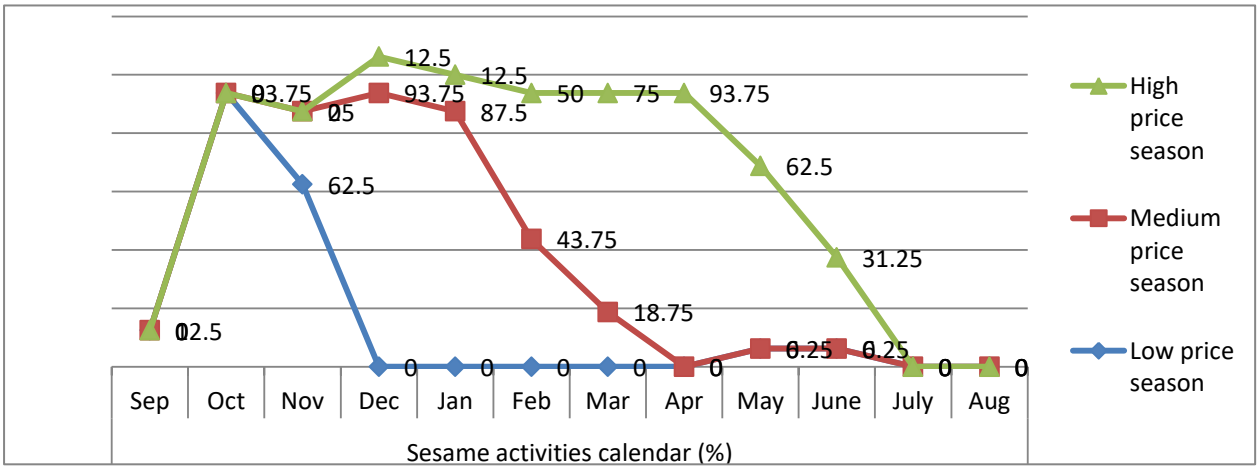

Figure4. 5. Price seasons for sesame seed export

The data from the research indicates that storage decisions are strongly influenced by expected price trends. Exporters and traders hold sesame for longer periods during high-price seasons to maximize income. Early selling (low-price period) is mostly practiced by farmers or small traders who lack storage capacity or financial means to wait for better market

conditions and The peak storage period (October–January) aligns with the post-harvest time, while declining storage (February–July) corresponds with gradual market release and export transactions.

In short the study shows that sesame storage behavior is seasonally dependent and price-sensitive**.** Stakeholders with sufficient storage facilities and capital tend to store their produce during high-price seasons, while those constrained by resources sell immediately after harvest during the low-price period. This highlights the importance of storage infrastructure and financial support for farmers and traders to benefit from favorable market conditions.

4.2.1.6. Financial arrangement period

The study indicates the months during which traders, exporters, and other actors in the sesame value chain secure or mobilize financial resources to facilitate purchasing, storage, and export operations. According to fig.4.6, the highest financial arrangement activity occurs in September, accounting for 93.75% of the total. This period directly precedes the sesame harvest and marketing season, suggesting that traders and exporters prioritize obtaining credit, loans, or working capital during this month to prepare for bulk purchases. Financial institutions and cooperative unions also intensify credit provision at this time to enable smooth trading operations.

A small proportion of financial preparation — 6.25% each — takes place in July and August, reflecting early efforts by well-capitalized traders or institutions to secure funds ahead of the main trading season. These early arrangements may involve renewing credit lines or negotiating new financial terms in anticipation of the September peak. The period from October through June shows no significant financial arrangement activities. This suggests that once the main funds are arranged at the start of the marketing cycle, few actors engage in new financing activities during the remaining months. Instead, the focus shifts to buying, storing, and marketing sesame, financed by the resources arranged earlier.

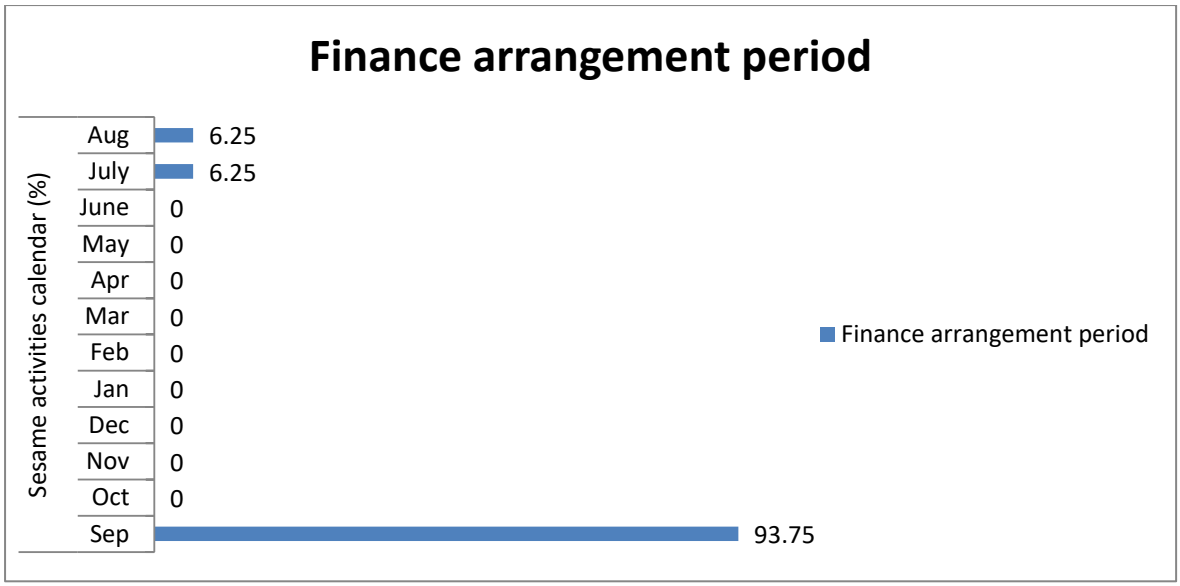

Figure4. 6. Financial Arrangement Period

The study shows the timing of finance arrangement is crucial for ensuring liquidity during the harvest and marketing months. The concentration of financing in September highlights the seasonal dependency of sesame trading on pre-harvest credit flows and the limited financial activity in other months suggests a lack of continuous financial support, which may constrain small traders or farmers who require off-season financing.

Overall, fig 4.6 illustrates that September is the dominant month for financial arrangements, marking the preparatory stage for the sesame trading season. Minimal financing activity in July and August serves as early preparation, while the absence of financial mobilization in other months indicates a highly seasonal pattern of financial engagement in the sesame market.

4.2.1.7. Sesame Seed Storage period

The research revealed the seasonal pattern of sesame seed storage across the annual sesame activity calendar. It shows how the proportion of stored sesame varies from **September to August**, reflecting the post-harvest and marketing behavior of producers, traders, and exporters. The highest storing activity occurs from October to January, with storage levels ranging from around 80% to 100%**.** This period corresponds to the immediate post-harvest season**,** when sesame is collected, cleaned, and stored in preparation for future sales. Farmers, traders, and cooperatives store sesame during these months to wait for favorable market prices and to prepare for export requirements. The peak in December indicates the optimal

time for storage, likely because market demand begins to rise while supply from new harvests remains abundant.

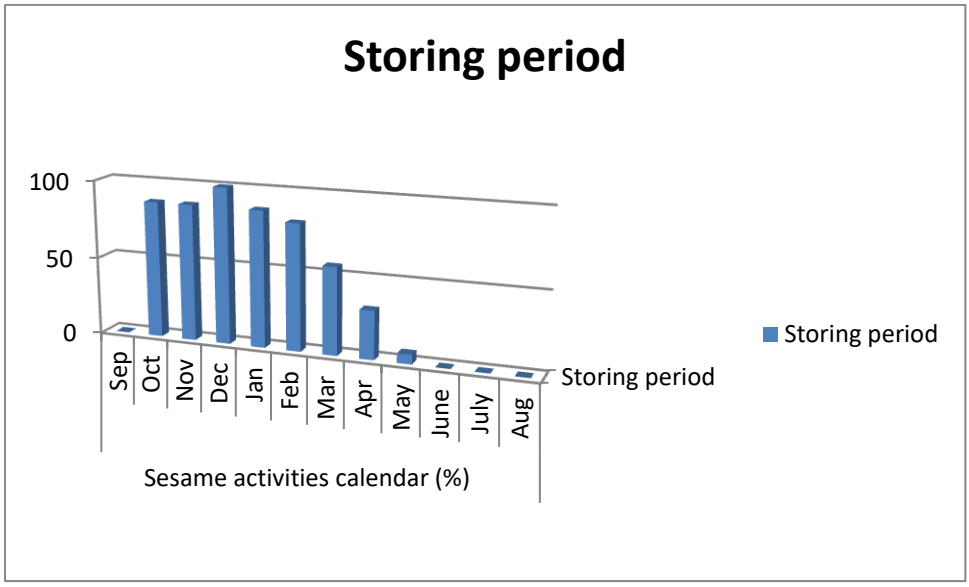

Figure4. 7. Sesame seed storage period

From February to April, storage levels gradually decline — dropping from approximately 70% in February to around 25% in April. This decrease suggests that traders start releasing their stored sesame to the market as prices improve or as export orders are fulfilled. The gradual reduction also reflects the limited capacity of small-scale farmers to maintain long-term storage due to financial pressures or lack of storage facilities.

Between May and August, the storing activity almost disappears, reaching **close to 0%**. This period coincides with the off-season, when most of the previously stored sesame has already been sold or exported. The low level of storage also reflects the depletion of old stock and the anticipation of the next production cycle, which typically begins around September.

According to the findings of the research, the storage for sesame seed is concentrated immediately after harvest**,** with most of the stock held between October and January; Market timing plays a key role: traders and exporters store sesame when prices are expected to rise later in the year; The sharp decline in storage after March implies that most actors sell their produce within six months of harvest, either due to cash flow needs or limited warehouse capacity; and Investments in improved storage infrastructure could help extend the storage period, enabling producers and traders to sell when market prices are higher.

Overall, the study indicates that the sesame storing period is highly seasonal and short-term, dominated by activity in the first half of the marketing year. The practice of storing sesame immediately after harvest helps maintain market supply and stabilize prices, but its short duration indicates a need for **better** financial and storage support to enhance the market advantage of producers and traders.

4.2.2. Local traders (collectors)

4.2.2.1. Suppliers for sesame seed

Table 4.5 shows the major sources of sesame supply for traders and exporters in the study area. The results indicate that **95% of respondents** identified **small-scale farmers** as their primary suppliers, while only **5%** reported sourcing sesame from **primary cooperatives**.

Table 4 5. Prime supplier for sesame seed

	Frequency	%
Small size farmers	19	95.0
Primary cooperatives	1	5.0
Total	20	100.0

This finding demonstrates that the sesame supply chain in the area is dominated by smallholder farmers**,** who play a crucial role in providing the bulk of the raw material for trade and export. The limited role of cooperatives suggests that their participation in sesame marketing remains weak, possibly due to lack of financial capacity, limited aggregation facilities, or weak organizational structure.

The heavy dependence on small-scale farmers also implies that the sesame market is highly fragmented**,** with traders collecting small volumes from many producers. This situation can lead to higher transaction costs, quality inconsistency, and inefficiencies in post-harvest handling. Strengthening primary cooperatives could therefore enhance collective marketing, improve bargaining power, and ensure better quality control and traceability within the sesame value chain.

4.2.2.2. Bases for deciding buying price

The research revealed the main bases used for setting sesame prices in the market. According to the findings, quality of sesame accounts for 50%**,** availability of sesame represents 30%**, and** demand for sesame contributes **20%** to the price determination process (fig4.8).

The data indicate that quality of sesame is the most influential factor in price setting. Exporters and traders primarily determine sesame prices based on its physical purity, seed color, oil content, and cleanliness, which are key attributes valued in international markets. High-quality sesame fetches premium prices, reflecting the competitiveness of Ethiopian sesame in the global market.

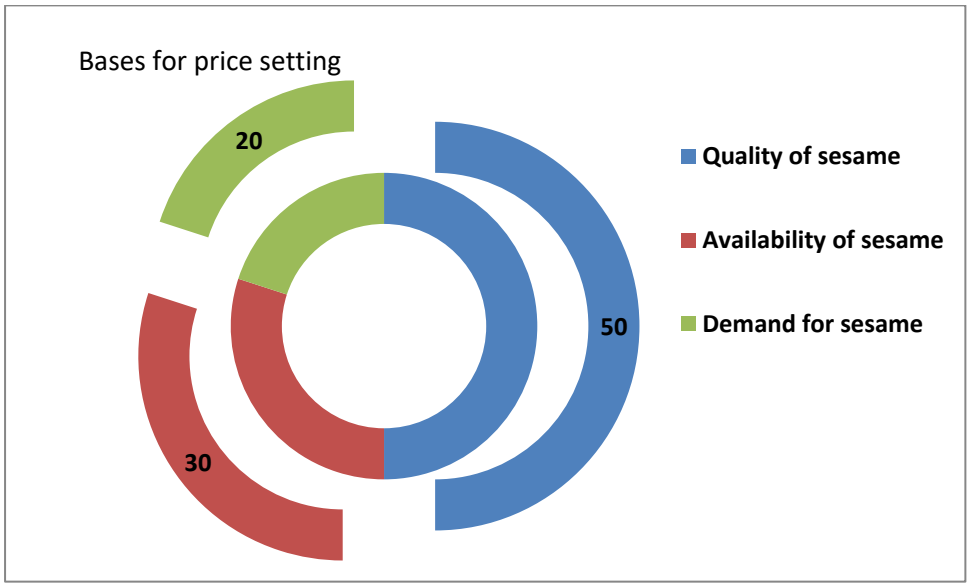

Figure4. 8. Main bases for price setting

The availability of sesame, accounting for **30%**, is the second major determinant. When sesame supply is limited due to production shortages, conflict, or unfavorable weather conditions, market prices tend to rise. Conversely, during high production seasons, prices may decline as a result of excess supply. This shows that price fluctuations are closely linked to production volume and supply chain stability.

The demand for sesame contributes 20% to price setting, showing that market demand—both domestic and international—has a relatively smaller yet noticeable effect. Global demand, especially from countries such as China, Israel, and Japan, can influence export prices. However, since demand is often stable or predictable over time, its effect on price is less direct compared to quality and availability.

The results suggest that sesame pricing is largely quality-driven, with supply-side factors playing a significant supporting role. This implies that to maximize profitability and competitiveness, traders and farmers should focus on maintaining high-quality standards through improved post-harvest handling, cleaning, and proper storage. Moreover, stabilizing production and supply chains can help minimize price volatility and ensure sustainable market returns.

4.2.2.3. Market deciders

The figure illustrates the major factors determining sesame market prices and trends. Two main determinants were identified: the Daily Ethiopian Commodity Exchange (ECX) market and the demand and supply situation at the primary market center**.**

According to the data, 90% of respondents stated that the Daily ECX market is the principal factor influencing sesame price decisions, while only 10% mentioned demand and supply at the primary market center as the deciding factor. In terms of frequency, 18 respondents supported the ECX market as the key price decider, compared to only 2 respondents who indicated that prices are determined by local demand and supply.

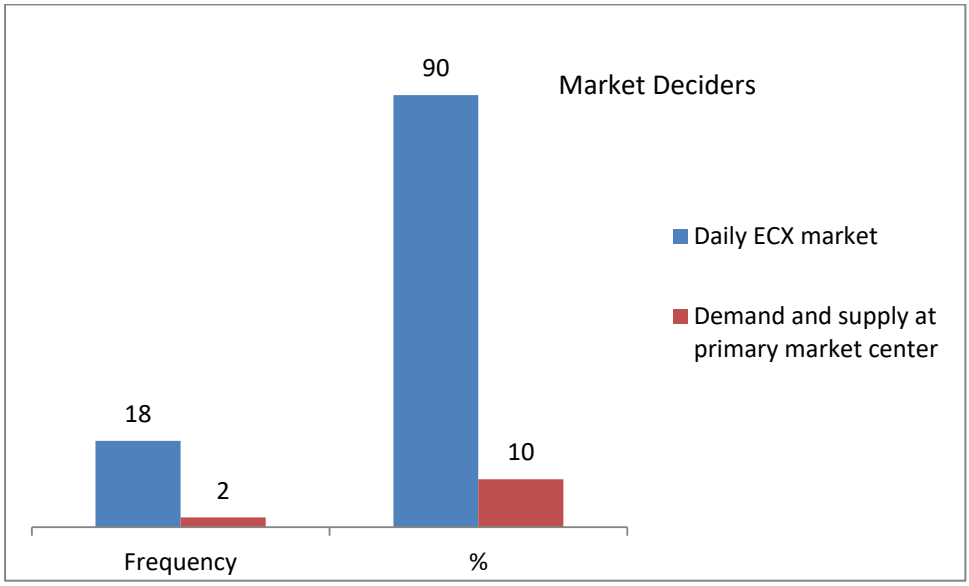

Figure4. 9. Key Market deciders

This finding implies that the sesame market is highly influenced by the centralized ECX **system**, which sets standardized prices based on daily trading activities, global market trends, and quality grades. The dominance of ECX indicates a **strong** institutional role in ensuring

price transparency and uniformity across trading centers. On the other hand, the limited influence of primary market centers shows that local market conditions have a relatively minor role in determining prices. This could be due to the fact that most sesame trading for export passes through the ECX, and thus, local price negotiations are often aligned with ECX benchmark prices rather than local supply-demand interactions.

The result reveals that the ECX market is the major market decider in sesame trading, reflecting a centralized and regulated price system. This structure benefits traders and exporters by providing clear market signals and reducing price uncertainty. However, it may also limit the flexibility of local producers and traders to negotiate prices based on immediate supply and demand conditions in primary markets. Therefore, strengthening the linkage between the ECX system and local markets could help ensure that prices better reflect both global and local realities.

4.2.2.4. Storage time

The diagram illustrates the duration for which sesame seeds were stored before being sold or exported. The data are presented both in frequency (number of respondents) and percentage terms, reflecting the storage behavior and capacity of traders, cooperatives, and exporters involved in the sesame market.

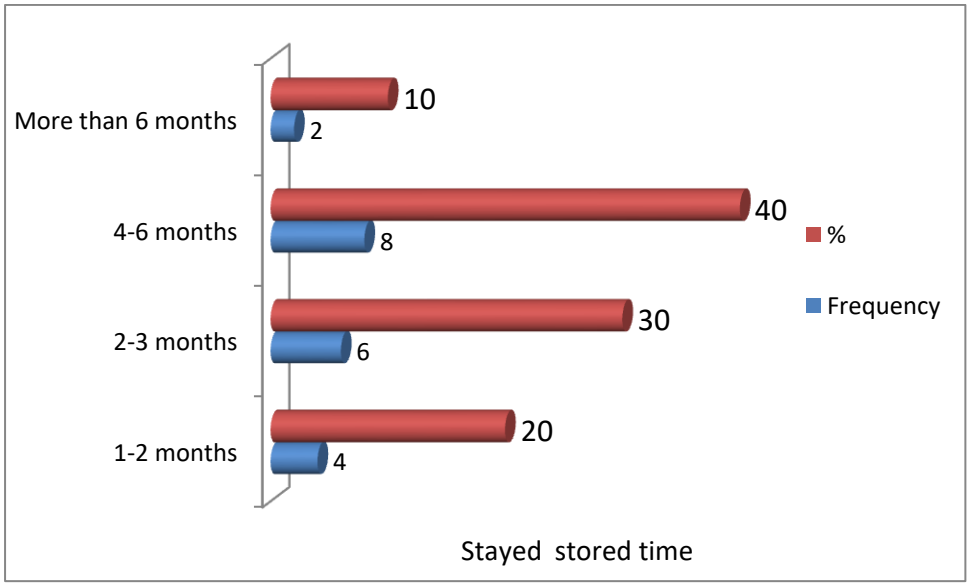

Figure4. 10.Storing time for sesame seed

The largest share of respondents, 40% (8 traders)**,** reported storing sesame for four to six months**.** This period represents the main storage duration among traders and exporters who

wait for favorable price conditions before releasing their stock to the market. The finding suggests that most actors have sufficient storage capacity and financial resources to hold sesame for several months to maximize profit.

The second most common storage duration was two to three months, accounting for 30% (6 respondents). This group likely consists of medium-scale traders and cooperatives with limited warehouse capacity or immediate liquidity needs. They typically sell their stored sesame after a short holding period to cover costs or respond to cash flow constraints.

About 20% **(**4 respondents**)** stored sesame for only one to two months. These who store short-term are usually small traders or farmers who lack access to proper storage facilities or financing. The limited storage time reflects an urgent need to sell the product soon after harvest to meet household or business expenses.

A small proportion—10% (2 respondents)**—**reported storing sesame for more than six months**.** These are typically well-capitalized exporters or large traders who can afford to maintain their stock for extended periods, often targeting international market windows when export prices are highest.

The results indicate that the majority of sesame traders and exporters store their produce for up to six months, suggesting that sesame marketing is largely short-to medium-term oriented**.** The ability to store longer depends on access to warehouse space, finance, and stable security conditions.
Short storage durations among small traders highlight constraints such as limited capital**,** poor storage infrastructure, and price pressure, while longer storage durations among larger actors show better resilience and market positioning.

Overall, the sesame "stayed stored time" pattern reveals that 40% of traders hold sesame for 4–6 months, making this the dominant storage duration, while very few can extend beyond six months. Strengthening financial and storage support systems could enable smaller traders to store sesame longer and sell under more favorable market conditions, improving their overall profitability and competitiveness.

4.2.2.5. Incentivizing price to local suppliers

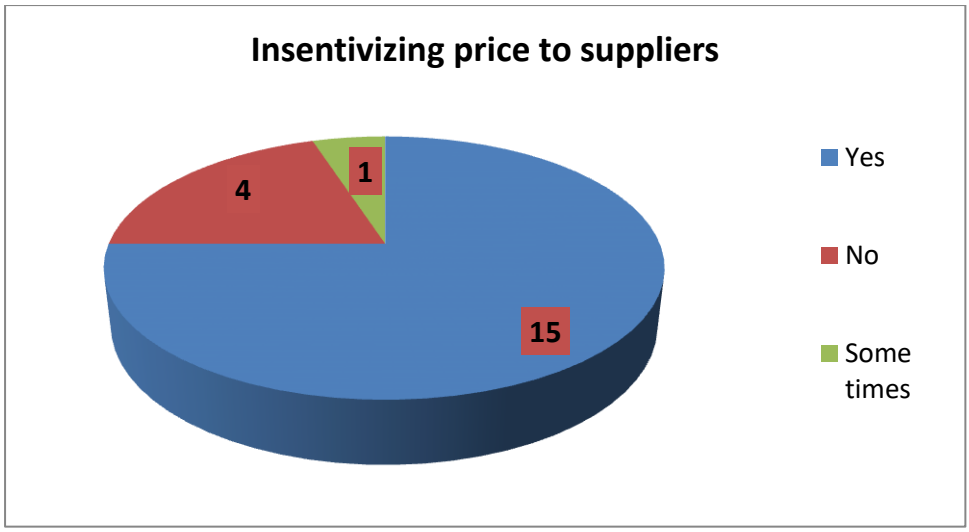

Figure4. 11. Incentivizing price to suppliers

This finding indicates that all local traders involved in sesame seed collection have access to sufficient storage facilities, which enables them to store large quantities of sesame at once. However, the absence of quality grading practices—both during purchasing and selling—suggests a lack of standardized quality control mechanisms in the local sesame market. This may lead to inconsistent product quality and reduced competitiveness in both domestic and export markets.

4.2.2.6. Factors affecting quality of sesame seed

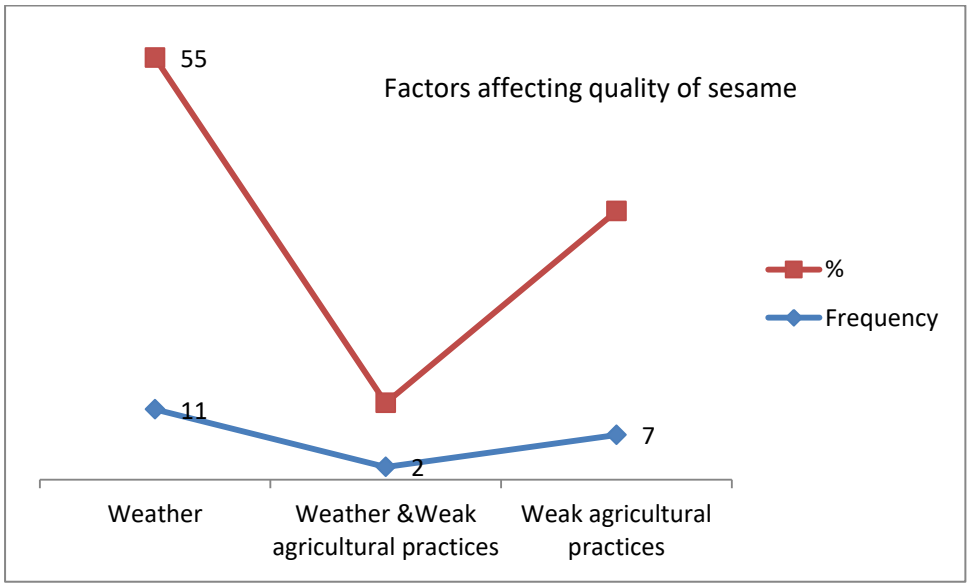

Figure4. 12. Factors affecting quality of sesame seed

The diagram portrays the major factors influencing the quality of sesame production, measured in both frequency (number of respondents) **and** percentage contribution. Three main determinants were identified: weather**,** weak agricultural practices, and a combined factor of weather and weak agricultural practices.

Weather

The data show that weather conditions are the most frequently mentioned factor affecting sesame quality, cited by 11 respondents (55%)**.** This dominance indicates that irregular rainfall, prolonged drought, and unexpected temperature variations have a profound impact on sesame growth, maturity, and post-harvest handling. In short, nature seems to have taken the lead role—unscripted and unpredictable as ever—in dictating the fate of sesame yields.

Combined Factor: Weather and Weak Agricultural Practices

A smaller share of respondents **(**2 in number**)** attributed the decline in sesame quality to a combination of unfavorable weather and weak agricultural practices, accounting for a modest **10%**. This suggests that while climate conditions play a leading role, the supporting cast of inadequate farming techniques—such as poor land preparation, delayed sowing, and insufficient weeding—amplify the damage when they appear together. It's a classic case of "when it rains, it pours" — literally and figuratively.

Weak Agricultural Practices

Lastly, weak agricultural practices alone accounted for 7 respondents (35%)**.** These practices include the use of poor-quality seed, inadequate pest control, and limited adoption of improved agronomic methods. The finding highlights that even in favorable weather conditions; substandard farm management can still undermine sesame quality. After all, even the best soil cannot rescue a poorly managed crop.

The findings underscore that weather variability remains the primary determinant of sesame quality, but its effects are compounded by human factors—particularly the absence of modern agricultural techniques and inputs. Improving farmer training, promoting the use of certified seeds, and expanding access to irrigation could significantly mitigate the damage caused by climate extremes.

In essence, while sesame quality in the study area is largely at the mercy of weather**,** the situation is worsened by weak agricultural practices. The interplay of these two factors suggests that improving the human-controlled elements—farming skill, technology, and management—could make the crop far more resilient, even when Mother Nature is having one of her bad days.

4.2.2.7. What were the effects of the conflict in Tigray on the local traders?

The diagram illustrates the major impacts of the conflict on sesame producers and traders in the study area. It highlights two major categories of effects: property damage and displacement of people. The chart presents both the frequency (number of respondents) and the **percentage** distribution of these effects.

Property Damage

The largest proportion of respondents—70% (14 individuals)—identified property damage as the primary consequence of the conflict. This includes the destruction or looting of warehouses, vehicles, stored sesame seeds, and essential farming equipment. The widespread property losses disrupted the sesame value chain, halting storage, processing, and marketing activities. Exporters and local traders were particularly affected, as most of their infrastructure and capital assets were destroyed or rendered unusable.

Displacement

The second most reported effect was displacement, mentioned by 30% (6 respondents)**.** Many farmers, traders, and workers were forced to leave their homes and farms due to insecurity and violence. Displacement not only interrupted sesame production but also led to labor shortages and a decline in overall productivity. The absence of producers from their farmland meant that much of the cultivated land remained untended, further reducing sesame output during and after the conflict.

The data clearly demonstrate that the conflict caused both economic and social disruptions within the sesame sector. The destruction of productive assets (property damage) had immediate financial consequences, while human displacement produced long-term socio-economic impacts, such as loss of skilled labor, food insecurity, and a weakened local market

system. The combined effect severely undermined the region's sesame supply chain and export performance.

In summary, the conflict's primary effects on sesame production and marketing were property damage (70%) **and** displacement (30%)**.** Together, these impacts highlight the deep vulnerability of agricultural systems to conflict and underscore the need for post-conflict recovery programs—including asset reconstruction, livelihood restoration, and psychosocial support for displaced producers.

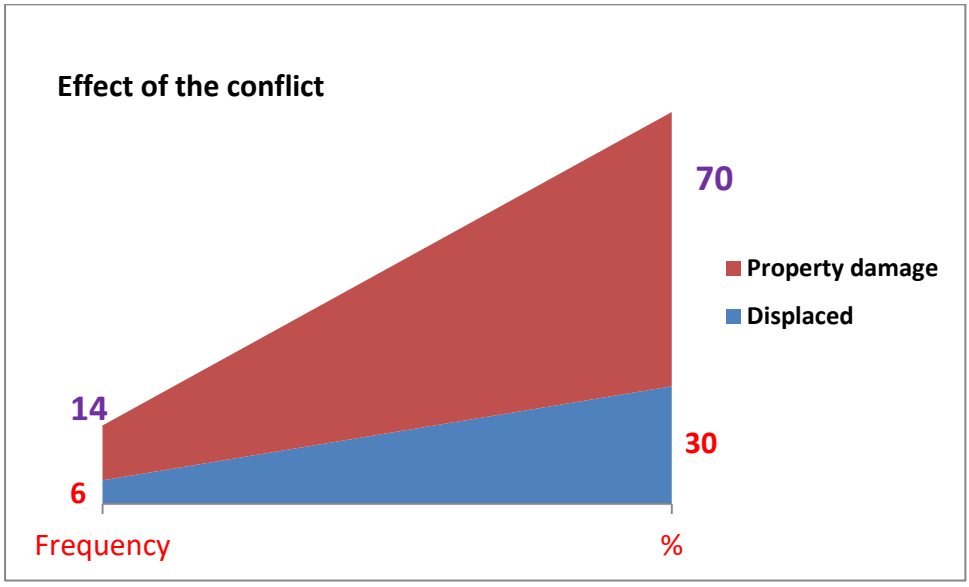

Figure4. 13. Effect of the conflict

4.2.2.8. **Average Estimated Costs, Transaction Volume, and Price of Sesame Trading (2019/2020–2024/2025)**

Based on the study table…. presents the average estimated costs, transaction volume, and prices related to sesame trading across six consecutive years (2019/20–2024/25). The data reflect fluctuations in both purchasing and selling prices, transaction costs, and related operational expenses in the sesame market.

The quantity of sesame traded per day increased from 15.94 Qt in 2019/20 to 24.28 Qt in 2024/25, indicating an upward trend in trading volume. The cumulative average **of** 19.65 Qt shows steady growth in market participation, possibly due to market recovery and improved access to raw materials after previous supply disruptions.

Table 4 6. Average estimated costs, transaction volume and price of sesame trading 2019/2020-2024/2025

	Average estimated costs, transaction volume and price of sesame trading 2019/2020-2024/2025							
	Item	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	Cummulative Average
1	Quantity sesame purchased/day(Qt)	15.94	-	-	-	18.63	24.38	19.65
2	Storage costs per month (birr/quintal)	1,350.00	-	-	-	2,114.29	2,172.73	1,879.01
3	Purchase price(birr/Qt)	5,218.00	-	-	-	14,625.00	17,143.75	12,328.92
4	Selling price(birr/Qt)	6,006.25	-	-	-	16,062.50	18,781.25	13,616.67
5	Transport cost(birr/Qt)	13.13	-	-	-	462.50	681.25	385.63
6	ECX costs(birr/Qt)	384.38	-	-	-	493.13	507.50	461.67
7	Loading/unloading cost(birr/Qt)	17.50	-	-	-	35.00	35.00	29.17
8	Price of bages/pcs	13.13	-	-	-	35.63	38.44	29.07
9	Cleaning cost/Qt	13.13	-	-	-	46.25	46.25	35.21
10	Other costs	550.00	-	-	-	472.00	614.00	545.33

Storage costs rose sharply from 1,350 birr per quintal in 2019/20 to 2,172.73 birr per quintal in 2024/25**,** with a cumulative average of 1,979.01 birr. This steady increase may be attributed to rising inflation, higher warehouse rental fees, and longer holding periods during unstable market conditions. The purchase price showed a remarkable rise from 5,128 birr/Qt in 2019/20 to 17,143.75 birr/Qt in 2024/25, with a cumulative average of 12,328.01 birr/Qt. This significant increment reflects both domestic inflation and increased international demand for Ethiopian sesame.

Similarly, the selling price grew from 6,005.25 birr/Qt in 2019/20 to 18,761.25 birr/Qt in 2024/25, yielding a cumulative average of 13,616.67 birr/Qt. The consistent rise in selling prices suggests improved export opportunities and higher value addition, though it may also indicate inflationary market pressure. Transport costs increased moderately from 13.13 birr/Qt in 2019/20 to 41.19 birr/Qt in 2024/25, with an average of 35.68 birr/Qt. The escalation reflects rising fuel prices and transportation difficulties caused by poor infrastructure and long-distance delivery routes.

Ethiopian Commodity Exchange (ECX) service costs increased from 394.38 birr/Qt to 507.50 birr/Qt, averaging 461.67 birr/Qt. This rise mirrors higher transaction and service charges associated with the trading process. Loading/unloading costs also climbed from 17.50 birr/Qt to 35.00 birr/Qt, averaging 29.07 birr/Qt. The increase is linked to labor shortages and higher daily wage rates in recent years.

The cost of packaging materials rose from 13.13 birr/pc **to** 48.25 birr/pc**,** with an average of 35.21 birr/pc**.** This surge results from the inflation of imported materials and the limited availability of jute bags locally. Cleaning costs increased slightly from 13.13 birr/Qt to 46.25 birr/Qt**,** averaging 35.21 birr/Qt, reflecting the growing emphasis on export-quality standards and improved post-harvest handling. Miscellaneous operational costs fluctuated between 550 birr/Qt and 614 birr/Qt, averaging 545.33 birr/Qt. This reflects various incidental expenses such as brokerage fees, local taxes, and administrative costs.

The findings demonstrate a consistent upward trend in almost all cost components of sesame trading over the six-year period. While selling prices increased substantially, operational costs—especially purchase, storage, and transportation—also rose significantly. The widening gap between purchase and selling prices suggests improved profitability for traders, though high input and transaction costs could still pose financial challenges, especially for small-scale exporters. These results imply that market efficiency**,** cost control, and value chain improvements are crucial for maintaining competitiveness in the sesame export sector

4.2.2.9. Challenges and proposed recommendation for local traders (collectors)

Respondents were asked to identify the challenges that affected the quality, supply, and marketing of sesame seeds as a result of the war. According to the assessment, much of the cultivable land was not under production because it was occupied by the invading forces. Consequently, sesame yield was significantly reduced.

The Sheraro sesame market center—the main trading hub—was completely destroyed, leading to the suspension of its operations. This situation caused the mixing of sesame varieties, which negatively affected product quality. Moreover, limited or absent buyers in the market, the emergence of illegal and uncontrolled trading, and the existence of local oil extractors further disrupted the sesame marketing system.

Additional challenges included unseasonal rainfall, lack of improved seed varieties, and inadequate access to finance—all of which severely constrained both supply and quality. At present, only a single buyer based in Mekelle determines the price of sesame seeds, resulting in a monopolistic market structure. Therefore, the involvement of multiple buyers is essential to reduce market monopoly and enhance the bargaining power of producers and traders.

Proposed Recommendations to Improve Sesame Supply and Marketing

The study collected recommendations from respondents on strategies to improve and strengthen sesame supply and marketing.
First, lands that were previously seized by intruders should be reclaimed and returned to production, thereby increasing the overall volume and quality of sesame supply.

Rehabilitating the Sheraro Sesame Market Center is critical to reactivating the regional marketing system. Restoring this hub would reduce unnecessary transportation costs, prevent mixing of different sesame varieties, and help maintain quality standards.

Respondents also emphasized that only licensed sesame traders should be allowed to participate in the market. A functional regulatory body should oversee market transactions to ensure compliance with national trade rules and regulations. Furthermore, re-launching the Ethiopian Commodity Exchange (ECX) for sesame trading was strongly recommended as a means of revitalizing sesame exports.

Effects of the War on Local Sesame Traders

The study found that the war in Tigray had devastating effects on local sesame traders. Many respondents lost their homes, tractors, machinery, and other assets due to destruction and looting. Stored sesame seeds were also stolen, leaving traders unable to collect or store new supplies. As a result, they were forced to halt their trading activities until market conditions stabilized.

Main Sesame Export Routes Before and After the War

Respondents were also asked to describe their main sesame export routes before and after the conflict. Before the war, traders primarily used the Sheraro Sesame Market Center and the Humera ECX for their transactions. Currently, however, marketing activities have shifted to Mekelle and Addis Ababa due to the destruction of former market routes and facilities.

Price Fluctuations During and After the Conflict

Following the outbreak of war in Tigray, sesame prices fluctuated sharply. The main causes included fuel shortages, skyrocketing transportation costs, and the collapse of the formal

sesame marketing system. Many licensed sesame traders were forced to abandon their licenses and shift to other types of trade.

Additionally, labor costs increased dramatically, and sesame stored in Mekelle remained unsold for about four months, causing high storage expenses. The selling price in Mekelle was around Birr 18,300 per quintal, while in Addis Ababa it reached Birr 19,850 per quintal. These prices were not encouraging for traders, further discouraging their participation in the market.

4.2.2.10. Challenges, Strengths of Ethiopian-Origin Sesame, and Recommendations for Sesame Seed Exporters and the Mekelle Market Center

Respondents from both exporters and the market center identified several challenges affecting the sesame sector. On the supply side, major challenges included shortages of raw materials and labor, inadequate infrastructure, and climate disruptions. On the market side, the main issues were the complexity of the global market and frequent contract defaults.

The study revealed that sesame of Ethiopian origin is highly preferred in international markets due to its sweet aroma, high quality, uniformity, and the desirable white *Humera* variety. Its high oil content also makes it a competitive crop globally. All respondents from the sesame seed exporters and the market center consistently emphasized the need to ensure sustainable and reliable production of high-quality sesame. They also recommended the strict implementation of existing rules and regulations governing the sesame seed marketing system to enhance efficiency and competitiveness.

4.2.3. Exporter roles in Sesame seed export practices

4.2.3.1. Exporters and Mekelle Sesame seed market center

According to the survey, respondents engaged in sesame seed export activities were involved in export, import, and production businesses, operating through their own and/or rented warehouses. Fifty percent of the respondents provided cleaning services both for their own businesses and for other traders. Although they expected an improvement in the future supply volume of sesame, the performance of sesame seed exports was significantly lower and more unsatisfactory in comparison to the 2019/2020 period than that of 2024/2025. The export selling price of sesame seed was determined by the General Manager and/or the Board of Management to meet import demands and to generate higher revenue from export activities.

The research further reveals that, prior to the onset of the conflict in Tigray, the export process—from cleaning and arranging the product for shipment to loading it onto vessels and submitting the necessary documents to banks—typically took sixty or more days. The availability of trucks for transporting sesame seed from farms to loading ports was relatively good, and the major sources of finance for the exporters included their own capital, the Commercial Bank of Ethiopia, and other private commercial banks.

4.2.3.2. Sesame seed export marketing routs before and after the war

The marketing routes for sesame seed in Tigray have experienced significant changes due to the outbreak of the war. Before the conflict, the region had a well-structured marketing network linking producers, local traders, cooperatives, and exporters through the major market centers. However, after the war, the marketing flow was severely disrupted, and many routes became non-functional due to insecurity, infrastructure damage, and market disconnection.

Local Traders' Marketing Route Before the War

Before the war, local traders played a key role in aggregating sesame from farmers and cooperatives. The marketing flow was relatively smooth, moving from producers to local assemblers, then to primary markets such as Sheraro. From there, the sesame was transported to central markets like Humera or directly to exporters based in Addis Ababa. Efficient road networks and access to banking and transport services supported this flow(**See Fig. —)**.

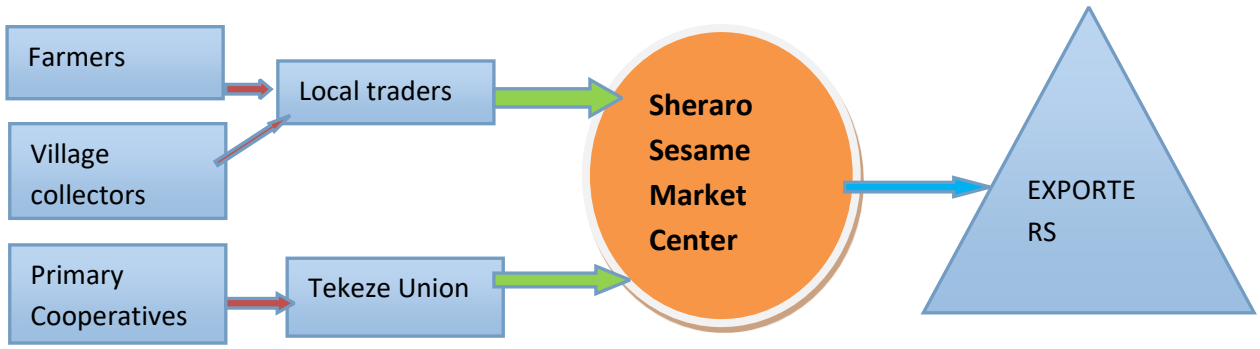

Figure4. 14. Identified local traders marketing rout before the war in Tigray

Local Traders' Marketing Route after the War

After the war, the local marketing network became highly fragmented. Many rural markets were destroyed or became inaccessible, forcing traders to operate within limited areas. Insecurity and transport disruption made it difficult for traders to reach major market centers. As a result, trade volumes declined sharply, and many farmers sold their produce informally or at lower prices to survive. The marketing route shifted from organized channels to short, localized transactions with limited linkage to exporters(**See Fig. —)**.

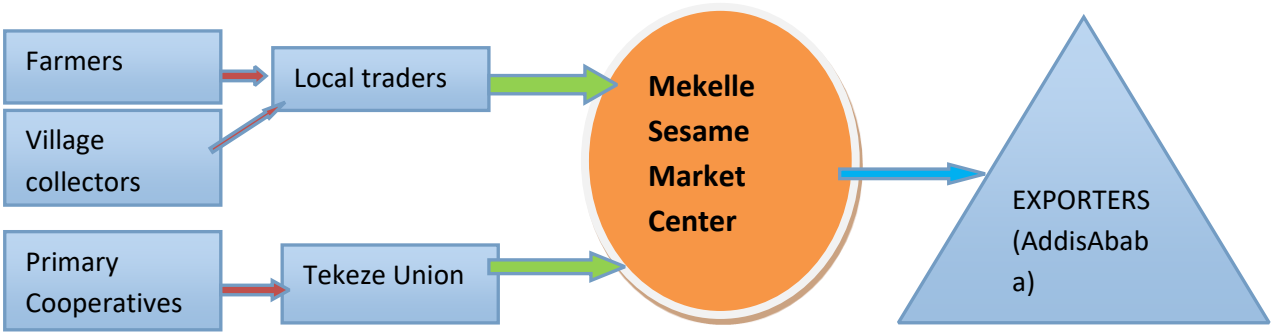

Figure4. 15.Identified traders sesame marketing rout after the war in Tigray

Exporters' Marketing Route Before the War

Before the war, exporters obtained sesame mainly through formal supply chains from cooperatives, unions, and licensed traders. The flow extended from western Tigray (Humera, Wolkayit, and Kafta Humera areas) to Mekelle and Addis Ababa, where export documentation and shipment arrangements were made. Exporters also benefited from established relationships with international buyers, banking facilities, and customs offices that enabled smooth export operations via Djibouti port(**See Fig. —)**.

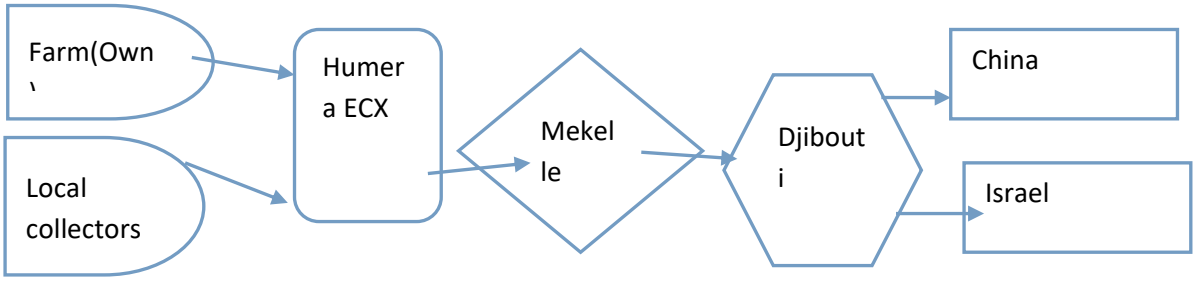

Figure4. 16. Exporter's sesame marketing rout before the war in Tigray

Exporters' Marketing Route After the War

Following the war, the exporters' marketing system was severely disrupted. Most exporters ceased operation due to the destruction of warehouses, loss of stored commodities, and the breakdown of transport and communication infrastructure. The trade flow to Mekelle and Addis Ababa was interrupted, and export activities came to a halt for several years. Only small-scale or informal trade resumed in limited areas once partial stability was restored. Consequently, the export route became shorter and more localized, with minimal participation in the formal export market **(See Fig. —)**.

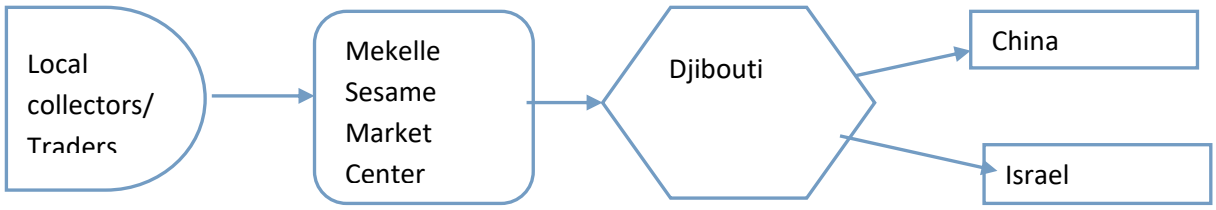

Figure4. 17. Exporter's sesame marketing rout after the war in Tigray

In general, the sesame marketing routes in Tigray shifted from formal, organized, and export-oriented systems before the war **to** fragmented, informal, and locally confined systems after the war**.** The disruption of market linkages, infrastructure, and financial networks significantly weakened the region's sesame export capacity.

4.2.3.3.Estimated Average Costs and Transaction Price of Sesame Trading for the Last Six Years (2019/2020–2024/2025)

The research indicates the estimated average costs and transaction prices of sesame trading over a six-year period (table 4.7). All respondents from the exporters' side indicated that, due to the recently launched war in Tigray, they were not engaged in export activities from 2020/21 to 2023/24. During the onset of the conflict, the sesame that had been stored and prepared for export was looted, infrastructure was severely damaged, and trading facilities were completely destroyed. Even at present, one of the exporters reported having totally ceased its export marketing operations.

The study also shows significant variations in the major cost components, reflecting the impact of changing market conditions, inflation, logistical constraints, and disruptions in export handling processes within Ethiopia's sesame value chain.

Table 4 7. Estimated average costs, transaction price of sesame trading for the last six years

Estimated average costs,transaction price of sesame trading for the last six years							
	Unit Price per quintal						
Total costs of build-up of sesame Expenses	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	Average
Purchasing price birr for effective month of export market	4,500.00	-	-	-	-	16,745.00	10,622.50
Impurity/ reject costs for 3%	-	-	-	-	-	502.00	251.00
Ware house costs	250,000.00	-	-	-	-	-	125,000.00
Loading/unloading costs	10.00	-	-	-	-	20.00	15.00
Cleaning costs/machine cleaning	40.00	-	-	-	-	200.00	120.00
Cost of bages	25.00	-	-	-	-	37.00	31.00
Transportation costs(from ECX ware house to your cleaning facility)	8.00	-	-	-	-	20.00	14.00
Transportation costs(from your cleaning facility to loading port)	85,000.00	-	-	-	-	240,000.00	162,500.00
Cost of transit and port handling charges	-	-	-	-	-	4,000.00	2,000.00
Over head costs	-	-	-	-	-	-	-
ECX costs	44.00	-	-	-	-	-	22.00
Inspection costs	1,000.00	-	-	-	-	9,262.00	5,131.00
Total cost before interest	-	-	-	-	-	-	-
Interest 10% of total costs for 60 days	-	-	-	-	-	-	-
Total cost after interest	-	-	-	-	-	-	-
Selling price (birr/quintal)	4,842.00	-	-	-	-	17,500.00	11,171.00

Source survey 2025

Purchase Price

The purchasing price of sesame increased sharply from 4,500 birr per quintal in 2019/2020 **to** 16,745 birr per quintal in 2024/2025**,** with a**n** average of 10,622.50 birr**.** This steep rise indicates a substantial increase in farm-gate and trading prices, influenced by inflation, higher export demand, and reduced supply due to production disruptions in previous years.

Impurity/Reject Costs

The impurity or rejection cost, which represents quality loss during cleaning and grading, averaged 251 birr per quintal, reaching 502 birr in 2024/2025**.** This suggests that sesame traders incur additional costs due to quality-related losses, highlighting the need for improved post-harvest handling and cleaning efficiency to reduce waste and maximize export value.

Warehouse Costs

Warehouse costs amounted to 250,000 birr in 2019/2020, with a six-year average of 125,000 birr. This high expense reflects the capital or rental cost of storage facilities required to hold sesame before cleaning and shipment. The cost also indicates the importance of adequate storage infrastructure to maintain quality and prevent spoilage.

Loading, Unloading, and Cleaning Costs

Loading and unloading costs rose from 10 birr to 20 birr per quintal, averaging 15 birr, while machine cleaning costs increased from 40 birr to 200 birr per quintal, averaging 120 birr. The rising trend in these costs is mainly attributed to labor shortages and increased energy and maintenance costs. It also reflects a growing emphasis on cleaning and grading standards to meet export quality requirements.

Cost of Bags

The price of bags increased from 25 birr to 37 birr**,** with an average of 31 birr per piece**.** This rise corresponds with the general increase in packaging material costs, especially imported jute or synthetic sacks used for export packaging.

Transportation Costs

Transport costs from ECX warehouses to cleaning facilities rose from 8 birr to 20 birr per quintal (average 14 birr), while long-distance transport from the cleaning facility to the loading port increased from 85,000 birr to 240,000 birr, averaging 162,500 birr. The large increment reflects rising fuel prices, security challenges on trade routes, and poor infrastructure conditions, all of which increase the cost of moving goods to export terminals.

Transit and Port Handling Charges

These charges appeared only in 2024/2025, amounting to 4,000 birr per quintal (average 2,000 birr**).** Their inclusion in recent years shows the growing importance of port logistics and export handling fees, especially after the relocation of export operations through distant ports.

ECX and Inspection Costs

ECX service costs averaged 22 birr per quintal, while inspection costs rose sharply from 1,000 birr to 9,262 birr, averaging 5,131 birr. This sharp increase reflects tighter export inspection procedures, quality certifications, and regulatory compliance costs associated with international trade standards.

Selling Price

The selling price increased from 4,842 birr per quintal in 2019/2020 **to** 17,500 birr per quintal in 2024/2025, with an average of 11,171 birr per quintal. This upward trend indicates improved market returns and price competitiveness of Ethiopian sesame in the global market. However, it also shows that traders must manage rising operational costs to maintain profit margins.

The results reveal that both costs and prices of sesame trading have increased significantly over the six-year period. The major cost drivers are transportation, storage, cleaning, and inspection expenses, which collectively influence the final selling price. Despite these rising costs, the increase in selling prices has helped maintain profitability for exporters.

This trend suggests that the sesame trade has become more capital-intensive, requiring improved logistics management, quality control, and cost efficiency. Moreover, strengthening storage infrastructure, reducing post-harvest losses, and enhancing access to affordable transport services could improve overall competitiveness in the sesame export market.

4.2.4. Focus group discussion and Key informant interview

Focus group discussants from the local traders were asked to describe the sesame seed exporting process in their area and the trends they had observed. They explained that they collect sesame seeds from individual farmers, store them temporarily, and send them to Addis Ababa through their agents, who serve as intermediaries linking them with exporters. Payments are then made through bank transactions. However, due to their limited storage capacity, unsafe road transportation through the Afar region, and prevailing political instability, they are often unable to hold the sesame seeds until market prices become favorable.

The group also reported that the global demand and unit price of sesame seeds have recently increased. The local selling price has risen from 13,000 birr to 17,000 birr per quintal since last year. Despite the existence of positive developments such as attractive selling prices, traders' organizations, improved supply conditions, and relative peace in the region, several critical challenges persist. These include disorganized marketing practices, the absence of a nearby sesame seed market center and Ethiopian Commodity Exchange (ECX) branch, a limited number of buyers in the Mekelle market, and weak enforcement of existing laws and regulations. The discussants further noted that relevant policies and proclamations are either lacking or not effectively implemented. Consequently, many previously licensed local traders have returned their licenses to the government and shifted to other income-generating activities.

The participants also highlighted the devastating impact of the war in Tigray on their livelihoods. Their stored sesame ready for sale was looted, their houses and assets were destroyed, productive lands were seized by intruders, and some traders were physically injured, resulting in permanent disabilities.

Key informants were likewise asked to identify the major opportunities and threats related to sesame seed export. They mentioned several opportunities, including the growing international demand for Ethiopian sesame, the availability of cultivable land and labor, the adoption of cluster-based and mechanized sesame production, the utilization of sesame by-products for animal feed, and its contribution to job creation. However, they also identified serious threats such as the destruction of the sesame market system and market centers, the non-functionality of coordinating task forces, monopolistic buying practices in Mekelle, unsafe transport routes with illegal checkpoints through the Afar region, high transportation costs to Addis Ababa, and lack of access to finance.

According to key informants, previously well-established exporters who supplied sesame seeds to markets such as China and Israel have completely ceased production, collection, and export activities. The remaining exporters have significantly reduced their operations due to ongoing political instability, limited access to finance, weak government intervention in strengthening local institutions, inadequate enforcement of rules and regulations, and poor implementation of proclamations at the grassroots level.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Summary of Major Findings

This study was conducted to assess the prospects and challenges of sesame seed export in the Tigray Region**,** focusing on key actors such as local traders, cooperatives, and exporters. It also analyzed the impact of the recent conflict on the sesame value chain, market structure, and export performance.

Primary data were collected through structured questionnaires from 25 respondents, including local traders (collectors), Tekeze Union representatives, Mekelle Market Center officials, and exporters. Descriptive statistical tools were employed using SPSS version 27 to interpret and present the findings.

The major findings of the study are summarized as follows:

Socio-Demographic Characteristics

- The majority of respondents were male (87.5%) and within the economically active age range of 31–50 years (70.8%).
- Most respondents (85.9%) were literate, with educational levels ranging from elementary to tertiary education, suggesting a workforce capable of adopting new business practices.

Market and Seasonal Dynamics

- Sesame marketing in Tigray is highly seasonal, peaking in September and declining sharply after January.
- Surplus supply occurs mainly between November and April, while shortages are observed from May to August.
- Price fluctuations follow this cycle: prices are low immediately after harvest and rise toward the middle of the year, reflecting market scarcity and speculative storage behavior.

Financial and Storage Operations

- Financial arrangements are concentrated in September, coinciding with pre-harvest financing needs.
- Storage activity peaks between October and January (80–100%) but drops to zero from May onward, largely due to limited warehouse capacity and working capital.

Local Traders' Practices and Constraints

- Smallholder farmers supply about 95% of the sesame traded by local collectors, showing strong dependence on fragmented production systems.
- Price determination is mainly influenced by quality (50%), availability (30%), and demand (20%).
- The **Ethiopian Commodity Exchange (ECX)** was identified as the key price decider by 90% of traders, highlighting centralized market influence.
- Key challenges included destruction of infrastructure (notably Sheraro Market Center), limited access to finance, absence of quality grading systems, and monopolistic buying behavior within Mekelle.

Impact of the War in Tigray

- The conflict severely disrupted sesame trade operations. About 70% of respondents reported looting or damage to property, while 30% experienced displacement.
- The war led to loss of stored commodities, destruction of roads and warehouses, and breakdown of market linkages.
- As a result, export activities ceased between 2020/21 and 2023/24, significantly lowering foreign exchange earnings.

Post-War Recovery and Future Prospects

- Although export volumes remain below pre-war levels, traders and exporters anticipate improvement as stability and infrastructure gradually return.
- Increased trading volumes and rising sesame prices from 2019/20 to 2024/25 indicate a slow but positive recovery trend.

In general, the study reveals that while Tigray's sesame sector possesses high potential for export growth, its performance has been undermined by conflict, infrastructure damage, limited finance, and weak institutional coordination.

5.2 Conclusions

Based on the findings, several key conclusions are drawn:

Sesame seed trading is central to the livelihoods of many in Tigray, engaging farmers, collectors, and exporters in a sequential value chain that supports employment, income, and regional economic development.

Market performance is seasonally driven, with strong post-harvest activity followed by long off-season stagnation. The absence of continuous market engagement limits capital turnover and discourages year-round operations.

The Ethiopian Commodity Exchange (ECX) plays a critical role in price setting, ensuring transparency but also limiting local price negotiation. Improved linkage between ECX and regional markets could balance fairness and competitiveness.

The war in Tigray had a devastating impact on sesame production and marketing. The destruction of Sheraro and Humera market centers, looting of stored sesame, and infrastructure collapse halted export activities for several years.

Despite the challenges, the sector demonstrates resilience. Traders and exporters are rebuilding storage facilities and resuming operations as peace returns. The gradual price and volume recovery from 2024/25 signals potential for revitalization with proper institutional and financial support.

The main bottlenecks include limited access to finance, inadequate infrastructure, poor quality control, and monopolistic buying practices. Unless addressed, these factors will continue to hinder the competitiveness of Tigray's sesame in the global market.

5.3 Recommendations

To revitalize the sesame export sector in Tigray, the following recommendations are proposed:

5.3.1 Policy and Institutional Measures

- Re-establish the Ethiopian Commodity Exchange (ECX) sesame trading system in Mekelle and other major towns to improve transparency, traceability, and export certification.
- Strengthen market institutions (cooperatives, unions, and market centers) to restore coordinated marketing systems disrupted by the war.
- Rehabilitate key infrastructure, including Sheraro Market Center, storage facilities, and road networks, to reconnect production zones with export corridors.

5.3.2 Financial Support and Access to Credit

- Facilitate microfinance and commercial loan schemes tailored for small traders and cooperatives to enable continuous buying and storage activities.
- Encourage banks to provide pre-export and post-harvest financing, possibly backed by warehouse receipt systems, to increase liquidity among value chain actors.

5.3.3 Production and Quality Improvement

- Provide training on good agricultural practices (GAP) to improve sesame quality and consistency, focusing on post-harvest handling and storage.
- Strengthen research-extension linkages to promote improved sesame varieties with higher oil content and better disease resistance.
- Introduce quality grading and standardization at local collection points to meet international export standards.

5.3.4 Trade Regulation and Market Fairness

- Enforce trading regulations and licensing systems to minimize illegal and monopolistic practices in Mekelle and surrounding markets.
- Establish fair-trade monitoring mechanisms to ensure transparent price formation and protect smallholder interests.

5.3.5 Post-Conflict Reconstruction and Peace building

- Integrate sesame trade rehabilitation into the regional recovery and reconstruction plan to rebuild livelihoods affected by the conflict.
- Encourage public-private partnerships (PPPs) to invest in warehouses, cleaning facilities, and logistics infrastructure.
- Promote peace and social cohesion programs among farmers and traders to strengthen market trust and cooperation.

5.4 Final Remark

Sesame seed export remains one of Tigray's most promising economic sectors, with significant potential for generating income, employment, and foreign exchange. The findings of this study highlight both the sector's resilience and its vulnerability to conflict, policy gaps, and financial constraints.

With sustained peace, investment in infrastructure, and coordinated institutional support, the Tigray Region can reclaim its position as one of Ethiopia's leading sesame-producing and exporting areas. Implementing the above recommendations will contribute to building a sustainable, inclusive, and competitive sesame export sector in post-war Tigray.

Reference

Abadi B. (2018). Sesame Production, Challenges And Opportunities In Ethiopia, Vegetos: An International Journal of Plant Research & Biotechnology

Ahmed Soliman and Abel Abate Demissie(2024).The 'conflict economy' of sesame in Ethiopia and Sudan

Abera, H. (2009, May). Analysis of Sesame Production, Supply, Demand and Marketing Issues in Ethiopia.Addis Ababa, Ethiopia: Ethiopia Commodity Exchange Authority.

Assefa, M. (2017). Ethiopian Sesame Production and Marketing Overview. EPOSEPA. Addis Ababa, Ethiopia: EPOSEPA

Bashir Al Hemzawi & Natacha Umutoni(2021). Impact of exports and imports on the economic growth, A case study of Rwanda from 2006 to 2020

Berkum, S. V., & Beijl, H. V. (1998). A survey of trade theories. Agricultural Economics Research Institute (L. https://edepot.wur.nl/297340

Bihon, K. (2015). Factors affecting agricultural production in Tigry region northern Ethiopia

Birtukan S.(2022).Factors affecting the performance of Sesame seed export; the case of Bahirdar customs commission exporters. Thesis submitted to Bahirdar University college of business and economics department of logistics & supply chain management in partial fulfillment of the requirements for the award of the degree of Master of art in logistics & supply chain management

Boere, A. e. (2015 A). Investment opportunities in the Ethiopian Oilseeds and pulses sector, Addis Ababa: Netherland- African business council

Cai, R. (2003). The development trend of trade regionalization and globalization, International Business, No. 4, 13-16

Chen, Z. H. (2022). Research on international trade theory and the status quo of world international trade, American Journal of Industrial and Business Management, 12, 1079-1087 https://doi.org/10.4236/ajibm.2022.126057

Chike A. Ezenwa, J.I. Iheanacho, and H.I. Okafor (2025). Theories of international trade Retrieved from https://www.researchgate.net/publication/389043595

Collinson, A. M. (2012). International Business . Edinburg Gate,Harlow: Pearson Education Limited 2012.

Creswell, J.W.(2009). Research design qualitative, quantitative, and mixed methods approaches (third edition)

Endalkachew M.(2019). Assessing the core challenges on the process of exporting quality sesame seed in Ethiopia. Thesis submitted to the Indira Gandhi national Open University(IGNOU) in partial fulfillment of the requirement of the degree of Master of business administration.

Eshetie, A. M., Matafwali, E., Mwalupaso, G. E., Li, J., & Liu, A. (2022). Nexus of Cash Crop Production Using Improved Varieties and House

ESS (2025). The Global Sesame Seeds Market in 2025 Trends Opportunities and Challenges.

Retrieved from *https://essfeed.com/the-global-sesame-seeds-market-in-2025-trends-opportunities-and-challenges*

Ethiopian Sesameseed Industry opportunity and challenges. (2016). the 6th international conference on pulses,oilseeds and spice (pp. 31-36). Addis Ababa: EPOSEA.

Fana Broadcasting (2022), 'Ethiopia Plans To Export 230,000 M/T Of Sesame To International Market: Exporters Association', Fana Broadcasting, 23 November 2022, https://www.fanabc.com/english/ethiopia-plans

FAO(2015). Analysis of price incentives for sesame seed in Ethiopia for the time 2005- 2012

Food and Agriculture Organization of the United Nations (FAO) (undated), 'FAOSTAT', https://www.fao.org/ faostat/en/#search/sesame (accessed 6 Nov. 2023)

FAOSTAT. Food and Agriculture Organization of the United Nations; FAOSTAT: Rome, Italy, 2019. Available online: http://www.fao. org/faostat/en/#data/QC (accessed on 30 August 2021).

GAIN(2021). Ethiopia Oilseeds Report Annual, Ethiopia, Addis Ababa, Oilseeds and products, prepared by FAS/Addis Ababa Staff, Approved by Rachel Bickford

Gebremedhn, M.B.; Tessema, W.; Gebre, G.G.; Mawcha, K.T.; Assefa, M.K. Value chain analysis of sesame (Sesamum indicum L.) in Humera district, Tigray, Ethiopia. Cogent Food Agric. 2019, 5, 1705741. [CrossRef]

Girma T. Kassie, Yonas Worku, Fantu Bachewe, Woinishet Asnake, and Gashaw Abate (2022). Scoping Study on Ethiopian Sesame Value Chain, Initiative note no.4

Haregeweyn A.(2017). Assessment of the prospects and challenges of Ethiopian sesame seed export. Thesis submitted to St. Mary's university, school of graduate studies in partial fulfillment of the requirements for the award of the degree of master of business administration

Haish, S. (2017) Factors Influencing Sesame Export Performance In Ethiopia. Thesis Submitted to St. Mary's University, School Of Graduate Studies Department Of Marketing Management, for Partial Fulfillment of the Requirement for the Award of Degree of Masters in Marketing Management.

Kafando. W., Chia.S, Ching.C, and Shih.H. (2020) Factors Affecting Sesame Seed Exports In Burkina Faso: The Vector Error Correction Approach. Developing Country Studies, Vol.10, No.4, 2020

Liu, Y. F. (2007). Wave Phenomenon and the Reconstruction of Macroeconomic Theory.

Lu,D. D., & Du, D. B. (2013). Some Thoughts on the Strengthening of Geopolitical and Geo-economics Studies. Acta Geographic Sinica, 68, 723-727.

Lu, H. (2021). RCEP in the Regionalization of International Trade. International Business Daily, 2021-11-18.

Mezgebo, G. K., Mekonen, D. G., & Gebrezgiabher, K. T. (2021). Do smallholder farmers ensure resource use efficiency in developing countries? Technical efficiency of sesame production inWestern Tigrai, Ethiopia. Heliyon, 7(6), e07315. Retrieved fromhttps://doi.org/10.1016/j.heliyon.2021.e07315.

Mohammed, M., & Ahmed, B. (2020). Determinant of Sesame Export Performance in Ethiopia: A Panel Gravity Model Application. Turkish Journal of Agriculture - Food Science and Technology, 8. https://doi.org/10.24925/turjaf.v8i3.714-720.3219

Muluken R.(2019).Assessment of value chain practice of Sesame export market in northern parts of Ethiopia

Musa, K. (2017). Value Chain Analysis of Sesame in Ethiopia. Journal of Agricultural Economics Extension and Rural Development : ISSN-2360-798X, 620-631 Volume 5(5) Spring Journals.

Negash G.A, (2015) “Status of Production and Marketing of Ethiopian Sesame Seeds” Wollega University. Agricultural and Biological Sciences Journalvol.1, No.5, 2015, Pp.217-223

Qureshi, M., Langham, D. R., Lucas, S. J., Uzun, B., & Yol, E. (2022). Breeding history for shattering trait in sesame: Classic to genomic approach. Molecular Biology Reports, 49(7), 7185–7194. https://doi.org/10.1

Teklu, D.H.; Shimelis, H.; Tesfaye, A.; Abady, S. Appraisal of the Sesame Production Opportunities and Constraints, and Farmer-Preferred Varieties and Traits, in Eastern and South-western Ethiopia. Sustainability 2021, 13, 11202. https://doi.org/ 10.3390/su132011202.

Udo, B., Alexander, K., & Vivekananda, M. (2019). Globalization, Inequality and Economic Policy. Economics and Business Review, 5, 3-11. https://doi.org/10.18559/ebr.2019.1.1

Usman, Owolabi A. (2011). Performance evaluation of foreign trade and economic growth in Nigeria. Research Journal of Finance and Accounting, 2(2) https://core.ac.uk/download/pdf/234629174.pdf

Volza Import Trade Data(2025). Sesame Seed Importing Countries. Retrieved from *https://www.volza.com/p/sesame-seed/export/*17-Mar-2025

Wang, X. S., Shi, B. Z., Xie, S. X. et al. (2014). How Do Trade Barriers Affect Dual Margins of China Export Growth. Economic Research Journal, No. 11, 58-71.

Yamane, Taro. 1967. Statistics, An Introductory Analysis, 2nd Ed., New York: Harper and Row

Yang, W. L., Shi, W. T., & Du, D. B. (2021). The Spatial Model and Spatial Mechanism of the Global Geo-Economic Co-Operation: An Empirical Research Based on the Scale of Commodity Trade. Scientia Geographica Sinica, 41, 1875-1883

Zhang, B. S. (2007). WTO's Anti-Discrimination Reform Model and EU's Trade Policy towards China. International Trade, No. 8, 56-59.

I. QUESTIONNAIRE FOR SESAME AGGEGATORS/COLLECTORS/ SUPPLIERS

1.1: DEMOGRAPHIC QUESTIONS

1.Age of Respondent_____? A. 18-30 Yrs. B. 31-50 Yrs C. 51-65 Yrs D. Above 65 Yrs

2.Sex of respondents_____ A. Male B. Female

3. Educational Level_____? A. Can't Read and Write. B.1-8 Grade C. 9-12 Grade D. Diploma E. Degree

3.Marital Status_____? A. Married B. Single C. Divorced D. Widowed

4. Numbers of Total Family Size _____Individuals? A. 2-4 B. 5-6 C. 7-10 D. Above 10

1.2: AGGREGATOR ACTIVTIES IN THE EXISTING VLAUE CHAIN PRATICES

5. Please indicate sesame activity calendar in your locality mark with (✓)

Main Activities	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Market period												
surplus of sesame period												
Transport Shortage period												
Shortage of sesame period												
Low Price Season												
Medium Price season												
High Price Season												
Finance arrangement Period												
Storing period												

6. Who are your prime suppliers for Sesame seed _____? A. Small size farmers B. Cooperatives C. Commercial Producers D. Others, pls specify__

7.What are the basis for deciding your buying price _____? (Multiple answer could be applicable)

A. Quality of Sesame B. The availability of sesame C. demand

8. Who decides the market price _____? A. Suppliers themselves B. Yourself C. Daily ECX market D. Demand and supply at Primary trading center

9. Do you have ware house? A. Yes B. No

10. If the answer is yes What is your Storage Capacity?

A. Below 50 Quintal B.50-100 Quintal C. 100 Quintal D. Above 100 Quintal

11. For how many months do you keep the sesame seed at your hand?

A. Below 1 Month B. 1- 2 Months C. 2-3 Months D. 4-6 Months E. More than 6 Months

12. Do you use any grading criteria when you buy your sesame seeds ? A. Yes B. No

13. If your answer is "yes" for question No 11, What were the grading Criteria_____? (Multiple answer is applicable) A. Color of the seed B. Size of the Seed C. Varieties of Seed D. Purity of the Seed

14. Do you use grading by a third party before selling your sesame? A. Yes B. No

15. If your answer is "yes" for Question No.13, Who will conduct the grading _____ ? A. Ministry of Trade B. Bureau of Agriculture and Natural Resource C. Ethiopian commodity Exchange D. Quality Inspection Companies

16. How do you evaluate their performance for question "No. 14 " ? A. Excellent B. Very Good B. Good C. Moderate D. Bad E. Very Bad F. Worse

17.Do you offer Incentive price for suppliers to encourage supply of premium quality of sesame? A. Yes B. No C. Sometimes

18. In your experience what were the main factors affecting Quality of sesame? (Multiple answers would be applicable) A. Weather Condition B. Weak Agricultural practice of Producers C. Blending variety D. Labor shortage E. Other please Specify_____

19. Please Indicate your average estimated costs, Transaction Volume and price of sesame trading for the last six year which is before and after the recent conflict in tigray (2012-2017 E.C).

Items	Amount						
	2012	2013	2014	2015	2016	2017	Average
Quantity sesame purchase /Day							
Storage Cost birr /Quint							
Purchase price (Birr/Qt)							
Selling Price (Birr/Qt)							
Transport Cost (Birr/Qt)							
Ecx Costs (Birr/Qt)							
Loading/Unloading(Birr/Qt)							

Price of bags/Pcs							
Cleaning Cost/Qt							
Other Costs							

20. Have your area been affected by the recent conflict? (Yes/No).If yes, What type of impact did the conflict have on your community? A. Displaced B. Violence C. property damage

1.3 : OPEN –ENDED QUESTIONS

20.What are the main challenges that affect Quality, Productivity, supply and market of Sesame? _____
_____

21. What is your proposed recommendation to improve and develop Sesame Production, supply and Marketingactivities?_____
_____ _____

22. Have you been personally affected by the recent conflict?(Yes/No). If yes, please describe the ways in which you were affected?
_____
_____

22. What were your main sesame export marketing routes before the conflict and what are your current routes?
_____
_____
_

23. Have you experienced any disruptions to your sesame marketing?(Yes/No). If yes, please explain_____
_____

24. Have you experienced any price fluctuation due to the recent conflict?(Yes/No). If yes, would you please describe
it?_____
_____
_____

II. QUESTIONNAIRE FOR SESAME WHOLE SELLERS(EXPORTERS) & TEKEZE UNION

2. 1: DEMOGRAPHIC AND GENERAL QUESTIONS

1. Age of respondent __? A .18-30 Yrs. B. 31-50 Yrs. C. 51-65 Yrs. D. Above 65 Yrs.

2. 2.Sex of respondents_____ A. Male B. Female

3. Educational level of the respondent____? A. High School B. College Diploma C. Bachelor's Degree D. Master's

3. For how long have your organization been in the business____? A. 1 to 2 years B. 3 to 5 years C 6 to 10 years D. 11 -20 years E. 20 + years

4. How many employees operate in your organization_____? A. 1 to 10 B. 10-20 C. 20 to 30 D. More than 25

5.The size of your sesame export volume ___ per year?

A. Below 1000 Mt B. 1000-2000 MT C. 2000-5000MT D. Above 5000MT

2.2: EXPORTER ROLES IN VALUE CHAIN PRATICE

6. Which of the following describes the type of business you are engaged in (multiple Answers will be applicable)? A. Export B. Import C. Producer D. Agent E. Freight forwarder E. others, please specify_____

7. Do you have warehouse_____ ? A. Yes B. No

8. If your answer is "Yes" for question No 7. Do you provide a cleaning service to other? Exporters?

A. Yes B. No

9.If your answer is "No" for Question No.7, How do you get the cleaning service? A. Rented cleaning Plant B. Lease cleaning plant C. Use third party cleaning Service

10. Comparing with 2011/2012 EC, how do you evaluate the performance sesame export volume of 2016/2017 ____? A. Significantly Lower B. Lower C. Similar D. Higher E. Significantly higher

11. Your level of satisfaction for 2011/12 EC sesame export revenue of the company is _____? A highly Dissatisfied B. Dissatisfied C. Normal D. Satisfied E. Highly Satisfied

12. What is your expectation of future volume of sesame supply, as compared with the current season export volume is _____? A. Significantly worsen B Worsen C No Change D. Improve E. Improve a lot 13.Who decides the export selling price for export business in your company is ____? A. G. Manager B. Export Manager C. Board of Management D. Owner

14. In your opinion, what could be the main reason your competitors engage in sesame export? (Multiple answer will be applicable) A. To have good relationship with Banks B. To fulfill their Import demand C. To generate better revenue from Export D. To get better privilege from Government E. To have a better relationship with their buyer

15. How long will it take for a shipment starting from cleaning, arranging for export and loading on a vessel and submitting documents to Banks? A. 20 Days B. 30 Days C. 45 days D. 60 and above

16. Please indicate your estimated Average costs, transaction price of sesame trading just for the last six year

Total Cost Build-up of Sesame Expenses	**Price/Quintal (in E.C)**						
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**Average**
Purchasing price birr for effective month of export market							
Impurity/ Reject cost for 3 %							
Ware house cost							
Loading / unloading cost							
Cleaning cost /Machine Cleaning							
Cost of bag							
Transportation cost (From Ecx Warehouse to your cleaning Facility)							
Transportation cost (From your cleaning Facility to loading port)							
Cost of transit and port handiling Charges							
Over -head cost							
ECX costs							
Inspection costs							
Total cost before interest							
Interest 10 % of total cost for 60 Days							
Total cost after interest							
Selling price of 1qunital/ Birr							

Please put a sign X on the appropriate number to indicate the extent to which you agree or disagree with each statement (The scale below will be applicable as Five-point scales ranging from "Strongly Disagree" to "Strongly Agree" that is: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree 5 = Strongly Agree.)

18. How do you evaluate the availability of truck to transport raw and processed sesame from Farmer up to loading port? A. Very Good B. Good C. No Idea D Worse E. Very worse

19. Sources of Finance (Multiple answer will be applicable) A. Own source B. Commercial Bank of Ethiopia C. Private commercial banks D. Others, specify

20. For sources of finance do you prefer to deal with_____? A. Private commercial Banks B. State Commercial Bank

21. Please specify the reason for your answer _____
_____

2.3: OPEN –ENDED QUESTIONS

23. What challenge you face from supply side and market side?

_____

24. Please list out the strength of Ethiopian origin sesame seed at global market? _____
_____

25. What is your proposed recommendation to improve and develop the competitiveness of the Ethiopian sesame export?

26. Do the war launched since 2020 in Tigray affected you sesame marketing? If yes, how do you explain?_____
_____

27. Have you been personally affected by the recent conflict?(Yes/No). If yes, please describe the ways in which you were affected?
_____

28. What were your main sesame export marketing routes before the conflict and what are your current routes?
_____

29. Have you experienced any disruptions to your sesame marketing?(Yes/No). If yes, please explain_____

30. Have you experienced any price fluctuation due to the recent conflict?(Yes/No). If yes, would you please describe
it?_____

_____
_____

III. Focus Group Discussions(FGD) Questions

1. How do you describe sesame seed exporting process in your area?
2. What trends did you observe for sesame seed export market in Tigray
3. Is there a Growing demand in the world market and the available capacity to expand sesame production?
4. What are sesame seeds export opportunities and threats?
5. What systems, policies, regulations, and control mechanisms are leading for these low achievements?
6. How do you describe the effects of the war launched in Tigray since 2020 on your sesame marketing?
7. Have you been personally affected by the recent conflict?(Yes/No). If yes, please describe the ways in which you were affected?
8. What were your main sesame export marketing routes before the conflict and what are your current routes?
9. Have you experienced any disruptions to your sesame marketing?(Yes/No). If yes, please explain
10. Have you experienced any price fluctuation due to the recent conflict?(Yes/No). If yes, would you please describe it?

III. Interview questions with Tekeze Union Cooperative

1. Do you think that there is a high potential for Ethiopian Sesame Seeds production and rapidly growing demand in the international market?
2. What are sesame seeds export opportunities and threats?
3. What systems, policies, regulations, and control mechanisms are leading for these low achievements?
4. How do you evaluate the lack of integrity in the sesame seeds value chain actors?
5. What are the major problems, which contribute for low achievement of foreign currency through the export of Sesame seeds?
6. How do you describe the effects of the war launched in Tigray since 2020 on your sesame marketing?
7. Have you been personally affected by the recent conflict?(Yes/No). If yes, please describe the ways in which you were affected?
8. What were your main sesame export marketing routes before the conflict and what are your current routes?
9. Have you experienced any disruptions to your sesame marketing?(Yes/No). If yes, please explain
10. Have you experienced any price fluctuation due to the recent conflict?(Yes/No). If yes, would you please describe it?

III. Interview Questions with Bureau of Agriculture and natural resource and Tigray Cooperative agency

1. How do you explain the current sesame seed export situation based on the context of your organization?
2. What is the role of your company to facilitate Sesame market and production?
3. What are the major challenges for Sesame seed export market?
4. How do you define Tigray sesame export market competitiveness at international market?
5. What is the comparative advantage Tigray sesame seed, and do you believe is it profitable sector?
6. Do you think the international buyer has built a strong trust on Tigray sesame seed exporter? If No please specify the reason?
7. In your though, what is the strength of the existing value chain and who are the most benefited chain actors? Why?
8. Have you been personally affected by the recent conflict?(Yes/No). If yes, please describe the ways in which you were affected?
9. What were your main sesame export marketing routes before the conflict and what are your current routes?
10. Have you experienced any disruptions to your sesame marketing?(Yes/No). If yes, please explain.