

Value Chain Study

Natural Gum and resin

*(Especial Emphasis to Dhas Woreda of Borena Zone,
Oromia Regional State)*

Action for Development

(Promoter)

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ACRONYMS

AFD	Action For Development
ANRS	Amhara National Regional State
ARD	Agricultural and Rural Development
CSA	Central Statistics Authority
EARO	Ethiopian Agricultural Research Organization
EC	Ethiopian Calendar
ECA	Ethiopian Customs Authority
EEA	Ethiopian Economic Association
EEPA	Ethiopian Export Promotion Agency
EEPD	Ethiopian Export Promotion Department
EPOSPEA	Ethiopian Pulses, Oilseeds, Spices Processors and Exporters Association
EQSA	Ethiopian Quality and Standard Authority
ETB	Ethiopian Birr
EU	European Union
FAO	Food and Agricultural Organization
FDRE	Federal Democratic Republic of Ethiopia
FFHC/AD	Freedom From Hunger Campaign /Action for Development
GDP	Gross Domestic Product
GMM	Gross Marketing Margin
GO	Government Organization
IFPRI	International Food Policy Research Institute
IPO	Improved People Opportunities
LVIA	Lay Volunteer International Association
MIS	Market Information System
MOARD	Ministry of Agriculture and Rural Development
MT	Metric Tone
NBE	National Bank of Ethiopia
NGPME	Natural Gum Production and Marketing Enterprise
NGO	Non Government Organization

NMM	Net Marketing Margin
NTFP	Non Timber Forest Products
RRMS	Rapid Rural Market Survey
SNNRS	Southern Nations Nationalities Regional State
TGMM	Total Gross Marketing Margin
TOR	Terms of Reference
UAE	United Arab Emirates
USD	United States Dollar
VCPSA	Value Chain Partnership for Sustainable Agriculture

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DRAFT REPORT FOR VALUE CHAIN ANALYSIS OF INCENSE MARKETING COOPERATIVE: THE CASE OF ERDER COOPERATIVE AT BORANA ZONE

1. INTRODUCTION

1.1. BACKGROUND

National Economy

Agriculture is a sector that plays a central role in terms of production, employment, foreign exchange generation, etc. in developing countries. As in many developed agrarian economies, the Ethiopian economy heavily depends on the agriculture sector. The sector contributes the largest share, which accounts 47.5 percent of the GDP, 82.2 percent export earnings and 80 percent of employment and 90% of food source for the people in the year 2003/4, EEA (2003/04). According to CSA, 2007 the percentage contributions of Ethiopian GDP of agriculture, industry and services are 45.9, 13.3 and 40.9 respectively. The agricultural sector contributes the largest share, which accounts 45.9 percent of GDP, of which contribution of crop production, livestock, and forestry are 29.9, 12.2 and 3.9 percents respectively. Being an underdeveloped economy that heavily depends on agriculture, the structure of Ethiopian export is dominated by agricultural products, which alone accounted for more than 86.30 percent of the export proceeds of the country, MOARD (2007). Among the agricultural products, forestry product that is gum and resin, honey and forest coffee exports are some of the contributors to export activities and foreign exchange earnings.

Non-wood forests

As shown in the above summary, product of non-wood forests contributes a small portion of the national economy, where as the potential is enormous. The primary focus of this document is the produce of such non-wood forests. Non-wood forests play a vital role in the life and welfare of the people. A large number of items of our everyday use contain a

varying proportion of non-wood forest products. Sustainable utilization and development of non-wood forest products are highly demanding on scientific knowledge and information relating to their resource distribution and management, chemical and biological properties, uses, supply and demand situation and so on. However, the information base of non-wood forest products is still weak in Ethiopia and sources of existing information are dispersed. The same is true in Borana Zone, though richly endowed with species in the genus *Acacia*, *Boswellia*, and *Commiphora*, some of which are the main sources of commercial gum and incense.

Unlike many economic activities, development of non-wood forests to boost the harvesting output has a positive impact on environment.

Product Description on the produce of non-wood forests, mainly gum and resin

Gums and resins are mostly exudates from plant material which can be harvested by making incisions in the bark of the tree. There are also a number of gums, which are produced as seeds. Gums and resins differ from each other in their chemical composition and properties. Most of the gums discussed in this survey belong to the group of hydrocolloids. Hydrocolloids are mixtures of substances (the hydrocolloid) and water in which the substance is evenly dispersed and which can take on different states (e.g. gel or liquid) depending on the concentration of the mixture. The capability of gums to cause a large viscosity increase in a mixture makes them valuable ingredients in the food industry, the cosmetics industry as well as the pharmaceutical industry. They are used as thickeners, emulsifiers, stabilizers, suspending agents and gelling agents. CBI Market Survey, 2008.

Resins, which are also plant exudates, have a different chemical composition than gums and, consequently, weaker colloidal properties. Some resins are also called gum resins when they still have colloidal properties. Resins are composed mainly of volatile fluid terpenes, which can escape from the compound. Some resins also contain volatile essential oils. When resins are in a viscous fluid state, they are called soft resins or oleoresins. Soft resins containing benzoic acid or cinnamic acid are called balsams. When the resins contain little volatile fluids, they are called hard resins.

These commercial products are high valued and demanded in international market. Currently the Country is in short of supply as compared to world demand especially for gum olibanum. Therefore, gum and incense production and marketing activities is becoming better income generating activity for the poor rural pastoralists. Besides, as the sector is a labor intensive it creates better job opportunity and absorb non professional workers for the purpose of tapping, collection and processing (cleaning, sorting and grading). From the environmental benefits point of view, harvesting of the incense forests is now much more regulated and sustainable, ensuring biodiversity conservation and, above all, the community's long-term income.

Borena zone

The study of this value chain study commences from Boren region. Traditionally the Borana are predominantly a rural pastoral people. In Borana zone pastoralism constitutes single most important viable enterprise for most households. Cattle were, and continue to be, the primary focus of Borana pastoralism, although browsing animals are continuous kept within diversified herds.

While Borana make up the majority of the population, it is important to recognize that members of the other Oromo clans and different ethnic groups live in the area and share its resources.

Local community groups within the Borana lowland can be divided into four major groups:

- i) Semi settled pastoralists being Oromo groups : Borana, Gujji and Gabra
- ii) Nomadic Pastoralists: Garri (returnees former Somali refugees)
- iii) Agro-Pastoralists and Cultivators being mixed Oromo groups: mainly Borana, Guji and Gabra.
- iv) Peri-Urban /Urban Poor: Mixed ethnicity –Borana, Gujji, Gabra, Merihan (returnees) Garri, Konso and Amhara.

Though these ethnic groups have lived together for long period of time, it has been observed during the survey that conflicts were seen among these different ethnic groups, in most cases at the potential natural gum production areas. The conflict is more intense among Gabra, Garri and Borana.

Pastoralists and agro-pastoralists in the Borana zone are facing food security challenges. The natural resources on which they depend are under increasing pressure; grasslands are suffering from major bush encroachment, agriculture is expanding, in spite of the high risk of inadequate rainfall, and forests are being rapidly degraded, Increasing numbers of people are no longer practicing pastoralism as they become less able to cope with the impacts of drought. There is the now standard urban drift into and around small towns or larger urban centers, in the hope of finding new sources of livelihood. These groups make up the peri-urban poor who are the most food insecure and vulnerable to livelihood shocks such as drought.

Action for Development, the promoter of this study

AFD, the project owner, is the national NGO registered by the FDRE Ministry of Justice with certificate number 83. It evolved from the FFHC/AD, which was implementing a programme of grassroots rural development in various parts of Ethiopia for over a decade.

Borana Zone is one of the areas where AFD providing support services for pastoralists and agro-pastoralists. To this effect, Among other support services provided by AFD, diversifying income generating activities of pastoralists by taking the advantages of potential gum and incense natural resources in which they are familiar with that has great export market opportunities is the one provided to Erder Incense Marketing Cooperative which is the beneficiaries of the project.

The beneficiary of the project, Erder Incense Marketing Cooperative, is found at Erder Kebele, Dahas Woreda of Borana Zone which has been endowed with great potential natural gum and incense resources. The members of cooperative are pastoralists and their primary means of living is livestock production. But, due to population pressure, increased cultivated land or agriculture and inadequate rain fall forests are being degraded. Hence pastoralists are not in a position to feed their livestock herds due to the lack of grazing lands and facing food security problems.

In this area, there are so many national and international NGOs that provide development support services for pastoralists in which most of them are concentrated more on livestock sector. But, though the endowment of natural forest resources and great

potential development opportunities in Borana Zone, it is hardly found support services in the natural gum and incense production and marketing sector. As a result the potential gum and incense production have not been efficiently utilized. The actual production from this area is also insignificant. The inefficient market chain that is the link in the market chain (production, postharvest management, marketing and business development services) are disjointed and generating an inefficient information flow along the market chain contributes too much in aggravating the problems in the study area.

Lack of marketing information along the market chain can enable some actors to exploit other market chain actors unfairly. This type of exploitation is usually marked by excessive profit being extracted by a particular market chain actor at some point in the market chain. This excessive extraction of profit generated systemic inefficiencies along the market chain. The existing market chain for Borana type gum and incense alleged to be inefficient accordingly.

Knowing these impediments against the potential natural resources for the production of gum and incense and the opportunity of NTFPs that can be collected and processed to provide further diverse income generating activities for the pastoralists, AFD, the project owner, has initiated to be undertaken “Value Chain Analysis” study for Erder Incense Marketing Cooperative with the objectives of strengthening the Cooperative where by enabling to become competent market chain actors towards improving the pastoralists livelihood.

This is because, unlike a production market chain, i.e. used to describe all participants involved in an economic activity which uses inputs and services to enable a product to be made and delivered to a final consumer; a value market chain is understood as a strategic network between a numbers of independent business organizations. According to Hobbes et.al, (2000) cited in CIAT, a value chain is differentiated from a production/supply chain because: participants in the value chain have a long term strategic vision and recognized their independence and are disposed to work together to define common objective, share risks and benefits, and make the relation work. It is oriented by demand and not by supply, and thus responds to consumer needs. Participants have a shared commitment to control product quality and consistency and have a high level of confidence in one another that allows greater security in business

and facilitates the development of common goals and objectives. Therefore, a study of value chain analysis is an important methodology to develop the competitive advantages of the beneficiary cooperative.

The importance of the study for the Cooperative is that it will help the cooperative through identifying actors and functions, opportunities and constraints along the market chain in order that ideas how to take the advantages of these opportunities will be suggested.

1.2. OBJECTIVE OF THE STUDY

The general objective of the paper under the assignment “Value Chain Empowerment” for Two Cooperatives is to analyze the value chain of Erder Incense Marketing Cooperative found in Dahas Woreda of Borana Zone so as to contribute the strengthening of the focus cooperative, where by enabling it to become competent market chain actor with the following specific objectives:

- i. To identify how a “commodity market chain” (Gum or incense market chain) is organized, operates and performs in the study area
- ii. To identify key actors and functions in the market chain
- iii. To identify constraints and opportunities in a market chain
- iv. To develop and suggest ideas on how to take advantage of opportunities or interventions in regard to organization, technology, and management for developing the focus cooperative competitive advantage

1.3. SIGNIFICANCE OF THE STUDY

The significance of this study is based primarily on the importance of value chain analysis to enable rural communities in our case pastoralists to enhance their agricultural business skills to move beyond a food security mentality.

Governments, donors and development organizations that aim to support rural development projects with an increasing focus on raising incomes. Unfortunately, many development

projects and practitioners only look at one part of the market chain, on farm production, and therefore projects often have limited effectiveness on livelihood issues. A focus on production is often justified by the concept that small holder producers should focus their efforts on having sufficient food to provide for the family first and thereafter base their marketing strategies on surplus production. The ability of a community to avoid famine is clearly a sensible approach and food security a basic tent in the development pathway. Unfortunately, the food security approach has tended to dominate agricultural interventions for the past 3040 years, meaning that development projects, regardless of market access issues, have remained focus on increasing production of low value, staple food rather than taking on a broader concept of economic security, which takes advantage of a more diversified approach to farm incomes based on local opportunities, local assets and the competitive advantages of the community in which the community is located.

As an alternative “market driven” approach aims to enhance rural community agricultural business skills beyond food security. This means that farmers need to be more organized, which in turn requires that service providers, assist local communities to plan and cooperate such that set up process to market and sell goods and services that will provide their families with additional funds to support their food security and livelihood developmental needs and aspirations. Working with a specific community, a service provider can build a clear understanding of the local marketing conditions and how best to work with a farmers group to resolve critical points in a particular market chain. Developing this knowledge alongside the farmers group, i.e. the business partner, is a key element in developing a sustainable and competitive agro-enterprise. There is no exception in the case of pastoralist incense marketing cooperative with their supporting service provider AFD.

Therefore; it has been found very important to undertake the value chain analysis of gum and incense marketing in order that an appropriate intervention areas will be identified. Hence, this study is expected to give general directions for supporting organization (AFD) and other interested bodies towards the development of competitive advantage for the focus cooperative. The study will provide valuable information to formulate strategies and develop business plans that would serve as guidelines for interventions in improving the efficiency of Erder incense marketing cooperative in the market chain. In addition, the study will be used as a reference for further works.

1.4. SCOPE OF THE STUDY

The value chain study includes not only the functional aspect of market chain (production, post harvest and marketing) but also business organizations, supporting services and economic frame work in which the market chain operates at different scale of evaluation and level of participation i.e. Local, Provincial and National levels.

Accordingly, this study tries to analyze the value chain of gum and incense marketing at local levels specifically, the case of one incense marketing cooperative found in Borana zone, Dahas woreda and Erder kebele along the value chain as it was selected by its service provider AFD.

Therefore; the study is limited to investigate the key issues that are relevant to improve the competitive advantages of Erder incense marketing cooperative and enable them to become competent market chain actors.

1.5. LIMITATION OF THE STUDY

The major limitation of this study emanates from Rapid Market Survey (RMS) method followed to collect primary data in the field, that is, all the limitations attribute to RMS in terms of marketing studies as detailed in Holtzman, (1991), World Bank(1982) and IFPRI(2002) as cited in Demalash, (2004) holds true in this case too.

The survey team has encountered great problems in order to get information from key actors in the market chain especially from traders. Because they suspect the team as a team surveying for tax purpose and competitor that discloses their business secret. In general traders are busy people and do not appreciate time spent in discussing and providing marketing information to other people since they didn't believe that is relevant to their area of activity. The other problems are lack of time series data of production, area, productivity, price and other related information from the respective government offices to enrich the study.

The other serious limitation is the problem to consistently identify different types of gum product names from one area to another in case of domestically consumed incenses as there were no grades and standards in gum sector. In addition, the price data that we have gathered from different markets lack consistency and less reliable, the aggregation of available data for gums since we couldn't find separate data for each type of gum products (gum arabic, gum olibanum, gum myrrh and gum oppopanex).

Notwithstanding these normal constraints the consultants were able to access the relevant information through interviews and secondary data searches and complete the assignment accord to the terms of reference.

1.6. ORGANIZATION OF THE REPORT

The paper is divided into six sections. Section one consists of introduction which includes research methodology and conceptual framework while section two describes the Ethiopian marketing policy and regulatory framework.

Section three discusses an overview of gum production and marketing in Europe, Ethiopia and the study area, Oromia Region Borana Zone. In addition Global analysis of supply of and demand for natural gums and gum resins is dealt. In this section production, post-harvest management and marketing aspects of natural gums have been discussed.

Section four which is the wider section holds result and discussions. This section describes and discusses the findings of the study in details. This section consists of various sub-sections of which the majors are; background of Erder (the focus) Cooperative, key actors and functions in Borana type gum and incense market chain, marketing channel, market structure, the supply and demand conditions, cost structure and key actors benefit (profitability), marketing costs and margins, business development services and its providers along the market chain.

Finally section five and six deals with constraints and opportunities and conclusion and recommendations to be taken up in Borana type incense market value chain.

1.7. METHODOLOGY

1.7.1. CONCEPTUAL FRAMEWORK

According to CIAT, the terms production chain, supply chain, market chain and value chain are often used interchangeably, but in fact there are some important differences. In simplest definitions, the terms production chain, supply chain, market chain are synonyms used to describe all participants involved in an economic activity which uses inputs and services to enable a product to be made and delivered to final consumer. A value chain is understood as a strategic network between a numbers of independent business organizations. According to Hobbs et al, (2000), a value chain is differentiated from production supply chain because: participants in the value chain have a long term strategic vision and recognized their interdependence and are disposed to work together to define common objectives, share risks and benefits, and make the relation work. It is oriented by demand and not by supply. Furthermore; participants have a shared commitment to control product quality and consistency, a high level of confidence in one another that allows greater security in business and facilitates the development of common goals and objectives.

A value chain according to VCPSA (2004) is a string of companies or players working together to satisfy market demands for a particular product. A value system is defined as follows: A connected series of organizations, resources, and knowledge streams involved in the creation and delivery of value to end customers. Value systems integrate supply chain activities, from determination of customer needs through product/service development, production/operations and distribution, including (as appropriate) first, second, and third tier suppliers. The objective of value systems is to position organizations in the supply chain to achieve the highest levels of customer satisfaction and value while effectively exploiting the competencies of all organizations in the supply chain [pg. 1112].

Supply Chain Redesign (Handfield and Nichols, 2002 Financial Times Management)

The VCPSA project is most interested in adding sustainability to the value chain concept – sustainable value chains emphasize longterm, significant economic return to all firms in a chain, particularly producers who follow production practices using the highest standards of environmental and community stewardship.

In a value chain business arrangement, each actor in the chain must make a mental shift from simply “What is best for my firm and my firm now?” to “What can I do in my firm to maximize the economic, environmental and community benefit to all the members of this value chain?” A significant change often comes in the form of information sharing. In a value chain members need to share a great deal more business information with one another so that all can make better decisions that affect the group.

Therefore; once the value chain is selected based on the existing resources, potential production, and other appropriate criteria the next step is to gather and analyzed marketing information on the product and market chain identified. In doing so, The Rapid Market Survey (RMS) i.e. description of the study using qualitative field assessment and secondary data with the advantages of RMS to gain a rapid idea of how the “commodity market chain” (market chain) is organized, operates and performs, identified constraints and opportunities in the market chain, develop ideas on how to take advantages opportunities or develop intervention in to organization, technology and management for developing an agro enterprise and its importance to an agro enterprise development.

Many studies were used rapid market appraisal methods to describe commodity marketing system. Although, Rapid Appraisal has got its own limitations, it is getting importance in marketing research. For instance, Crawford (1997b) has employed Rapid Rural Marketing Appraisal (RRMA) method to identify and prioritize marketing problems, and evaluation of practical means of improving marketing functions to meet the needs of expansion coupled with high performance in developing countries. Morris (1991) has employed rapid reconnaissance methods to conduct a diagnostic study of the maize sub sector in Paraguay. Holtzman et al (1995) has also used rapid appraisal to examine coarse grain processing and utilization in Mali as cited in Demelash (2004).

According to CIAT, together commercial information on the product and market chains Rapid Market Survey is recommended with known or potential buyers of the product. This phase of method seeks to place the agro – enterprise design process on a firm footing with reliable market data, and at the same time to identify and get know the actors in the market chain and the clients of the product or products.

1.7.2. METHODS OF DATA COLLECTION

TOR of AFD is the reference for this study of value chain analysis for Erder incense marketing cooperative found in Dahas woreda, Borana zone of Oromia region. Therefore; Erder incense cooperative was considered as our focus for the detailed interview and also the neighbouring cooperative organizers like LVIA, Somali region, Liben zone and woreda, Borana and Yabelo zone and woreda administrative agriculture, cooperative and other important offices based on their knowledge, expertise and concern for our study gum marketing were interviewed, discussed and visited too. In addition, traders in gum market starting from rural assemblers up to exporters, retail shops and domestic markets found in Moyale, Dumluke, Awasa, Addis Ababa Exporters and Merchato wholesalers and retailers have been surveyed too.

The details of primary and secondary data collection is discussed here under

i. Primary Data

The primary data was collected from markets, marketing agents (actors) and institutions for the period 2007/2008 crop year. Therefore Rapid Market Survey (RMS) through participant observation, semi structured questionnaire and interviews has been employed. Besides, focus group and key informants interview have also been conducted.

In doing so we have gathered information from each market participant and stakeholders (producers and cooperative member pastoralists, rural and town assemblers, wholesalers, exporters, wholesale and retail shops, processors, NGOs and other woreda and zone offices etc...) throughout the value chain.

The primary data that have been collected are concerned about production, postharvest management, marketing such as; market structure (government participation, barriers to entry or freedom to entry and exit and forward and backward integration), market conduct (pricing and product strategy, responsiveness to changes, research and innovations, methods of selling), market performance (profitability, marketing costs and margins, value addition), business development services and its providers and policy and regulatory framework.

ii. Secondary Data

Secondary data have been collected through review of documents and relevant studies related to the project interest specifically concerning gums marketing from regional, national and international data sources (CSA, Customs, Quality and Standards, Banks, Cooperative and Agricultural Offices, Internet, EEPA, Chamber of Commerce and EEA).

The data collected in this case are concerned about production, collection and marketing, export performance (export volume and value, destinations, price, growth, quality and standards), supply and demand conditions and value adding opportunities.

1.7.3. METHODS OF DATA ANALYSIS

The primary and secondary data collected from different areas, actors, documents and business development service providers along the market chain with respect to gum and incense, and the qualitative and quantitative data tabulated in the way that enable to understand /capture how the gum and incense market chain organized, operates and performs in the study area. The value chain analysis was described using qualitative analysis and descriptive statistics, since the method that we employed in the study is Rapid Market Survey (RMS) and secondary data.

Hence, the gum and incense production and marketing systems, key actors and functions in the market chain, marketing channel, business development services and its providers, constraints and opportunities have been described qualitatively. The supply and demand conditions, marketing costs and margin, producers share and profitability of the business have been analyzed using descriptive statistics; and some market efficiency measures such as, net benefit of the commodity business and gross margin analysis.

The details of each method of analysis will be discussed briefly at the prospective analysis sections.

2. POLICY AND REGULATORY FRAMEWORK

Generally, the overall government policies favor investment and provoke competition among a market participants in the country i.e. the Ethiopian government took initiatives and made continued effort to improve the performance of by adopting various measures such as: devaluation of local currency and the rate is determined by the competition among banks, improving the licensing procedure (proc No. 67/89), continuous improvement of investment incentives, launched various and made continuous improvement (reduction of sale and excise tax from some of goods produced locally and imported goods, abolishment of NBE price control on exportable goods, introduction of export credit guarantee scheme, introduction of foreign exchange retention scheme exporters are allowed to retain 10% of their proceeds for indefinite period, issuance of directives for allowing external loan and suppliers credit, and limiting the role of the state to the level of indicating development options, drafting policies and laws; promoting private investors by creating a conducive working atmosphere), establishing and improving different organizations that have got direct links with export trade the Ethiopian Export Promotion Department (EEPDP) in 1999 to a wide ranging export development agenda encompassing conducting market research; facilitating participation of exporters in trade fairs, exhibitions and trade missions; and the Ministry of Foreign Affairs has taken some initiatives to promote Ethiopian exports through its commercial attaches in foreign diplomatic missions, launching of trade reforms(the government embarked on a comprehensive tariff reform program aimed at dismantling quantitative restrictions and gradually reducing the level and dispersion of tariff rates), decontrol of domestic prices petroleum. This has been accompanied by the dismantling of government monopoly in trade of key products, including coffee trade).

However; though the recent export performance of the country is improving it couldn't be able to balance imports. Therefore, the country export is not satisfactory and constrained by geographical and commodity concentration that needs to be improved further.

As far as natural gum production and marketing is concerned; in spite of the country's' great potential production, the performance is very weak. According to MOARD (2007) statistical

abstract, the contribution of natural gum from total country's' and agricultural exports were 0.48 and 0.53 percents respectively. In general its contribution for country's GDP ranges from 0.03 to 0.04 percent during 2000/2004 i.e. insignificant. The sector is alleged to be inefficient due to the following structural and institutional factors; poor infrastructural, lack of research and development activities in using the available natural resources, lack of consistent production land leasing policy, smuggling, the remoteness and hardship in gum production areas and weak attention of government to the sector.

Almost the major problems are associated with supply side (production) impediments in order to efficiently utilize the potential gum and incense natural resources towards meeting the demand for these products in international market and benefiting from the current progressive and attractive price opportunities too.

These problems were more aggravated in Gambella, Somali, Afar, SNNRS and Oromia relative to Tigary, Amhara and Benishagule Gumuz regional states where better utilization of resources have been shown respectively though not satisfactory.

3. AN OVERVIEW OF GUM PRODUCTION AND MARKETING

3.1. GLOBAL ANALYSIS OF GUM AND RESIN MARKETS

3.1.1. ANALYSIS OF WORLD EXPORT SUPPLY

A. Arabic Gum

The growth of World exports of natural gum Arabic increased in value by 32 percent annually between 2002 and 2006 and increased in volume by 7 percent in the same time interval. The annual growth of natural gum between 2005 and 2006 decreased by 14 percent in value. In 2006, the value and volume of world natural gum export has been USD 278676000 and 101035 MTS respectively.

Table: 3.1 Top Ten Exporters of Gum Arabic in 2006

Exporters	Value exported in 2006, in USD thousand	Trade balance in 2006 in USD thousand	Quantity exported in 2006	Quantity Unit	Unit value (USD/unit)	Annual growth in value between 2002-2006, %	Annual growth in quantity between 2002-2006, %	Annual growth in value between 2005-2006, %	Share in world exports, %
World	278,676	38	101,035	Tons	2,758	32	7	-14	100
France	83,680	45,564	19,689	Tons	4,250	26	2	-5	30.03
Sudan	50,299	50,299	23,149	Tons	2,173	30	1	-51	18.05
Chad	40,536	40,536	17,806	Tons	2,277	52	14	23	14.55
UK	32,828	16,799	5,962	Tons	5,506	36	5	33	11.78
Nigeria	21,110	21,109	21,225	Tons	995	53	26	-17	7.58
Germany	18,026	6,213	3,450	Tons	5,225	31	2	2	6.47
USA	17,329	36,732	3,332	Tons	5,201	37	15	40	6.22
Belgium	2,400	3,185	563	Tons	4,263	24	-10	-73	0.86
Netherlands	2,199	3,762	624	Tons	3,524	19	17	63	0.79
Italy	1,712	10,153	677	Tons	2,529	46	26	-30	0.61

Source: ITC calculations based on COMTRADE statistics

From the total 64 world exporters of natural gum, the first top seven countries (France, Sudan, Chad, UK, Nigeria, Germany and USA) share is about 95 percent and each of these countries share are 30.03, 18.05, 14.55, 11.78, 7.58, 6.47 and 6.22 percents respectively. The remaining 57 countries share is only about 5 percent which is totally insignificant in each country case.

As shown in the table (3.1) above among the first ten top exporters six countries are European, three countries Africans and the remaining one country is USA. The first top three natural gum Arabic exporter with 30.03, 18.05 and 14.55 percent share's of the world exports are France, Sudan and Chad respectively. From the top three, two of them are Africans. Nigeria is first top fifth exporter with 7.58 percent share. In general from the first ten top exporters of gum Arabic the three top African countries share is about 40.18 percent of the total world export. Hence African countries have better share of world gum Arabic export than gum resins. For the details see the table 3.2 next.

B. Gum Resin

The growth of World exports of gum resin increased in value by 4 percent annually between 2002 and 2006 and decreased in volume by 5 percent in the same time interval. The annual growth of gum resin between 2005 and 2006 increased by 5 percent in value too. In 2006, the value and volume of world gum resin export has been USD 173.5 million and 94176 MTS respectively. From the total 39 world exporters of gum resin, the first top eight countries (USA, Indonesia, India, Singapore, Pakistan, Germany, Iran and France) share is about 67 percent and each of these countries share are 18, 11, 10, 8, 6, 5, 5 and 4 percents respectively. The next two countries share with each 3 percent is about 6 percent, the third seven countries share with each 2 percent is about 14 percent, the fourth eleven countries share with each 1 percent is about 11 percent and the last 11 countries share is about 2 percent.

As shown in the following table (3.2), among the first ten top exporters six countries are Asians, three countries European and the remaining one country is USA, the first top natural gum exporter with 18 percent share's of the world exports. . France, Germany and Greece are most likely re-exporters of Natural gum, as in these countries the trees to produce the

gums do not grow. Other African suppliers of Natural gum include Ethiopia, South Africa, Kenya, Sudan and Somali. But, each of them has only one percent share from world exports. Besides, Ethiopia and Kenya show better growth rates in volume of export than value where as, South Africa has shown better growth rates in volume than all African countries, the growth rate in value is negative and less than from all African countries. For the details see the table 3.2 next.

Table: 3.2 Top Ten Exporters of Gum Resins in 2006

Exporters	Value exported in 2006, in US\$ thousand	Quantity exported in 2006	Quantity unit	Unit value (USD/unit)	Annual growth in value between 2002 & 2006, %	Annual growth in quantity between 2002 & 2006, %	Annual growth in value between 2005 & 2006, %	Share in world exports, %
World estimation	173,484	94,176	Tons	1,842	4	-5	5	100
USA	30,376	7,943	Tons	3,824	12	5	22	18
Indonesia	19,887	26,547	Tons	749	8	0	10	11
India	16,873	8,897	Tons	1,896	5	3	-1	10
Singapore	13,167	5,102	Tons	2,581	7	-2	9	8
Pakistan	9,813	8,008	Tons	1,225	-25	-31	-61	6
Germany	8,866	1,218	Tons	7,279	12	-2	9	5
Iran	8,290	608	Tons	13,635	21	-6	81	5
France	6,331	962	Tons	6,581	14	3	26	4
Greece	5,865	105	Tons	55,857	34	18	0	3
Brazil	4,948	7,346	Tons	674	-1	-13	22	3

Source: ITC calculations based on COMTRADE statistics

3.1.2. ANALYSIS OF WORLD IMPORT DEMAND

A. Arabic Gum

The growth of World imports of Gum Arabic increased in value by 30 percent annually between 2002 and 2006 and in volume by 3 percent in the same time interval. But, the annual growth of Gum Arabic between 2005 and 2006 decreased by 22 percent in value. In 2006, the value and volume of world natural gum export has been USD 278.6 million and 99306 MTS respectively. From the total 107 world importers of Gum Arabic, the first top six countries (USA, France, Germany, UK, Italy and India) share is about 56.01 percent and each of these countries share are 19.4, 13.68, 8.7, 5.75, 4.26 and 4.22 percents respectively. The next twelve countries share is about 27.87 percent and the remaining 89 countries share is about 16.14 percent.

Table: 3.3 Top Ten Importers of Gum Arabic in 2006

Importers	Value imported in 2006, in USD thousand	Trade balance in 2006 in USD thousand	Quantity imported in 2006	Quantity Unit	Unit value (USD/unit)	Annual growth in value between 2002 & 2006, %	Annual growth in quantity between 2002 & 2006, %	Annual growth in value between 2005 & 2006, %	Share in world imports, %
World	278638	38	99306	Tons	2806	30	3	-22	100
USA	54061	36732	17866	Tons	3026	27	4	-7	19.4
& France	38116	45564	18567	Tons	2053	27	-4	-45	13.68
Germany	24239	6213	6262	Tons	3871	50	7	-36	8.7
UK	16029	16799	5127	Tons	3126	29	-5	-59	5.75
Italy	11865	10153	3408	Tons	3482	27	-3	-38	4.26
India	11751	11475	18840	Tons	624	41	28	23	4.22
Switzerland	10748	10571	1883	Tons	5708	37	3	36	3.86
Japan	8116	7967	1780	Tons	4560	29	1	-32	2.91
Sweden	7666	7653	1853	Tons	4137	60	14	6	2.75
Denmark	7144	7113	1610	Tons	4437	25	-2	66	2.56

Source: ITC calculations based on COMTRADE statistics

Among the first ten top importers seven countries are European, two countries Asian and the remaining one country is USA, the first top Gum Arabic importer's of the world. For the details see the table 3.3 next.

Table: 3.4 Gum Arabic Importing Countries of the World from 20032007

Importers	Imported value in 2003	Imported value in 2004	Imported value in 2005	Imported value in 2006	Imported Value in 2007
World	136,923	211,653	362,642	278,797	
France	22,568	39,138	69,144	38,116	48,972
United States of America	26,578	34,209	58,032	54,061	38,236
United Kingdom	10,065	19,275	39,269	16,029	20,445
Germany	8,269	18,639	38,015	24,239	17,884
Ireland	2,343	779	12,649	7,046	14,582
Italy	7,313	12,758	19,174	11,865	11,181
Switzerland	3,047	5,473	7,928	10,748	10,176
Japan	5,054	9,345	11,953	8,116	8,944
China	2,266	2,671	5,289	6,393	7,671
Mexico	3,868	4,512	7,318	6,930	6,149

Source: ITC calculations based on COMTRADE statistics

B. Gum resin

The growth of World imports of gum resin increased in value by 10 percent annually between 2002 and 2006 and in volume by 2 percent in the same time interval. The annual growth of natural gum between 2005 and 2006 increased by 16 percent in value too. In 2006, the value and volume of world natural gum export has been USD 179260000 and 102913 MTS respectively. From the total 39 world importers of gum resin, the first top eight countries (France, USA, India, Germany, Italy, UK, Singapore and Netherlands) share is about 50 percent and each of these countries share are 9, 8, 7, 6, 6, 5, 5 and 4 percents respectively. The next five countries share with each 3 percent is about 15 percent, the third six countries share with each 2 percent is about 12 percent, the fourth seventeen countries

share with each 1 percent is about 17 percent and the last 3 countries share is about 6 percent.

Among the first ten top exporters six countries are European, three countries Asian and the remaining one country is USA, the second top gum resin importers of the world, while France is the first top importers. For the details see the table 3.5 next.

Table: 3.5 Top Ten Exporters of Gum Resins in 2006

Importers	Value imported in 2006, in US\$ thousand	Quantity imported in 2006	Quantity unit	Unit value (US\$/unit)	Annual growth in value between 20022006, %	Annual growth in quantity between 20022006, %	Annual growth in value between 20052006, %	Share in world imports, %
World estimation	179,260	102,913	Tons	1,742	10	2	16	100
France	16,541	3,144	Tons	5,261	13	-2	13	9
USA	14,430	4,661	Tons	3,096	10	-3	29	8
India	12,260	16,259	Tons	754	7	3	21	7
Germany	10,489	2,625	Tons	3,996	13	-12	30	6
Italy	10,257	4,121	Tons	2,489	16	10	13	6
UK	8,509	2,320	Tons	3,668	2	-11	12	5
Singapore	8,237	3,837	Tons	2,147	7	24	-9	5
Netherlands	6,490	7,257	Tons	894	43	108	-20	4
China	5,156	3,394	Tons	1,519	0	-4	15	3
Belgium	5,128	436	Tons	11,761	9	8	120	3

Source: ITC calculations based on COMTRADE statistics

Table: 3.6 Top Ten Gum resin Importing Countries of the World from 2003-2007

Importers	Imported value in 2003	Imported value in 2004	Imported value in 2005	Imported value in 2006	Imported value in 2007
World	149842	180035	182312	221674	
USA	11961	9151	11176	14430	30305
Netherlands	1930	14893	8119	6490	21368
France	9387	11551	14656	16541	17725
Germany	6778	7055	8039	10507	17208
Italy	6812	7626	9110	10257	14046
Singapore	8594	9565	9057	8237	10367
UK	8987	8031	7615	8509	9250
Belgium	1390	7690	2335	5128	8141
China	5025	5137	4474	5156	7787
Russian Federation	1602	2433	2936	2642	4620

Source: ITC calculations based on COMTRADE statistics

3.2. AN OVERVIEW OF EUROPEAN GUM AND RESINS MARKET

Because of its proximity to Ethiopia, and the significance of European countries as importers of Gum and Resin from Africa, especial emphasis is given to describe the European market. Recently, however, there is a growing demand from Asian countries mainly China though, the Import size is not as big as Europe import.

3.2.1. MARKET DESCRIPTION: CONSUMPTION AND PRODUCTION IN EUROPEAN UNION

INDUSTRIAL DEMAND ASSESSMENT

According to IMR International, a consulting firm specialized in hydrocolloids, the global market for hydrocolloids amounted to € 2.4 billion in 2007. This includes hydrocolloids for all uses (food, cosmetics, pharmaceuticals, petrol) and products which are not hydrocolloids by definition, but which serve a similar function. Between 2003 and 2008, the global aggregate

growth rate of demand for hydrocolloids was expected to be 1.52.5% annually. For the period 2007-2012, growth is expected to reach 2.8% annually for the global market, which will increase the value of the market to € 3.9 billion in 2012 (IMR International, 2007). The main drivers behind the growth are increases in the manufacturing of processed foods and increases in the demand for healthier products and natural ingredients.

The Network for Gums and Resins in Africa (NGARA) estimated global demand for resins at around 2,500 tones in 2006 (NGARA, 2006). The demand is stable. Importers have stated that there are no supply problems and that, at the same time, they are not aware of any new applications which could significantly increase demand for resins.

The USA and the EU are the largest markets for gums, each accounting for a little less than one third of the global market. Important EU markets for gums are Germany, France, UK, The Netherlands and Italy. China and Europe are the main markets for resins. Within the EU, Germany is the largest market for resins.

Food applications account for 90% of the global hydrocolloids market (SRI Consulting, 2007). Gums are used as thickeners, stabilizers, emulsifiers, clouding agents and for flavor encapsulation. The ability to perform in this wide range of functions has made gums work well in fat replacement systems. Food manufacturers often use saturated fats to improve the textural and mouth feel properties of their food formulations. However, consumers are increasingly looking for low fat and low calorie foods, which have caused food manufacturers to look for alternatives to fats. Gums offer a good solution. The food formulation determines which type of gum will be used. Gums perform differently in mixtures with other ingredients. Moreover, the temperature needed for the preparation of the food can also influence gum performance. Blends of different gums or blends of gums with other ingredients, which combine into unique properties, are also a common solution. An example is Equacia, a blend of gum Arabic with wheat fibers, from the leading gum Arabic importer CNI.

After food and petrol, the pharmaceutical industry is the third most important market for gums. Gums are used in pharmaceutical products such as conditioners and viscosifiers, thickeners in toothpastes and shampoos, binders in tablets and to disintegrate compressed

tablets. Resins are used in pharmaceutical products for their antiseptic and anti-inflammatory properties.

The cosmetics industry is still a small market for gums. Gums are valued by cosmetics companies for their emulsifying and adhesive properties. Gums are used by the cosmetics industry for their functional characteristics when synthetic substitutes are not available are less effective, or when cosmetics companies want to produce a natural product. The cosmetics industry is also a small but important market for many (oleo) resins. Especially the essential oils contained in many resins are highly valued by the cosmetics industry for the production of perfumes. However, importers have indicated that the use of resins in perfumes is declining.

Resins can consist of resin, essential oils, gums, acids, alcohols and other components. Their uses can be diverse, depending on the components which are extracted. Nevertheless, many resins are mainly used as incense. See annex 13 for an overview of gums and resins and their applications. Keep in mind that the table only includes information about known applications, whereas the products might also be used in other applications.

In general, natural gums, as mentioned in the appendix, are not performing very well. Importers have indicated that only demand for guar gum is growing slightly, while demand for other gums is stable or decreasing.

Table: 3.7 Natural gums and competing hydrocolloids

Total	Product groups	Products (examples)
Hydrocolloids	Starches	Potato, corn
	Gelatin	Gelatin
	Natural gums, laboratorial production	Xanthan, pectin
	Synthetics	MC/HPMC, CMC, MCC
	Seaweed extracts	Carrageenan, alginates, agar
	Natural gums, agricultural production	Arabic, guar, locust bean

The difference in performance of natural gums and competing hydrocolloids can be explained by differences in reliability of supply. The reliability of supply concerns quantities, quality and prices of the products. The quantity and quality of the production of natural gums and resins are strongly dependent on climatic conditions. Consequently, bad climatic conditions can lead to small harvests and a shortage in supply. Manufacturers need a constant and reliable supply of ingredients. Sudden shortages can lead to production problems, which are harmful to sales and relationships with buyers. Thus, manufacturers tend to substitute natural gums and resins for products which are less prone to supply chain problems.

The quality of natural gums and resins is also dependent on climatic conditions. Moreover, natural products are sometimes derived from different botanical sources and can vary greatly in quality. The competitive products named before are produced under much more controlled conditions. As a result, they have better homogeneity and quality consistency. Note that a few oleoresins, such as myrrh, opoponax and frankincense containing particular essential oils are less susceptible to substitution, as their fragrance is more difficult to reproduce synthetically.

Finally, prices of most hydrocolloids competing with natural gums are more stable. Climatic and political instability cause price fluctuations for natural gums and resins, which pose challenges to manufacturers.

The substitution of gums and resins is accelerated by the increasing scale of operations of many EU ingredient suppliers. The ingredient suppliers follow developments in the food, pharmaceuticals and cosmetics industries which are consolidating. The larger companies place more emphasis on stability of supply in terms of both quantity and quality and are developing a strong preference for synthetic substitutes.

The substitution of natural gums by synthetic products is slowed down by the increased demand for healthy food products. The increasing awareness of the importance of diet and nutrition among EU consumers has been accompanied by increasing concerns about the safety of food. Together with a higher appreciation of products from nature and an expanding environmental consciousness, this has made natural products more popular. Food manufacturers have responded by producing more natural products. In 2007, more

than 4,000 processed food products labeled as additive and preservative free were released in Europe.

3.2.2. TRADE: IMPORTS AND EXPORTS

Total imports of natural gums, resins and waxes amounted to € 247 million in 2007. Imports of natural gums and resins had a value of € 192 million and imports of waxes had a value of € 55 million. The major importers are France, Germany and the UK.CBI Market Survey of Gums, Resins and Waxes, 2008.

Total EU imports of gums, resins and beeswax increased by 94% between 2003 and 2005 and then decreased again by 8% between 2005 and 2007. The development was mostly caused by recovering but unstable imports of gum Arabic, which accounted for 43% of total EU imports in 2003, 64% in 2005 and 44% in 2007. The unstable political situation in Sudan causes large fluctuations in gum Arabic supplies. The growth shown in the table is therefore not expected to continue in the coming years. Ibid

France retained the leading position in the imports of gum Arabic. The import value for gum Arabic increased by 15.7% annually between 2003 and 2007. France also increased imports of other natural gums and resins by 10.7% annually, but lost the leading position in that market to The Netherlands. Imports of beeswax increased by 7.8% annually and imports of vegetable waxes increased by 3.8% annually.

German imports of gum Arabic increased by 15.9% annually in the period 2003-2007. Imports of other natural gums and resins also increased strongly by 19.9% annually.

Of the individual markets, the United Kingdom showed the smallest imports growth in the period 2003-2007. The country reported a 3.5% annual decrease in imports of natural gums other than gum Arabic. A reason could be that the United Kingdom produces large amounts of xanthan gum, which is a direct competitor for many gums. Gum Arabic imports increased by 14.3% annually in value.

Italian imports of gum Arabic decreased slightly in volume. The rapidly increased prices for gum Arabic consequently resulted in smaller increases in the value of gum Arabic imports than in the other countries under review. Imports of other gums and resins nevertheless increased by 14.2% annually.

The Netherlands showed a very strong growth in total imports of gums and resins. Imports by The Netherlands consisted mostly (69%) of natural gums and resins, excluding gum Arabic. It is not clear if the 76.2% annual increases in imports will be sustained, as the cause of the increase is not known. Gum Arabic imports increased at a relatively small rate of 8% annually.

All the countries under review increased their imports from developing countries. However, imports by the UK from developing countries increased at a notably lower rate. The cause was the 9.8% annual decrease in imports of natural gums and resins other than gum Arabic from developing countries.

EU Exports Natural Gums, Resins

In 2007, EU exports of gums, resins and waxes amounted to € 158 million / 45 thousand tonnes. This represents a 48% increase between 2003 and 2007, which was realized completely between 2003 and 2005. The development resembles the development in imports, as exports by EU countries consist nearly entirely of re-exports. Only locust bean gum is produced on a large scale in the EU. The target markets for the re-exports consist for somewhat less than 50% of EU countries. CBI Market Survey of Gums, Resins and Waxes, 2008.

Opportunities and Threats

Imports of gums and resins increased considerably in the year 2007 and 2008. This indicates continued interest in these products.

The increases in imports are limited to a few products, notably gum Arabic. Importers have indicated that imports of most other gums have remained stable. There is limited interest from EU importers to let this value addition take place in developing countries.

3.2.3. MARKET ACCESS REQUIREMENTS IN EU MARKET

As a producer in a developing country preparing to access the EU, one should be aware of the market access requirements of his trading partners and of the EU regulations. Requirements are demanded through legislation and through labels, codes and management systems. These requirements are based on environmental, consumer health and safety and social concerns. You need to comply with EU legislation and have to be aware of the additional nonlegislative requirements that your trading partners in the EU might request.

Quality

Resins have an intrinsic quality, which is determined by their chemical composition. Some buyers only accept resins with a specific intrinsic quality, as they know that other resins will not give the desired properties to their final product. Resins also have a handling quality, which is determined by its treatment and handling from collection to processing. During the collection, resins often get contaminated with bark and dirt. During handling between collecting and exporting, resins often get broken into smaller pieces and/or form irregular masses caused by high temperatures. Loss of volatile but valuable oils is particularly bad for the quality of the product.

Some of the analytical parameters which are used to determine the quality of resins include optical rotation (tree origin), moisture content, alcohol solubility (organic matter content), ash (nonorganic matter content), volatile oil content, microbiological count. Quality is, however, often determined subjectively by the buyer based on appearance (colour, viscosity) and aroma. If the properties of the product appear to be worse during or after processing, buyers will pay a lower price, assuming that the product is purchased on consignment. Exporters sort and grade their products in advance to indicate prices for different qualities. The products are graded according to size, colour and state of cleanliness. The highest grades are often used for pharmaceutical applications, while the lowest grades are used for incense.

Packaging

Gums and resins should retain their organoleptic qualities, such as colour and viscosity. The packaging of gums and resins depends on their composition. Gums are hygroscopic and

should therefore be packaged in waterproof material. Most resins harden on exposure to air, which slows or even halts quality degradation. This is particularly important for resins with volatile compounds, which are kept inside. These hard resins can be packaged in simple paper or jute bags. Soft resins require closed and more hygienic containers. The following table gives an overview of common packaging for gums, resins and waxes.

Marking and Labelling

The required marking mostly depends on the specific requirements of the importer. Information which is often required includes date, supplier name, address, product name, net weight, if the product is intended for food use, grade, and recommended storage conditions. The information should be in English and using EU measures (e.g. grams).

Quality labels, such as a label for organic products, could also be put on the packaging. Sometimes, the attachment of certain documents can also be required. These may include a certificate of analysis or a certificate of origin. Depending on the sourcing methods of the importer, documentation might be important and elaborate or even obsolete. Some importers prefer to visit companies from which they have received interesting offers, while others prefer to gather documentation which proves that the company can meet their requirements.

3.3. GUM PRODUCTION AND MARKETING IN ETHIOPIA

Historical records on the collection and marketing of natural gum in Ethiopia are not consistent and reliable, even though the country is endowed with distinct climatic conditions which enable it to grow diverse plant species used for industrial and pharmaceutical purposes. According to some studies, the history of natural gum, more particularly the production and marketing of incense and myrrh in Ethiopia, dates back more than 2000 years before Christ i.e. Over 4,000 years. It is expected that products were collected from trees, which were traditionally damaged, by herdsman or nomadic pastoralists. Gums, Gum Resins and Aloes 04/07.

Acacia, Commiphora & Boswellia can be highlighted as one group of the various plant species grown in the arid and semiarid areas yielding important world known gums that are

required on the international market. As in most other sectors of the additives industry, increasing health consciousness amongst a western consumer class has tended to fuel a demand and growth for thickeners of a natural origin.

3.3.1. ESTIMATED AREA COVERAGE

Ethiopia has substantial areas suitable for the cultivation of natural gums. The trees grow more or less wild in sparsely inhabited areas with arid conditions. From the types of gum trees found, the following natural gum can be collected: gum Arabic, gum olibanum, gum myrrh and gum oppoponex. Despite the country's conducive environment, no attempt has been made yet to produce this product on commercial farms. Moreover, reliable data is not available on the total production of natural gum in Ethiopia. Tadele et.al (2005)

Most part of the arid and semiarid areas, about 2,855,000 hectare of land covered by Acacia, Boswellia and Commiphora (Girma Fitwi, 2000). These areas have less, potential for other agricultural activities. Gum trees are mainly found in the drier low lying arid and semiarid lands in Ethiopia at altitudes varying from 200 to 1500 mean average sea level. Western, Southern and Eastern parts of Ethiopia lie in the so called Gum belt of Africa.

As indicated below in table the different gums and resins species are dominantly found in Tigray, Amhara, Oromia, Gambella, Benshangul Gumuz, Southern Nation Nationalities and Regional State (SNNR), Somali and Afar Regions. Most of these areas are not accessible, prone to many diseases and far away from public services. There is also a shortage of labor force. The Ethiopian government is looking seriously at developing both the production and the marketing of natural gums. To tackle some of the problems in the production and collection of natural gums, the government has plans to construct roads in the major production areas. The total area estimated under natural gums and resins is around 2,855,000 hectare, which is quite significant. Table 3:8 shows the estimated area covered by gum in the Different regions in Ethiopia. Ibid

Table 3:8 Estimated Area Covered by Gum in the Different Regions in Ethiopia

Regional State	Types of gum and its Genus	Estimated area (ha)
Tigray	Boswellia, Sterculia, Commiphora and Acacia	940,000
Amhara	Boswellia, Sterculia, Commiphora and Acacia	680,000
Oromia	Boswellia, Sterculia, Commiphora and Acacia	430,000
Gamella	Sterculia, Commiphora and Acacia	420,000
Somali	Boswellia, Sterculia, and Acacia	150,000
BenshangulGumuz	Boswellia, Sterculia, and Acacia	100,000
SNNP	Boswellia, Sterculia, and Acacia	70,000
Afar	Commiphora and Acacia	65,000
Total		2,855,000

Source: Girima Fitwi, 2000

3.3.2. POTENTIAL COLLECTIONS AND PRODUCTION

A. Collection of the Gum

Collection of natural gum and resins is done in a traditional manner. The process is manual and labor intensive. The collection is performed in the dry season, which is from September up to June. The most widely used collection technique is tapping, the shaving of a very thin external circular layer of the bark. In Tigray, the other technique is used. A tree is tapped at a height of one meter in the three spots that are at 1520 cm distance from each other. The first time, the tapping is done on each of the four sides, southern, northern, eastern and western (Mulugeta and Demel, 2003). If the tree is small, only two sides facing east and west are tapped. The second and the third tapping are done 2025 days later and the wounds are refreshed as well. Refreshment of the older wounds is done by removing barks from the upper edges and by carving them down to 2 cm deep. Each tree is tapped and wounds refreshed at an interval of 15 days, which is a total of 812 tapping a year.

In one collection season one taper collects on average 1012 quintals (1.2 tons). In some areas collection is made on tears that naturally exudates. In Somali, tapping is done by

incisions. The wound develops from scratch to wider and deeper wounds as the tapping cycle proceeds (FAO, 1995a).

The collection is generally traditional. For some plant species, no specific tapping method has been developed, it is just simple collection. The other constraints are collection, smuggling (illegal trade) and a poor security situation in the major collection areas. Dr. Tadele Worku and Ms. Lemlem Amare, (2005).

B. Production Potential

Although no proper inventory has been made, there is very high potential for olibanum and other natural gum and resins. As show below in the table 3:9, the potential is estimated to be well above 2,577,231 quintals. However, most of the areas are inaccessible. Most of the products are still transported by pack animals like donkeys or camels. In order to utilize the existing potential, development of the infrastructure in the area is extremely important. Furthermore, very little effort has been made to improve the productivity of the plants. Although the total production potential is estimated around 2,577,231 quintals per year, according to Girma Fitawi (2000), the maximum production excluding domestic consumption on the average was only 31962 quintals (0.01 percent) of the potential during the period 20012007 and 45329 quintals in 2007 which was about 0.17 percent of its potential as per ECA data.

The production of olibanum and other natural gum and resins are still made from species grown in the wild. Few quantitative assessments have been made on the productivity of vegetation resources. No proper and adequate inventory of natural gum and resin resources has been made in the country. These tree species are scattered in different areas. The information on plant population varies greatly. It ranges from 45 trees/ha to 300 trees/ha. But most sources estimate 5080 trees per hectare. The trees are left wild and unattended. A growing population and over harvesting cause the declining tree density. The young plants are prone to wild and domestic animal attacks. Olibanum trees are known for the provision of nutritious fodder for livestock, particularly in the late dry season. There are difficulties with recovery of the olibanum producing trees. Fire hazard is also a major problem. This is mainly caused by farmers who are looking for behaves in order to repel the bees from their hives or repel snakes and use torches to do so. Some trees are also cut for fuel wood.

Table 3:9 Production Potentials in Ethiopia by Administrative Regions

Regional state	Type of gum	Estimated total area coverage	Estimated production potential in quintals
Afar	1. Gum olibanum 2. Gum commiphora (myrrh, oppoconax) 3. Arabic gum	65,000	1. 2,500 2. 5,000 3. 6,000
Amhara	1. Gum olibanum (Tigray type) 2. Gum olibanum (ogaden type) 3. Gum Arabic	604,382	1. 2,000,000 2. 11,923 3. 18,000
Beneshangul	1. Gum olibanum 2. Gum commiphora (myrrh, apopponax) 3. Arabic gum	100,000	1. 55,000 2. No data 3. 7,000
Somali	1. Gum olibanum (Ogden Type) 2. Gum commiphora (myrrh, apopponax) 3. Arabic gum	150,000	1. 25,000 2. 45,000 3. No data
Gambella	1. Gum olibanum 2. Gum commiphora (myrrh, apopponax) 3. Arabic gum	420,000	1. No data 2. No data 3. 11,000
Oromia	1. Gum olibanum (Borana Type) 2. Gum commiphora 3. Arabic gum	430,000	1. 60,000 2. 15,000 3. 10,000
Tigray	1. Gum olibanum (Borana Type) 2. Gum commiphora 3. Arabic gum	940,000	1. 266,308 2. 1,500 3. 21,000

Source: Mulugeta Lemeni and Demel Teketay, 2003

The estimation of the yield is very rough and varies considerably. This variation is attributed to the site and the variety of the tree (Girma Fitawi, 2000). The rainfall pattern and the amount of rain are also the major factors for the yearly yield differences. The yield per tree ranges from 100g to 1000g per year, and on average is about 500g. A yield per tree of 13 kg per year has been reported in Somalia (FAO, 1995a). Yield of Arabic gum is estimated to be

250g per tree per season and is often considered to be the average yield (Coppen, 1995). Furthermore, yields of several kilograms have been reported for some certain trees.

According to the forestry research centre of Ethiopian Agricultural Research organization a simple propagation technique has been developed for olibanum. This technique is a vegetative propagation by cutting, which can simply be adopted by many farmers.

3.3.3. PROCESSING AND GRADING SYSTEM

According to Tadele et.al 2005 report after production and collection, the natural gums and resins are transported to the temporary stores and after that transferred to the permanent warehouses, where processing is carried out. Processing involves the cleaning, sorting and grading of the gums according to their size and colour. The whole operation is manual and is usually done by women. According to NGPME, women are participating in cleaning, grading and sifting by the help of forestry professionals. Equipments used in processing are knives, sieves and other manual tools. In doing processing or grading they don't have sophisticated technology to be used but simply hand picked grading practiced in preparing for export market. See table 3.10 and 3.11 for the details.

A. Olibanum

Classification of gum olibanum includes 7 different grades.

Table 3:10 Gum Olibanum Grading

Grade	Description
1 st _A	Size 6mm and above white Grade A
1 st _B	Size 6mm and above creamy white Grade B
2 nd	Size between 2mm and 6mm
3 rd	Size between 2mm and 4mm
4 th _{Normal}	Special brown in colour any size
4 th _{Special}	Normal black in colour and size
5 th	Powder and bark no size limit

Source: Export Division Head, Msfin Musse, Ambasel Trading House

Table: 3.11 Percentage of Each Grade Share and Cleaning, Sorting and Grading Costs/Quintal of Un Graded (Grezo) Gum Olibanum.

Grades	Share in Percent	Cost/Quintal of Each Grade in ETB	Payment for each share in ETB	Remark
1 st	25	120	30	
2 nd	11	110	12.10	
3 rd	4	100	4	
4 th Normal	23	60	13.80	
4 th Special	28	50	14	
5 th	9	30	2.70	

Source: Export Division Head, Mesfin Musse, Ambasel Trading House and Sales Section Head, Kitaw Dechassa, NGPME.

B. Myrrh

Myrrh is graded more or less the same as gum olibanum. According to NGPME, it is graded as first grade red, first grade brown, second, third and fourth grades.

C. Arabic Gum

The grading system for Arabic gum is not yet developed in Ethiopia. However, quite a substantial amount of cleaned Arabic gum is exported. There is no industrial technology in the processing of natural gums and resins. The activities involved are cleaning, sieving and grading, which is mainly carried out manually by women. According to NGPME, Gum Arabic needs only cleaning and removing barks from it but is of four types.

Myrrh



Olibanum



Opopanax



Gum Arabic



D. Gum Oppoponex

According to NGPME, no any grading has been practiced for Gum Oppoponex but, it needs only cleaning and removing barks from it. It is named as Gum Oppoponex cleaned in export market.

3.3.4. PACKAGING AND STORAGE

The basic precaution during packaging and storage of natural gums and resins is to avoid water in order to maintain their quality. They must also be stored in a well ventilated space to prevent the product from developing excessive heat. For export, it is packed in jute or polyethylene woven bags usually in 50kg, according to the preference of the buyer.

3.3.5. POTENTIAL FOR VALUE ADDED PROCESSING

Ethiopia currently exports the product in the crude form. Distillation and solvent extraction of aromatic gums to produce essential oils and resinoids are done in the industrialized countries.

A. Distillation

Essential oils (volatile oils) are obtained from the crude resin of olibanum, myrrh and oppopanax by steam distillation. Essential oils are used for fragrance and flavouring applications. For more detailed information on the processing method, see the “Ethiopian Essentials” report, 2004.

B. Extractions

Olibanum, myrrh and oppopanax can be extracted with organic solvent to obtain resinoids. The absolute is prepared by extracting resinoids with alcohol. Both resinoids and absolute are materials that are used in the perfumery industry. Lowgrade resinoids can also be extracted from the resins that were distilled for the essential oils.

C. Kibbling

Arabic gum is processed into kibbled and powder forms. Kibbling entails passing whole or large lumps of gum through a hammer mill and then screening it to produce smaller granules of more uniform size. These pieces are more easily dissolved in water, and under more reproducible conditions than the raw gum. They are also preferred by the end user in this state.

3.4. GUM PRODUCTION AND MARKETING IN OROMIA REGION BORANA ZONE

3.4.1. ECONOMIC MAP OF BORANA ZONE

Although the lowland forests feature NTFPs such as gums and resins, honey and varied oilseed crops that could be an important source of income for the inhabitants of Borana zone, livestock appears to be their main source of income and employment. The agropastoralists are engaged in smallholder rain fed subsistence farming.

Table 3:12 The Existing Range of Agricultural and NTFPs are as follows:

(i)	Cash crops	mainly haricot beans exported to Kenya
(ii)	Beekeeping	honey(table and medicinal) and nonhoney bee products
(iii)	Food Crops	maize, wheat, teff, sorghum, barley and haricot beans
(iv)	Livestock	Cattle, sheep, goats, camels, donkeys, horses, mules and chicken
(v)	NTFPs (export)	Gums and gum resins, gum Arabic, frankincense and myrrh
(vi)	Fruit	Papaya, mango (introduced), avocados and banana
(vii)	Tourism	Wildlife sanctuaries, national parks, historical and cultural resources
(viii)	Forests	Juniper Procerus and other NTFPs
(ix)	Minerals	Red Garnet, Green Tourmailine, Feldspar group and salt

Source: Gum, Gum Resins and Aloes 04/07

Farming is not carried out as commercial large plantations, the use of farm inputs is restricted to organic manures, there is a general lack of surface water and water resources make yields per hectare low. There is a constant threat of drought that has been experienced in recent years.

Borana zone is predominantly characterized by a semiarid climate. The area is thus characterized by a general scarcity of surface water. Annual mean temperatures vary from 19 to 24°C with little seasonal variations. Average annual rainfall varies from 440 to 1100 mm. Rainfall is bimodal: 59% of the annual precipitation occurs from March to May and 27% from September to November. A “dry” year is defined as one in which annual rainfall is less

than 75% of average and this may occur once in five years. The region is diverse in terms of natural resources, ecology and pastoral habitats dominated by savannah vegetation and containing mixtures of perennial herbaceous and woody vegetation with several native species of grasses and woody plants that are excellent for forage. Coppock, (1994).

3.4.2. MAJOR POTENTIAL SPECIES FOR GUMS AND INCENSE PRODUCTION IN BORANA ZONES

Borana Zone is richly endowed with species in the genera *Acacia*, *Boswellia*, and *Commiphora*, some of which are the main sources of commercial gum and incense.

Table 3:13 Major potential species for gums and incense in Borana and Gujji zones

Scientific Name	Local Name	Commercial Potential/Product Name
<i>Acacia Senegal</i> var <i>Senegal</i>	Golole	Gum Arabic
<i>Acacia Senegal</i> var <i>kerensis</i>	Saphansa Lima	Gum Arabic
<i>Acacia Seyal</i> var <i>fitula</i>	Wachu gum	Gum Arabic
<i>Acacia Seyal</i> var <i>seyal</i>	Challo	Gum Arabic
<i>Acacia Mellifera</i>	Saphansa Galachi	not traded inferior quality
<i>Acacia Drepanolobium</i>	Fulensa	not traded inferior quality
<i>Acacia Polycantha</i>	Gumolo –Tigrayan	Small quantities local consumption sweets and candies
<i>Boswellia neglecta</i>	Hancha	Black Incense, most common species found
<i>Boswellia papyrifera</i>	Tigray type Gomolo (Amhara)	'Olibanum'
<i>Boswellia rivea</i>	Dakara	Ogaden type incense
<i>Boswellia microphylla</i>	Ogaden type	Ogaden type
<i>Boswellia pirotte</i>	Gabez	Small quantities found
<i>Commiphora Myrrha</i>	Kumbi	Myrrh
<i>Commiphora Corrugata</i>	Ilka Bugis	Myrrh
<i>Commiphora Crenulata</i>	Siltacho	Myrrh
<i>Commiphora Paolii</i>	Argasu	Research ongoing into insect repellents
<i>Commiphora Africana</i>	Hammessa	Myrrh
<i>Commiphora Fluviflora</i> (<i>Commiphora Habessinica</i>)	Chalanka	Myrrh
<i>Commiphora Guditti</i>	Abuked	Opopanax

Source: Gum, Gum Resins and Aloes 04/07

As per our review we have learnt that the small amount of selling price generated from the sales of gum and resin discouraged the pastoralist to focus on cultivation of such products as an important source of revenue. Though we could not confirm extensively, we have learnt from some people that cultivation of gum and resin is undermined activities which is left for the poorest of the poor. Other constraints like logistics (water and food) and transportation to and fro the far gum and incense harvesting fields are noted by some researcher. They also expressed their problem on improving yield and quality of products which has affected the prices of their products. Ytebitu, (2004)

Though it is not satisfactory, Action for Development has provided training to cooperative which is engaged in gum and resin harvesting and marketing. In addition, the cooperative was provided with grading tools. Borana zone is richly endowed with species in the genera *Acacia*, *Boswellia* and to a lesser extent *Commiphora*, some of which are the main sources of commercial gum and incense.

Table 3:14 Major Potential Species of Gum and Incense in Borana Zone, Dahas Woreda of Erder Kebele

Scientific name	Local name	Commercial (Trade) name	Remark
<i>Acacia seyal</i> var <i>fitula</i>	Wachu	Gum Arabic	
<i>Acacia drepanolobium</i>	Fulensa	Gum Arabic	Not traded inferior quality
<i>Boswellia neglecta</i>	Dakara	Ogaden type incense	Black Incense, most common species found acc to Erder coop but, call it locally Hancha according to table 3.6 above
<i>Commiphora crenulata</i>	Siltacho	Myrrh	White incense acc to Erder coop
<i>Commiphora myrrha</i>	Kumbi	Myrrh	

Source: Erder Cooperative members

3.4.3. PRODUCTION AND POSTHARVEST MANAGEMENT

Collectors have no transport, water or hand tools. They walk long distances sometimes while herding and grazing cattle to collect and harvest the gums and resins that they find along the way. Some individuals collect and carry up to a maximum of 10kgs in a single day.

Because the resource is on community lands there is no issue surrounding ownership, everybody has the right to collect and utilize the resource. It is a labour intensive occupation with a low cash return and it is not considered an attractive income generating activity.

There have been few interventions in providing technical assistance to improve the harvesting/collection techniques and the overall processing and production though there have also been academic biological studies to determine the nature and characteristics of the different species. Information on 'best practice' on harvesting in an environmentally sound and sustainable manner that can maximize productivity and thus bring a better return has never been disseminated amongst the collecting communities.

The pastoralist collectors have no knowledge or information to judge the quality of the gums and resins that they are harvesting, sustainable methodologies, and the kind of price or revenue they can expect for their labour. These factors remain to them indeterminable. They are simply picking the naturally oozing product from the tree; they have not been trained to engage in the practice of 'tapping'. There is no regular collection of the product from specific areas or certain particular trees at regular intervals. Everyone collects from the trees that are producing that they come across by chance.

There is little knowledge and therefore no special care is given to the tree when picking the gum or gum resins. Sometimes the herders even break or cut off branches to get access to the product that is often found at the tip of the branch. Exudation from trees is said to occur when the tree is unhealthy as a result of poor soils, lack of moisture or damage. Strangely attempts to improve conditions result in poorer yields. Gums from wild trees are variable but on the whole tend to be somewhat darker than those of cultivated plants.

The post harvest management is also poor. The incense is also collected from the ground so it is mixed and contaminated with soils, dirt and dust. They do not sort the incense or use the right sacks or bags for packing.

In the case of Eder Gum and resin marketing cooperatives, the cooperative purchase from its members and non members and gather at its own store. The harvested gums and gum resins are stores in the individual homes before selling to the cooperative.

Different gums are sometimes mixed together and not differentiated by species type. Post harvest handling of the Boswellia (black incense) is the same as for the Acacia (gum arabic), no cleaning of the product of foreign matter, dust and dirt is undertaken by the collector. Gums, Gum Resins and Aloes 04/07.

Their little knowledge on where to market their product was a challenge to the cooperative. As a result of this they have stored it a a number of months in a situation where the quality of the resin is being affected.

PRODUCTION BY MAJOR GUM AND INCENSE PRODUCTS

There are three main types of gums and gum resins harvested from a wide array of known and lesser known species. Gum Olibanum derived from Boswellia, Gum Myrrh, and Opopanax from Commiphora and Gum Arabic from Acacia species_ are the three major gum products produced mainly for the export market and sourced from the Borana and Gujji zones. Ibid

A. Gum Arabic

Acacia senegal resource is distributed in a very few pockets of valley bottom soils. The valley bottom soils are need for crop cultivation by local communities, and thus are in serious competition with not only Acacia Senegal stands but also Acacia seyal stands. Thus, these acacia species are locally extremely threatened by crop cultivation.

The prospect for development of Acacia senegal in Borana as agroforestry or plantation is good. But the upland soils that are reddish and sandy are not naturally suitable for growing this species. However, the species can be integrated with crops on dark grey vertisols in the valley bottom areas. The species can be managed as agroforestry component with a

rotation period of 1520 years as practiced in the Sudan. Yitebitu, (2004). To this effect, no significant quantities of acacia senegal is supplied to the market in Borana zone.

B. Acacia Seyal

Two varieties of *A. seyal* are encountered in Borana area: var *seyal* and var *fistula*. Var *seyal* is a tree attaining 7 meters height with flat crown. The bark is greenish yellow or orange red. The flowers are bright yellow. The pods are sickle shaped.

Var *fistula* is distinguished by having some of its spines fused at the base. A shrubby form spreading near the base was observed in Ade Gelchet PA and it is the major source of gum tahla (locally the plant is known as challo). It usually occupies black cotton soils.

Harvesting: Modern harvesting practices do not exist in the literature. What is done is just collect naturally oozing gum. However, there are methods for improving the quality of gum such as avoiding adulterating the gum with low grade gums from other species. Awareness creation and training may address such problems.

Market: Gum tahla is accepted in the market at the same demand for gum arabic but with a slightly lower price. NGPME and other private dealers also buy the product.

C. Boswellia neglecta S. Moore (frankincense)

This is Borena type black incense. The family Burseraceae with 17 genera is widely distributed in tropical and subtropical countries. The genus *Boswellia* has about 20 species in the dry regions of tropical Africa, Arabia and India. The resin obtained from *Boswellia* species is known in common parlance as frankincense or olibanum and is used as incense. The recent botanical report on the Burseraceae of Ethiopia has revealed the occurrence in Ethiopia of six *Boswellia* species namely *Boswellia papyrifera*, *B. pirottae*, *B. riviae*, *B. ogadensis*, *B. neglecta* and *B. microphylla* (Vollesen, 1989). *B. neglecta* is known to occur in the southern provinces of Bale, Gamo Gofa, Hararghe and Sidamo (now Borana). It is also known to occur in Kenya, Somalia, Tanzania and Uganda. In Boranait is called 'Dakara'. It produces a commercially important olibanum, which is colored either black or white.

B. neglecta is a much branched tree or shrub up to 6m tall. The bark is dark grey, not peeling and often with circular ridges. Leaves compound with 2147 leaflets. The fruit is green tinged with crimson. *B. neglecta* is the major source of Boranatype incense (Tikur Itan, or black incense). In which the study has concentrated more in details.

The essential oil from *B. neglecta* is highly prized in the production of higher grade cosmetics, especially top of the range skin creams. It has proven skin rejuvenating qualities that make it an ingredient for special formulation. As an important ingredient in the fragrance industry, it is used in the formulation of classic and high end market perfumes, after shaves and formulations targeted at the male consumer market. Ibid

Harvesting: Resin from *B. neglecta* is collected from natural exudates; there is no report on modern harvesting techniques in the literature as far as the knowledge of the consultant is concerned. However, a significant improvement on the quality of black incense can be made through careful sorting and cleaning. Post harvest handling could also improve its quality.

Market : As to our knowledge of the assessment, the Black incense of Borena is marketed locally and no export of such product is made to date. The major, exporter of Gum and resin, NGPME, has never attempt this product for export market.

D. Commiphora (Gum Myrrh)

Information on the *Commiphora* is rare and no studies have been made. This species is not found in any abundance in the Borana zone. It is found in the Ogaden region of Ethiopia but it is suspected that is not traded through the national export channel. It is generally smuggled, therefore there is not reliable data concerning unofficial cross border trading. NGPME does export some myrrh, it is often found to be mixed in with other gums and in some cases because *Commiphora* is usually found near international borders it is used as a currency in the Ogaden region of Ethiopia as in war torn Somalia. Ibid

While discussing about gum and resins, in this study special emphasis will be given on *B. neglecta*. According to the survey conducted at Erder cooperative, it has been observed that this is the main gum incense producing specie from which the people harvest commercial products.

4. BACKGROUND OF ERDER INCENSE MARKETING COOPERATIVE

Erder incense marketing cooperative which is located at Erder Kebele, Dhas Woreda of Oromia Zone, has established on January, 2007 with the initiation and support of AFD. The cooperative members are pastoralists and their primary means of living is livestock production. But, occasionally they involved in livestock trading as well as crop production if rain is available in the past few years. The cooperative has 38 members, of which 19 were male and 19 females. Though this cooperative hasn't obtained legal recognition from the respective government office, they organized six different committees with in it. These committees are the following; management, credit, inspection, counseling, purchase and sales with 3 members for each committee.

The financial source of working capital to start business was registration fee, each member contribution of shares' and seed fund obtained from AFD i.e. the registration fee per each member, cost of each share and AFD seed fund were birr 10, 100 and 30000 respectively.

4.1. PRODUCTION AND COLLECTION

Erder kebele is endowed with forest resources for the production of natural gums specifically (Gum Olibanum), black incense called Dakar locally and white incense called Siletacho locally. Besides, small quantities of (Gum Arabic), called Felense and Wacho locally and (Gum Myrrh), called Kumbi locally. The production system is traditional like other pastoralists in the area and with out any training supports as they simply pick naturally oozing gums from trees while they were in their normal and regular job of livestock production. Most of the time women and young family members were involve in production.

Erder incense marketing cooperative collect gum and incense from their members, families, nonmembers and other rural assemblers from 1228 kmts away from Erder kebele throughout the year usually (from August to February) except rainy season where no production is being done. Since the natural resources (incense trees) is a communal property and not legally given to the respective producers with responsibility that means,

everybody could collect everywhere without any control, no one is being willing to develop the resources with responsibility for its sustainable benefit and improved productivity.

Zonal office of Rural Development office at Yabelo informed the team that the productivity of incense and gum in Dhas Woreda per one tree is 1.5kg/tree of incense and 0.5kg/tree of gum.

4.2. STORAGE, TRANSPORT AND PROCESSING

The cooperative has built store at Erder kebele with the support of AFD and used to store gum and incense purchased until sales executed. From its establishment January 2007, 49 quintals of incense stored for one year and five months (from 15/05/1999 to 18/10/2000). The cooperative has not incurred transportation cost since the delivery is being at their store in the last transaction. However, due the lack of store and stock management system every member of the cooperative has got the chance of being store man without any documentation and responsibility. To this effect, during sales they faced a big and an exaggerated shortage of stock i.e. 8 quintals from the total 49 quintals, which is about 16 percent of the total stock, very un usual to be considered as weight loss. From this shortage, only 18 kgs was barks which have been sold at the same price as normal incense. An unknown quantity of powder gum was disposed as considered soil. If they had trained about the quality and grades of gums they wouldn't have been disposed in this condition. No one could be responsible for the above shortages.

With reference to processing which meant in case of natural gums sorting, cleaning and grading the cooperative has tried to use four sieves in three different sizes so as to separate incense in to different particle sizes as per the natural gums quality training sponsored by AFD that was provided at Negele Borana for one time. Even though they couldn't be able to undertake grading by that time because of limited experience on quality and grades, their initiation and effort deserves appreciation.

4.3. MARKETING

Erder incense marketing cooperative has performed only one transaction dated from its establishment i.e. sales of 41 quintals black incense to one Dumluke buyer brought by the help of AFD and delivered at the cooperative store in Erder kebele. The buying and selling prices were birr 3.50 and 5.65 per kilogram of incense. The cost breakdowns, marketing costs and margin will be discussed in the next sections.

According to the cooperative members, before their entry into the market the price of one kg the same incense was about birr 1.25 soon after their engagement in the market the price has increased up to birr 3 for non-members and birr 3.50 for members. Furthermore, the current buying price of the same incense is birr 4.50. The cooperative has limited access to market information and no experience of marketing. As a result of their bargaining power to dictate terms to local buyers is very weak. The cooperative is simply price takers. Such a problem is not only during sales but also in buying the cooperative negotiate prices according to the buying price of their surrounding similar buyers with out any estimated idea of future selling price. The cooperative members informed us during the survey, if we had known the indicative selling price during buying time, they would have been encouraged to collect more quantity and improve our performance.

The cooperative had no enough working capital to run the business and exploit the market opportunity in the area. According to the current buying price birr 4.50 per kg the available capital couldn't purchase even 100 quintals excluding overhead costs. According the cooperative members opinion the financial problem will be tackled through increasing number of members and cost of each shares and consulting any financial institutions that can allow them credit facility.

In general the critical problems of the cooperative stated by the members were:

- Lack of trade license or legal recognition
- Capital shortage
- Supply of packaging materials like sacks that results in quality problems
- Exaggerated shortage of stocks
- Weak sales and holding stocks for long period
- Labour competitions in dry season for incense collection and finding water unusually from remote area. This is because, the shortage of water in dry season prohibited women and young livestock herders “the active participant in incense collection”.

- Smuggling and illegal trade and high competition with small traders
- Lack of market information or knowledge about future selling price so as to decide the current purchasing price with full confidence
- Conflict among different tribes
- Accessing credit and saving institutions

4.4. OVERALL GUM AND RESIN PRODUCTION AND MARKETING IN MOYALE WOREDA

The survey team has visited the nearest Woreda Moyale Oromia in order to assess the natural gum market situations there. In Moyale Oromia zone acacia Senegal and Seyal, black and white incense and gum myrrh are found. According to zone DPPC office (which is under ARD office), natural resource expert Ato Lemmesa, there was high quantity of natural gum production in this zone until 1994EC. But, after 1994EC the production has been totally ceased until 1999EC because of conflicts between Somali and Oromia region tribes at the area where most of natural resource for the production were found. Three tribes in this area Geri, Gebra and Borana are in conflict in most of the times.

However, currently in 2000EC the production started and about 500 quintals of natural gums of which 100 quintals was gum myrrh has been produced to the date. Before two months we have started to issue Boleta (passport for natural resource) in order to allow licensed traders legally transport natural gums from our zone to Addis Ababa or any other sales stations. The trade license has been issued by zone trade and industry office. In two months time about 100 quintals of natural gums have been produced. They collect tax charges birr 8 per quintal of natural gum.

In Ato Lemmesa's opinion there is no illegal trade in domestic market of natural gums in the area but, illegal border trade through Kenya exists. This is because in Kenya the so called wood named as AGERSO that is acacia species was used to prevent ticks from their cattle. The Keneans bought at 45 shillinge (birr 7) /kg while the price in Ethiopia is birr 1.50.

The chairperson has also provided information that the potential production of natural gum in Liben zone is about 20000 quintals but the actual production is between 12000 and 18000 quintals, the availability of too big quantity of black incense and small quantity of gum

myrrh with in Liben zone, the existence of 4 natural gum traders in Moyale town of which 3 are in Moyale Somali Liben zone and the remaining one in Moyale oromia zone and the market chain for incense marketing in the area as; pastoralist.....rural and moyale assemblers.....wholesalers and exporters in Nazareth and Addis Ababa.

In addition to the above information, the chairperson has commented on the following points;

- The problem of quality in production and handling products
- Weak demand for natural gums
- The low price offered by local exporters than Kenyan encourages smuggling and illegal trade
- Complaining NGPME for monopolizing the gum trade with out pastoralists participation and its resistance in providing trainings to pastoralists in cooperation with NGOs

Moyale Woreda is administered by two regions. Left side and right side of the main asphalt road. The struggle for power and ownership of administration and the tribal conflict has a major impact on the sustainability of support by the appropriate government offices and undertaking extensive research on the potential of the area, proper harvesting, post harvesting and marketing issues.

5. BORANA GUM AND INCENSE MARKET CHANNEL

The analysis of marketing channels is intended to provide a systemic knowledge of the flow of goods and services from their origin (producer) to their final destination (consumer). This knowledge is acquired by studying the “key actors” and functions along the market chain. The marketing channel for these actors and their major functions has been represented by the following figure of Borana type Incense Marketing Channel. Black incense and gum arabic are the main focus of the value chain study as they are the main products available in Borana are.

5.1. KEY ACTORS AND FUNCTIONS IN THE BORANA TYPE GUM AND INCENSE MARKET CHAIN

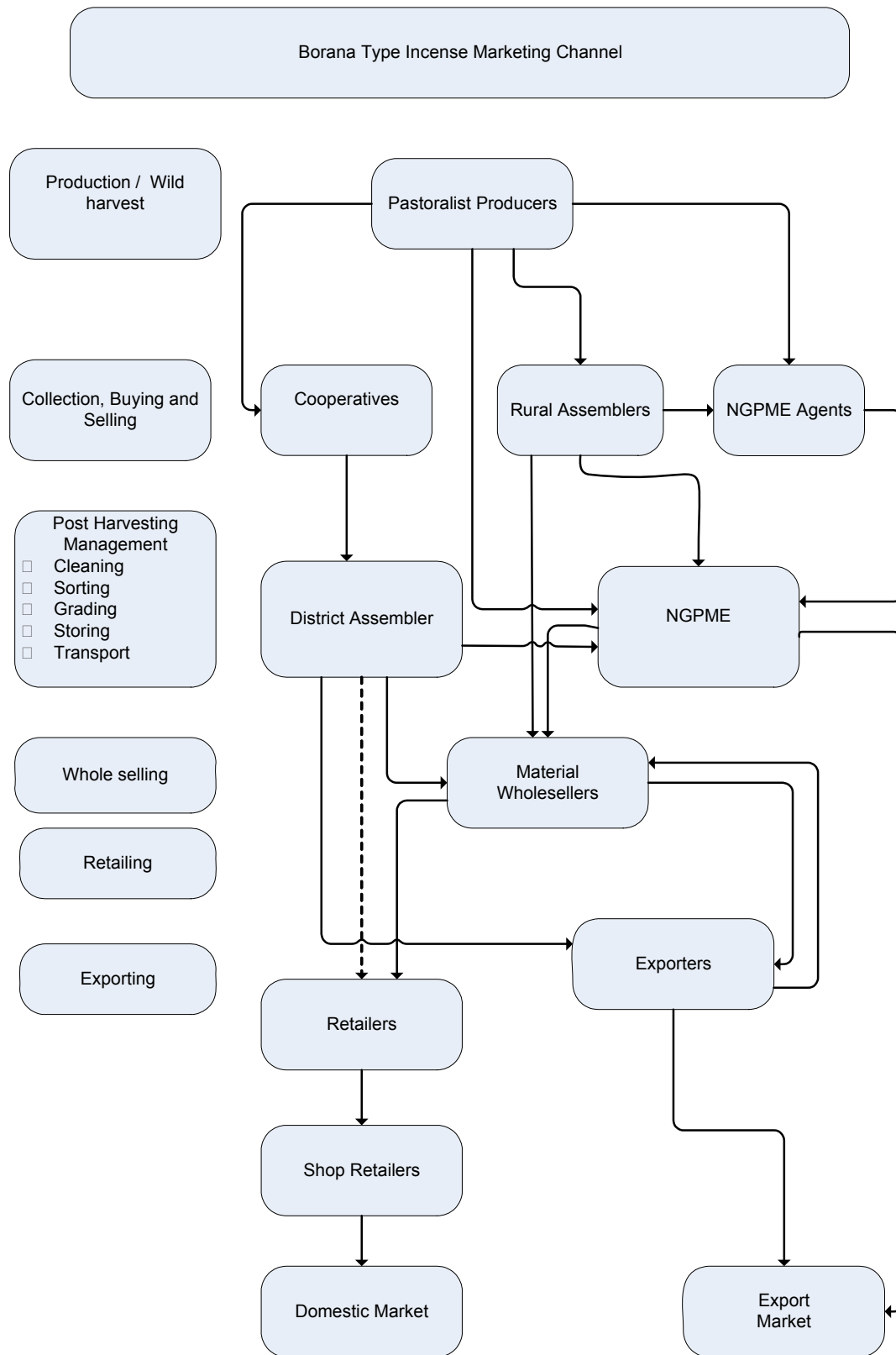
According to Mendoza, some traditionally accepted definitions help to identify and classify participants in the marketing process. In real world, these classifications are by no means mutually exclusive. The same is true in this study, actors in the Borana type incense market chain are not mutually exclusive, and they are in most cases interdependent. For instance district and rural assemblers in their village play retailers role and directly sell in small quantity to domestic consumers. Given this basic concept, key actors and functions in Borana type incense market chain will be discussed here under.

5.1.1. PRODUCER (PASTORALISTS)

Producers of natural gums are the first link in the market chain. In Borana zone in general and the study area (Dahas woreda, Erder kebele) in particular, natural gum producers are pastoralists and agro pastoralists. The gum and resin in Borana zone are cultivated by simple collection of gum that occasionally "oozes" from some tree species without any need of human interference.

Producers sell their harvested products to rural assemblers, cooperatives and NGPME and its agents at the price the buyer offers.

Fig. 2 Borana Type Incense Marketing Channel



The main objective of the pastoralist in engaging in collection is to get a side income for small household utilities purchase from the sale of the gum and resin. They collect mostly on the way they are moving for grazing than. As the sales value is very low, and the misconception of being labeled as the poorest of the poor, they are not encouraged to collect more. The recent increase in the price of these products, (because of the entry of Erder Gum and Resin marketing cooperative), encouraged few to consider these products as valuable.

5.1.2. ASSEMBLERS

Assemblers are the second link in the chain. Assemblers in Borana type incense market chain at the study area are of three types; rural assemblers, NGPME agents and District assemblers. The rural assemblers in most cases haven't trade license to legally undertake gum trade but, they usually purchase from producers by using their access, assemble and transport for selling to district assemblers and/or national wholesalers in Addis Ababa. They also sometimes sell to cooperatives. Though rural assemblers have better market information and bargaining power than cooperatives, they are weak as compared to their buyers' district assemblers.

Some of the district assemblers, like those in Dubluk area, are not basically gum and resin traders. They are engaged in some other businesses. They have involved in the chain for the transport facilities they have coupled with the market access. They often travelled to Addis Ababa for their other business. These district rural assemblers are selling to whole sellers at Addis Ababa, Dessie and Woldya.

NGPME agents are authorized buyers of the product from producers and rural assemblers to supply the Enterprise based on their agreement. These agents solely sale to NGPME. On the other hand district assemblers are those licensed traders of natural gums and have better working capital, storage facility and market information than cooperatives and rural assemblers. This capacity helped them to negotiate prices with strong bargaining power. They buy from producers, cooperatives and rural assemblers, stored, sometimes sort and grade and transport to A/A and sell to national wholesalers, NGPME and/or exporters.

5.1.3. COOPERATIVES

By the assistance of NGOs operating in the area, cooperatives for gum and resin marketing are under formation. These cooperatives are formed by pastoralist. Cooperatives commonly purchase from their members and nonmembers. They assemble, transport and sell to district assemblers. In case of Erder incense marketing cooperative, The price paid for members is greater than nonmembers by birr 0.50/kg. This is because of the cooperatives' principle that member of the cooperative have been encouraged so that new members will be attracted. Since incense marketing cooperatives have established in the last one and half years and didn't employ marketing expert, even manager. They have limited knowledge about the market and they don't know exactly where to sell their products and at what price.

5.1.4. WHOLESALERS

The wholesalers involved in the market chain are of two types; national and district wholesalers. District wholesalers buy gum and incense used for domestic consumption from national wholesalers, transport and sold to the district shop retailers. Though the quantity is insignificant and the relationship is weak, district wholesalers also used to buy from district assemblers. On the other hand national wholesalers buy from district assemblers, rural assemblers and exporters including NGPME. National wholesalers buy incense that can't be exported but used for domestic consumption after sorted and graded by exporters. From the whole types and quantities they bought, they sell exportable quality to exporters, if they couldn't export by themselves since some national wholesalers are also exporters and low grade that is rejected from export would be sold to district wholesalers. They play prominent roles such as; sorting and grading, storage operation, transportation, distribution and price formation in the market chain.

Even though exporters play a dominant role in Ethiopia's natural gum market chain, national wholesalers are the best in case of Borana type natural gums which is mostly used to domestic consumption in local markets. Most of national wholesalers are found in Addis Ababa and have developed long time experience in natural gum domestic and export market.

5.1.5. EXPORTERS

The dominant actors that play significant role in Ethiopia's natural gum market chain are exporters. Before five or six years from the total exportable natural gums only 60% of it have been sold in export market since lower grades were not demanded at that time. However; due to the recent high demand for natural gums almost 95% of natural gums are sold in export market that means even the lower grades that were not exportable in the past is highly demanded this time. This explanation is mostly concerned with the natural gum that has been produced from the northern part of Ethiopia (Tigray and Gondar type).

However; most of Borana type (black incense) has been sold in local markets. Only small quantities of white type may be exported. Hence the exporters were relatively less significant actors than national wholesalers in case of Borana type natural gums. Exporters buy natural gums from wholesalers and its assembling agents in case of NGPME and sell to export market and domestic wholesalers.

NGPME sell non exportable natural gums to national whole sellers. These wholesalers are then selling it for domestic consumption through retailers in Addis Ababa and allover the country.

5.1.6. RETAILERS

Retailers are important actors in the market chain since Borana type incense is mostly used for domestic consumption. The major role of retailers are bulk breaking that means buying small quantities of incense from district wholesalers in their surroundings and sell to consumers for the use of traditional coffee ceremony. Retailers found in Awasa and Moyale buy incense from their surrounding wholesaler shops. We have very much surprised that the suppliers of retailers have brought the product from Addis Ababa, though they live at the nearest area of natural gum and incense producing area. On the other hand, similar district assemblers have bought the same product from cooperatives and rural assemblers, transported to Addis Ababa and sell to national wholesalers. We noted that though most of district assemblers and district wholesalers exist at the same area in the market chain with quite different experiences, they had no contact and communication since one of which supplier to local retail shops and the other is supplier to national wholesalers.

Retailers are found in their shops and small village market places to sell for consumers. They hold so many types of natural gums (gum olibanum, myrrh, oppopanex and Arabic). Since there are too many types and names for the product, the naming of the same products in different market places of the country was too difficult to consistently identify its prices and qualities so as to enrich the study. This problem arises from the absence of grades and standards in this sector. The retail price to the domestic consumer is usually between Birr 1525 per kilogram depending on the quality.

5.1.7. DOMESTIC CONSUMERS

Since time immemorial, the aroma of incense smoke constitutes a striking feature of religious rituals in many countries. Within some cultures, incense is furthermore used to add a very special element of beauty to private homes and other places where people like to congregate in a pleasant atmosphere. The domestic use is mainly in religious rituals and in traditional coffee ceremonies to produce aromatic smoke, for which mainly boswellia, olibanum and to a lesser extent the commiphora species are used. Myrrh is also used in traditional medicine. Tadele et.al. (2005)

As indicated earlier, olibanum resin is burnt in most households consuming about 510 grams per day on average. The total domestic consumption can be estimated using the total household number of 9 million in the country. Similarly, the consumption of churches (an estimated 35,000 churches exist in Ethiopia) is estimated to be about 1.5 quintal per church per year. Girma (1998)

Currently olibanum is sold at birr 1540 per kilo for consumers depending on the quality of each product. However; Borana type olibanum is sold at birr 1225 depending on the quality too. The price for Borana type is low since it is sold in domestic market because of the inferior quality in domestic consumption and inability to found export market. As informed by many exporters the current demand for Ethiopian olibanum is so very high in International markets and the country is in short of supply, as a result, the Borana type olibanum has the opportunity to be exported in bulk like Tigray and Gondar type lower grade olibanum, if intensive world market assessment and promoting the product could be done.

5.1.8. FOREIGN BUYERS (IMPORTERS)

As to the knowledge of the consultant, black incense had never been exported. Arabic Gum, however is exportable. Generally, the export demand on gum and resin has increased in recent years. Until recently the demand for gum olibanum in world market was so high for upper grades i.e. from first to third grades and almost no demand for lower grades (fourth and fifth) so that these grades have been sold in domestic market. However; recently the demand for these lower grades is increased too much in China market and almost 95% of Tigray and Gondar type gum olibanum have been supplied and sold in world market. The country supply of gum olibanum is currently lower than world demand.

If extensive research is made on export possibilities, we hope that there will be the possibility of exporting Borana type gum olibanum in the near future.

Foreign buyers are those traders and manufacturers. Traders buy natural gums from Ethiopian exporters, sell and distribute to their customers throughout the world while manufacturers similarly buy and sell to end-users after they process and change its form to be used for different purposes. Some of the buyers of traders re-export to their customers' after processing or in its existing condition.

5.1.9. BROKERS

Brokers are actors at all levels of the market chain and working for their customer at flat rate or percentage commission. Though brokers exist in the natural gum market chain at all levels, they didn't play a significant role as compared to other exportable items like oilseeds and pulses. The justification for minimal role of brokers in gum sector might be the limited number of actors involved in this market.

5.2. THE SUPPLY AND DEMAND ANALYSIS ALONG THE MARKET CHAIN

5.2.1. SUPPLY

Estimated Area Coverage, Production and Market Supply of Gum and Incense in Borana Zone

Although we couldn't be able to find reliable data recorded in Borana Zone, we have collected the existing data from different sources in order that the current actual situation will be commented. In doing so the quantitative data obtained are described below.

Table 4:1 Estimated Area Coverage of Natural Gum in Borana zone – Un reliable

Woreda	Estimated area coverage in hectare	Remark
Arero	1,089,000	
Yabelo	555,000	
Dire	454,872	
Dahas	NA	
Total	2,098,872	

Source: Borana Zone MOARD

Table 4:2 Market Supply of Natural Gum in Borana Zone in Quintals

Woreda	1997 EC	1998 EC	1999 EC	Total
Dire	80	80	120	280
Yabelo xaana	15	12	60	87
Hamphe	40	30	20	90
Areerool xaana				760(9899)*
hamph	NA	NA	NA	127(9899)*
Total	135	122	200	

Source: Borana Zone MOARD (Years are Ethiopian caledar)

*The data includes 4 kebeles of Dahas woreda and two kebeles of Arero

Table 4:3 Natural Gum Production Plan from 20002003EC in Quintals

Woreda	2000	2001	2002	2003
Dire	120	130	150	NA
Areeroo	NA	NA	NA	NA
Yabelo	NA	NA	NA	NA
Total	120	130	150	NA

Source: Borana Zone MOARD

Table 4:4 Moyale Oromia Zone Natural Gum Productions

Year in E.C	Production in Quintals	Remark
1990	180	
1991	777	
1992	822	
1993	548	
Sub Total	2327	
1994 – 1999	N.A	
2000	500	100 qtls of gum myrrh produced
Grand Total	2827	

Source: Moyale Oromia Zone DPPC Natural Resource Sector Ato Lemmesa

From the tables above we can observe how much the production and marketing quantitative data in the study area are discontinuous, inconsistent and unreliable for further quantitative analysis to estimate the current actual production and market supply quantities. However, whatever the limitations is we can conclude that from the available resources and potential production in Borana zone, the current actual production and market supply is underutilized or insignificant.

This is because according to Girma Fitwi, 2000 the estimated area covered by natural gum in Oromia region is about 430000ha and the potential production at the same region, according to Demele Teketaye and Mulugeta Lemeneh, 2003 is 85000 quintals, of which 60000 quintals of gum olibanum, 15000 quintals of gum myrrh and 10000 quintals of gum Arabic. From these estimations the annual actual production in 1999EC in Borana zone (see table 4:5 above), which is the most potential area for natural gum production is about 200 quintals i.e. 0.24 percent and including 200EC Moyale Oromia production i.e. 500 quintals is about 700 quintal in total which is 0.82 percent.

The future production plan of Borana Zone is also in hundreds i.e. insignificant as compared to its potential. This shows an inefficient utilization of the existing natural resources in Borana Zone because of their weak and poor attitude towards using these resources efficiently for the improvements of pastoralist livelihood through diversifying income generation activities by the respective government bodies.

5.2.2. THE DEMAND AND PRICE

Domestic Markets:

Some of the gum and incense resources of Ethiopia have strong cultural associations and are highly valued for their sacred and ceremonial uses in many different faiths. It is widely used in its unprocessed form for fragrances in many religious rituals. The use of this incense is present in Orthodox, Roman Catholic and Muslim religions. It is used in smoking houses and particularly during coffee ceremonies.

Within the indigenous knowledge of the Borana, the acacia species are sometimes used as 'famine food' and given to children in times of drought and food insecurity. Commiphora species are used as traditional soap. The gum, being water soluble, is soaked in water and used for washing clothes as a natural soap. The price for a small 200 gm packet of incense gum is sold for between ETB25 in regional towns in Negelle within the gum producing region and for slightly more in Addis. It is also used as an important raw material in domestic industries manufacturing pharmaceuticals, liquors, cosmetics, detergents, creams and perfumery, paints, adhesives and dyes. The gum sold on the domestic market is often below export quality and this is reflected in the price. Gums, Gum Resins and Aloes 04/07.

The study assessed different wholesale and retail domestic markets at Moyale, Erder, Dumeluke, Hawasa and Addis Ababa Merchato so as to identify the key actors and functions, price structure, marketing costs and margins, the demand for gum and incense and differentiate the market supplied gum and incense types to determine their consistency at these markets along the chain. The survey result is described here under.

According to W/Z Washto, Hawasa Shop Retailers, they used to purchase incenses from Hawasa wholesaler W/Z Zenu at Jebena Tera found at Taiwan market in small quantities i.e. not more than 5 kgs in one time and W/Z Zenu brought it from A/A wholesalers, transport to Hawasa though some of the incense types especially Borana type is being produced in our nearest area Borana zone.

Table 4:5 Retailers Purchase and Sales Price per kg of Incenses in ETB

No	Type of gums	Purchase price	Sales price	Remark
1	Black	15	18	
2	Borana big size	13	18	
3	White	25	29	
4	White aden	25	27	
5	Asmera koret	14	17	
6	Kerbe small size crushed	35	40	
7	Lubanga	35	40	

Source: W/Z Washto, Hawasa shop retailer's as of 03/08/08

According to W/Z Zenu, Hawasa Wholesalers (Distributor), the gum and incense produced from Borana has been loaded to A/A and sold there through separate channels and then redistributed to Hwassa and Moyale through wholesalers like us to be sold for traditional local consumption through the small shop retailers. We brought these gums from A/A Wholesalers (Ephrem, Tuhha and Mohammed) at Merkato market. This year the price of gum and incense has gone up very much due to shortage of supply. From all types of gums, they sell on the average 1 quintal per 15 days. W/Z Zenu is not specialized in gum and incense business but general wholesaler of household consumer goods including gum and incense. The same is true for retailers.

Table 4:6 Purchase and Sales Price per kg of Incenses in ETB

No	Type of Gum	Purchase price	Sales price	Remark
1	Last Black	11.50	12	
2	Borana big size	13	13.50	
3	White	20	20.50	
4	Misre small size white	11.50	12	
5	Barks and Crashed	10.50	11	
6	Kerbe small size crushed	30	30.50	

Source: W/Z Zenu, Hawasa wholesaler's as of 03/08/08

The result of the assessment informed us the information collected on the above matters is in most cases inconsistent and very difficult to differentiate the type of gums and incense

due to different naming and inconsistency in qualities for the same product at different markets.

Table 4:7 Purchase and Sales Price per kg of Incenses in ETB

No	Type of gum	Purchase price	Sales price	Remark
1	Borana chika birgud	15	25	
2	Ogaden big size	20	25	
3	Bahir etan barks first grade	26	35	
4	Misere	25	30	
5	Tigray white 4sp	25	30	
6	Kerbe big size	100	110	
7	Lubanja	27	35	
8	Second grade barks	12	No sale by itself but blended	

Source: Merchato Retailers survey as of 18/08/08

But, to overcome these limitations the study has tried to purchase samples from different markets to check naming and quality inconsistencies and identify the correct price for the same product. Furthermore, the average price from these different markets has been taken as a reference. The data was also checked through cross reference. We have done all these to increase the reliability of the structure of price data for further analysis of profitability for the key market chain actors, marketing costs and margins in the next sections.

International Markets:

Background of Borana Type Gum and Incense Export

There are many strong and traditionally significant markets for the gums and resins from this region, both at the national and international level. Due to its significant long established value for the fragrance, the demand in the international market for these gums and resins is consistently high and under supplied. Current reports from the international market buyers all state that the major problem in purchasing gums and resins from Ethiopia is the high level of adulteration and the inconsistency in supply. Gums, Gum Resins and Aloes 04/07.

But, during the local traders and exporters survey, it has been observed that Borana type black incense supplied in most cases to domestic market and not found significant export quantity. Though too difficult to differentiate each type and grade of natural gums in Ethiopia's local and export market, it hasn't been found significant quantity of export in the name of either Borana type black incense or Borana type white incense from ECA data too.

The Current Natural Gum Export Performance of Ethiopia

Though there are so many different types of gums in the world market, Ethiopia has supplied not more than four types (Gum Arabic, Gum Olibanum, Gum Myrrh and Gum Oppopanex) in which all of the export is known in two HS Codes i.e. 130120 Gum Arabic and 130190 Natural gums, resins, gum resins, balsams and other natural oleoresins (Except Gum Arabic) but in the world market the following types of gums with its HS Codes have been supplied.

HS Codes Description

130110	Lac
130120	Gum Arabic
130190	Natural gums, resins, gum resins, balsams and other natural oleoresins (Except Gum Arabic)
13019090	Other natural gums, resins, gum resins & balsams, nes
13019020	Olibanum, myrrh and dragon's blood
13019010	Gum tragacanth
13019040	Pineresin
13019030	Asafoetida

Therefore, the study describes only the first two HS Codes as far as Ethiopia's export performance is concerned.

Export Volume and Value

According to MOARD in 2007/08, Ethiopia has exported 3976 MTS of natural gum by 27 exporters and earned foreign exchange USD 5650000. This performance as compared to last year 2006/07 nine months performance is increased by 13 and 5 percent in volume and value respectively. On the other hand the number of exporters is being decreased by 21 percent in the same year. From the total foreign exchange earning of natural gums export,

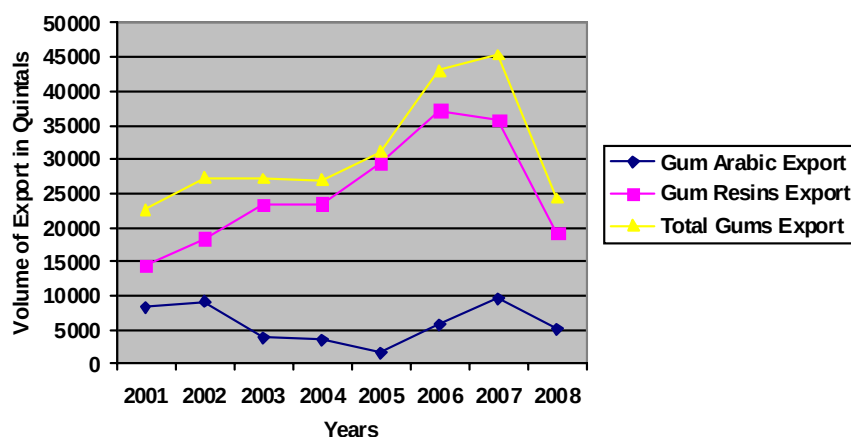
the share of each type natural gums are Gum Olibanum 64%, Gum Arabic 10% and Gum Myrrh 2% and the remaining 24% is unspecified or not differentiated. For the details see annex 9. According to ITC Trade data obtained from importing countries in 2006, Ethiopia's exports represent 1% of world exports for Natural gums, resins, gum resins and balsam, except Arabic gum, its ranking in world exports is 18.

Table 4:8 Ethiopia's Natural Gum Export Performance from 2001 to 2007, Volume in Qtls & Value in ETB.

Year	Gum Arabic Exp		Gum Resin Exp		Total Gum Exp		Share of Gum Resins in Percent	
	Volume	Value	Volume	Value	Volume	Value	Volume	Value
2001	8301	9,964,192	14401	15,585,126	22702	25,549,318	63	61
2002	9047	1,0875,665	18285	20,816,461	27332	31,692,126	67	66
2003	3812	5,382,662	23388	30,237,752	27200	35,620,414	86	85
2004	3568	5,111,438	23411	29,642,083	26979	34,753,521	87	83
2005	1684	2,792,977	29477	39,004,237	31161	41,797,214	95	93
2006	5834	8,234,557	37194	47,897,900	43028	56,132,457	86	85
2007	9562	10,823,254	35767	47,860,493	45329	58,688,747	80	82
2008 nine months	5195	9,919,488	19150	36,693,289	24345	46,612,777	82	79
Total	47003	63,104,233	201073	267,736,841	248,076	330,841,074	81.1	81
Average Excluding 2008	5972	7,597,821	25989	33,006,222	31962	40,604,042	81.3	81.3

Source: ECA, 2007

Fig 1. Ethiopia's Natural Gum Export Volume (2001-2007)



Export by Destination Countries

In 2007/08, the destination countries of Ethiopia's natural gums export were 26 countries of which UAE, Germany, China, Tunisia and Guatemala were the first five destinations with the highest share of 27, 13, 12, 9 and 6 percents respectively. In general, from the total foreign exchange earning of natural gums USD 3.78 million or 67 percent was the share of these first five countries.

As compared to 2006/07, the destination countries of natural gums in 2007/08 increased by 38, 39 and 70 percents in UAE, China and Guatemala respectively while decreased by 7 and 31 percents in Germany and Tunisia respectively. (See annex 9, 15, 16, 17 and 18)

Export Price

As shown in the following table 4.9, according to the information obtained from exporters the current 2000E.C export price has sky rocketed in the history of natural gum export due to shortage of supply as compared to world demand especially for gum olibanum.

Table: 4.9 Ethiopian Natural Gum Registered Export Price in 2000E.C in USD/MT as of 09/09/08.

Gum and Resins Scientific Name	HS Code	Trade (Commercial) Name	Current Price Registered in USD/MT	last year's Price of the same period in USD/MT	Remark
Acacia Senegal and Seyal	13012000	Gum Arabic	2500	1800	Tigray Type
		Gum Arabic	1500	1100	Tigray Type
		Gum Arabic	900	700	Sidamo Type
Boswellia papylifera and others	13019000	Gum Olibanum	4100	2000	1 st Grade A
		Gum Olibanum	3000	1500	1 st Grade B
		Gum Olibanum	2800	1300	2 nd Grade
		Gum Olibanum	2100	1100	3 rd Grade
		Gum Olibanum	1950*	900*	4 th Grade A
		Gum Olibanum	1750*	700*	4 th Grade B
Commiphora Myrrh and others	13019000	Gum Olibanum	NA	NA	

Source: Commercial Bank of Ethiopia, International Bank Division (IBD) as informed by Exporter (Ambasel Trading House). * Ambasel Trading House Actual Transaction.

Annual Growth Rate of Volume and Value of Agricultural Products

According to MOARD 2007/08 annual report, in the last five years (from 1995/1999 EC), the agricultural products export has been increased on the average annually by 23.45 percent. For this performance, the natural gum export contribution plays a significant role since its annual average export in the last five years increased by 20.8 and 20.7 percents in volume and value respectively. (See annex 8)

Quality and Standard Challenges of Ethiopia's Natural Gum Export Performance

According to ECA, most of the time Ethiopia's Natural Gum Export has been known in international market by two HS Codes i.e. 13019000 for Natural Gums, Resins, Gum Resins, Natural Oleorins/Balsams (excl. Gum Arabic) Olibanum and 13012000 Natural Gum Arabic. Therefore all different types of gums either processed or not are being exported randomly according to buyers and sellers agreement with out any specification. Hence, the situation affected the country's foreign exchange earning adversely.

This is because, in the name of Natural Gum Arabic, HS Code: 13012000, more of gum Olibanum, Myrrh, Incense and Frankincense oil extract registered than the Standard Gum Arabic. The proper name Gum Arabic for its HS Code is not consistently used in actual export since the other name (Natural Gum) which is ambiguous to differentiate either Gum Arabic or Gum Resins is also used in the same HS Code.

To this effect, no one could analyze the trends of price and volume of export consistently in order that past performance has been evaluated and future improvement measures will be taken. For instance from Natural Gum Arabic Export in 2007, the highest price shown is ETB 6827/Quintal for Gum Myrrh in Saudi Arabia market but, this product (though exported and registered by ECA in HS Code 1301200 and name Gum Arabic), not actually Gum Arabic but it is one of Gum Resin types that should be named and registered accordingly. Similarly in 2008 the highest price shown is ETB 57264 for Frankincense oil extract in Belgium market but this product is actually not Gum Arabic. In 2008, the same product Frankincense Special but not processed with HS Code 13019000 and name Natural Gum Resins has been exported correctly at ETB 1455/Quintal in India market. But, the price of this product, though not processed, is totally surprising and less by 97.5 percent (only receive 2.5

percent) of the above highest price of frankincense oil extract in Belgium market and not comparable with it.

In the name of Natural Gum Resins HS Code 13019000, Gum Arabic has been registered and exported too. Besides, there are so many types of gums with different naming which is totally inconsistent, mixed one another and have no any specification or description of product quality and even source but, simply according to buyers and sellers agreement without any control that has been found in ECA export trade data.

Some of the commercial description for instance Incense, Frankincense, Gum Incense, Ensens, Etan, Tiatis, Kebercho, Gum Oil & Myrrh, Oil, Gum Mur, Gum Clibanum and Oilbanum are too much confusing to differentiate and benefit from the product quality based on their supply and demand situations. Even the commonly known grades for gum olibanum i.e. first A and B, Second, Third, Fourth Normal and Special were not consistently used in the country's export registration since some grades are mixed one another and other unknown new grade and name used from time to time. For the details see annex

Although the quality and standard challenges are too many and complex, we tried to describe very limited problems as a sample in order to indicate the current situations that needs to be addressed in the future by the respective bodies of the government.

For the study, given the situation explained above, we tried to sort out and tabulate these data in order that similar product trend of prices in 2007 and 2008, (though registered in distinct HS Codes) will be compared and commented accordingly. Though not exhaustive, special emphasis has been given to identify and categorize consistently different Gum Arabic and Gum Resins from the existing ECA data with specific reference to differentiate the positions of Ethiopia's natural gum export in general and Borana type gum and incense in particular in international market.

In doing so as shown in the following tables, first the maximum, minimum and average prices for Natural Gum Arabic and Natural Gum Resins as per directly ECA registered data identified and then the maximum and minimum prices for all Ethiopia's Natural Gums export sorted, identified and categorized consistently as per the given ECA data and the study

findings about quality and grades from the market actors experience. See the tables 4.10 and 4.11 below for the details.

Table: 4.10 Ethiopia's Gum Export Prices Summary for the Year 2007 & 2008 in ETB/Quintal

Standard Name	HS Code	2007			2008			Remark
		Max	Min	Average	Max	Min	Average	
Natural Gum Arabic	13012000	6828	548	1132	57264	536	1909	
Natural Gum Resins	13019000	12386	329	1338	21147	527	1916	

Source: ECA Data Base

Table:4.11 Ethiopia's Natural Gum Export Price Summary Sorted by Commonly Known Grades for the Year 2007 & 2008 in ETB/Quintal.

Trade Name	Grade	2007		2008	
		Max	Min	Max	Min
Gum Myrrh	NA	6828	1925	9338	934
Gum Olibanum	First A	2685	1699	3799	2414
	First B	2403	1282	2413	NA
	First	2416	2040	2599	2306
	Second	1644	1071	1819	1581
	Third	NA	NA	2291	NA
	Fourth Normal	880	848	1175	1060
	Fourth Special	986	709	1253	1209
	Fourth	986	685	1402	1223
Mixed Gum Olibanum	First and Second	2025	NA	2489	NA
	First A and B	1763	1667	NA	NA
	First, Second & Third	NA	NA	1806	NA
	First, Third, Fourth Nor & Sp	NA	NA	2104	NA
	Second & Third	1210	1167	2266	1309
	Second, Third, Fourth & Oppoponex	1185	NA	NA	NA
	Fourth Nor & Sp	1155	NA	NA	NA
	Oilbanum & myrrh	1371	NA	NA	NA
	Olibanum & Gum	2380	NA	NA	NA
Gum Olibanum	NA	2196	620	4075	1123
Gum Olibanum	Ciftings	1003	937	NA	NA
	Retumeric Fingure	707	NA	NA	NA
Gum Clibanum	NA	2304	NA	NA	NA
Oilbanum	NA	NA	NA	3667	NA
Incense	NA	12386	1441	21146	1272
	Ogaden & Borana Type	1037	NA	NA	NA
	White	NA	NA	526	NA

Incense	NA	1553	NA	NA	NA
Gum Incense	NA	1708	NA	NA	NA
Etan	NA	1470	NA	844	NA
Tisatis	NA	328	NA	NA	NA
Frankincense	Special	NA	NA	1455	NA
	NA	NA	NA	57264	NA
Oil	NA	11612	NA	8767	NA
Gum Oppoponex	NA	1461	NA	NA	NA
Keberecho	NA	730	NA	NA	NA
Natural Gum	NA	1273	NA	2441	1331
Gum Arabic	Senegal	1687	NA	NA	NA
	Seyal	837	NA	2170	NA
	Acacia	NA	NA	2196	2095
	One	2053	NA	NA	NA
	Three	NA	NA	778	NA
	NA	1457	548	1613	536
Gum	NA	2281	714	4160	1970

Source: Sorted from ECA Data

As per ECA registration the maximum, minimum and average prices for Natural Gum Arabic with HS Code; 13012000 are ETB 6828, 548 and 1132 per quintal in 2007 and ETB 57264, 536 and 1909 per quintal in 2008 respectively. Though the maximum and average prices have increased in 2008 than in 2007, it may not be advisable to comment on these changes since the ECA data were inconsistent due to the lack of quality and standards for these products.

However, as per the ECA data sorted and categorized similar grades as much as possible by the study, we tried to say something shortly (which is related and relevant to the study) about the situation as follows.

The highest price shown is in frankincense oil extract, incenses, oils and gum myrrh. The highest price from all is ETB 57264/Quintal for Frankincense oil extract export in 2008; the next highest prices are ETB 21146 and 12386 per quintal for incense export in 2007 and 2008 but, surprisingly the minimum price of it is ETB 1441 and 1272 in 2007 and 2008 respectively. The third highest prices are ETB 11612 and 8767 per quintal for oil in 2007 and 2008 respectively. The maximum price of gum myrrh ETB 6828 and 9338/Quintal and the minimum price of it are ETB 1925 and 934/Quintal in 2007 and 2008 respectively. From these figures we can observe that the change of prices between 2007 and 2008 and

maximum and minimum are too much exaggerated that needs to be further confirmed by technical and marketing experts through detail study to verify each products consistency. But, in general we can conclude that the price of Ethiopia's Natural Gum Export has been increased in 2008 than 2007 specifically for gum myrrh, gum olibanum and gum arabic by simply looking the common and known grades as well as considering the properly and consistently registered ECA data as shown in the tables sorted and categorized.

On the other hand though, the value added products such as oil and oil extracts has shown the maximum price from all, the quantity exported were minimum or insignificant i.e. 74kgs of oil at ETB 8767, 22kgs of oil at ETB 11612 and 40kgs of frankincense oil extract at ETB 57264 per quintals in Belgium market. The other highly priced gums are gum myrrh and incense which were 30kgs of incense at ETB 21146 in Austria market, 84.4kgs of incense at ETB 12386 in USA market and 600kgs of gum myrrh at ETB 9338 per quintals in Saudi Arabia market. The quantity exported of these products, except gum myrrh since it also sold in more quantity at other higher prices, are insignificant too. However, the high price of these products will be an indication of better demand and price opportunities in developed countries than others.

As many market chain actors informed, Borana type incense is being used in domestic market, we found only one transaction by the name, Borana and Ogaden type incense export from 2007 and 2008 ECA data. The price is ETB 1037/Quintal in 2007. See annexes for the details

In general one can't certainly conclude and comment on the trends and change of each product prices due to the absence of established quality and grades in these products. Even we couldn't talk about the Borana type gum and incense's low price and/or only used for domestic market since the highest priced frankincense, incense and oils might have been sourced from it. No body knows except the exporters, from where these highest priced products come from. From experience we knew that these exporters wouldn't like to disclose the sources as they need to keep their business secrets.

Therefore; the quality and standard challenges of Ethiopia's natural gum export in general and Borana type gum and incense in particular needs to be addressed through further detail studies. From the stand point of this study we comment that Borana type gum and incense

might have the opportunity to receive these highest prices since the name frankincense and incense used for it and also because of its aromatic nature the oil extracted from it may be highly valued. To this effect the demand for Borana type gum and incense in international market along with its potential value adding possibility should be studied in detail in cooperation with the respective market chain actors in line with developing common goals and shared vision among them. For the details see annex 15, 16, 17 and 18.

5.3. COST STRUCTURE AND KEY ACTORS BENEFIT (PROFITABILITY)

Since natural gum is one of the potential incomes generating product for the poor pastoralists and produced for the market, producers (pastoralists) are highly responsive to price change. Hence, to develop and diversify the income generating activities of pastoralists in the study area, the actors in the incense market chain needs to be profitable so that a large sum of pastoralists can supply the expected quantity and quality. However, the analysis of market chain and developing strategy to increase competitiveness is not only a matter of profitability; it should also take in to account a fair distribution of profit along the market chain.

To this effect, the profitability and its distribution among key actors in the Borana type incense market chain should be computed. But, because of the lack of marketing costs data for each actor in the market chain, the study is limited to analyze only the Erder Incense Marketing Cooperative cost break downs and profitability is shown in the next table

Although the cooperative didn't include costs for transport, grading, storage, tax, overhead, loading and unloading and bank interest in the cost breakdowns data obtained from them, the study has been included the relevant costs based on the prevailing market price of the study area as shown on the remark column of table 4.12 above.

Table 4:12 Cost breakdowns of Borana Type Black Incense for Erder Incense
Marketing cooperative in ETB/Quintals

No	Cost elements	Cost in birr	Remark
1	Purchase from pastoralists	350	Actual price
2	Marketing costs	112.29	
2.1	Transport cost	No	Not Relevant
2.2	Grading	No	Not Relevant
2.3	Product loss (impurity) 16%	56	Big loss caused by weak control but actual cost
2.4	Storage	8.50	ETB 0.50 per a month
2.5	PP Bags	5	Actual cost
2.6	Tax	8	Though free by government
2.7	Overheads	7	2 percent of purchase price/Qtl
2.8	Loading and unloading	3	As per the prevailing price
2.9	Interest for 1 year & 5 months at 4% per year	24.79	Opportunity cost of their own capital
2.10	Other costs	No	No relevant other costs
3	Total cost	462.29	
4	Sales at Erder to Dubluke Trader	565	Actual price
5	Gross Profit (41)	215	38% of profit from its selling price
6	Net Profit (52)	102.71	18% of profit from its selling price

Source: Erder Incense Marketing Cooperative and survey observation

5.4. MARKETING COSTS AND MARGINS

According to Mendoza, no other term with agricultural marketing is more misunderstood than the concept of a marketing margin. Exchange activities add ownership benefits to products and also generate income for sellers. Not all of this income is pure profit. In fact, a big marketing margin may, in fact, result in little or no profit, or even a loss for the seller involved. That depends on the marketing costs as well as on the selling and buying price. Furthermore, marketing margins are not always only earned by middlemen. Many observers confuse a marketing margin with a trader's margin of profit. This is simply not the case.

A marketing margin really measures the share of the final selling price that is captured by a particular agent in the market chain. It includes costs and typically, though not necessarily, some additional net income.

In the study to analyze marketing costs and margins, the relevant data have been collected from the survey of key actors of Borana incense in the market chain found in different market places i.e. Moyale, Dumlake, Awasa, and Addis Ababa for the period 2007/08, the Erder incense cooperative buying price is taken as a proxy of producer (pastoralists) price since this cooperative in the area is buying incense from members and non members on the basis of the prevailing market price. However, the marketing costs data have been found only from Erder Incense Marketing Cooperative.

5.4.1. MARKETING COSTS

The sequence of stages involved in transferring produce from the farm to the consumer is generally referred to as a marketing chain. According to Kohls and Uhl, the marketing functions involved in agricultural and food marketing processes as under three sets of functions of a marketing system. These functions are; Exchange (buying and selling), Physical (storage, transportation and processing), and Facilitating (standardization, financing, risk bearing and market intelligence).

Each of these functions adds value to the product and they require inputs, so they incur costs. As long as the value added to the product is positive, most firms or entrepreneurs will find it profitable to compete to supply the service.

Once all the costs have been calculated it is then necessary to put them together to work out total marketing costs. The calculation varies according to the complexity of the marketing channel, whether there is processing or not, and how many intermediaries involved.

Accordingly, if the marketing costs data of specifically for Borana type incense had been obtained from all key actors, the marketing costs would have been calculated along the market chain. But, due the lack of marketing costs data as described above in section 4.5 above, the study is also limited to analyze the ratio of major marketing costs only for Erder Incense Marketing Cooperative.

Table 4:13 The Ratio of Major Marketing Costs for Erder Incense Marketing Cooperative.

No	Major Cost Elements	Cost in ETB/Quintal	Share's in Percent	Remark
1	Product loss (impurity) 16%	56	50	
2	Storage	8.50	8	
3	PP Bags	5	4	
4	Tax	8	7	
5	Overheads	7	6	
6	Loading and unloading	3	3	
7	Bank Interest	24.79	22	
8	Total Marketing Costs	112.29	100	

Source: Computed from table 4.12

As shown in table 4.13 above, product loss (impurity) is the highest share of marketing costs from all i.e. 50 percent and the second highest share is bank interest i.e. 22 percent though not considered by cooperative. The product loss that needs to be improved of the cooperative is too much exaggerated and unusual than ever seen in similar cases. This big loss that minimizes greatly the cooperative net income has come from improper store and stock management. Similarly, the second big cost i.e. bank interest is the result of too long period of time taken to effect sales and poor concept the benefits of increasing sales turnover towards meeting the advantages of economic of scale.

5.4.2. MARKETING MARGINS

When there are several participants in the market chain, the margin is calculated by finding the price variations at different segments and then comparing them with the final price to the consumer. The consumer price then is the base or common denominator for all marketing margins. Therefore, the marketing margins of key actors in Borana type incense market chain have been calculated by taking price variations among the actors.

Hence, the total gross marketing margin (TGMM) is always related to the final price paid by the end consumer and expressed as a percentage:

$$\text{TGMM} = \frac{\text{Consumer price} - \text{Pastoralist's price}}{\text{Consumer price}} \times 100$$

It is useful to introduce here the idea of “producer participation,” “pastoralist’s portion” or “producer gross margin” (GMMp) which is the portion of price paid by the end consumer that belongs to the pastoralist as a producer.

It should be noted that producers that act as a middlemen also receive an additional marketing margin. Then GMMP is calculated as

$$\text{GMMP} = \frac{\text{Price paid by the consumer} - \text{Marketing gross margin} \times 100}{\text{Price paid by the consumer}}$$

In a market chain with only one trader between producer and consumer, the net marketing margin (NMM) is the percentage over the final price earned by the intermediary as his net income once his marketing costs are deducted. The percentage of net income that can be classified as pure profit depends on the extent to which factors such as middleman’s own, often imputed, salary are included in the calculation of marketing costs.

$$\text{Then, NMM} = \frac{\text{Gross margin} - \text{Marketing costs} \times 100}{\text{Price paid by the consumer}}$$

Therefore, the marketing margins of key actors in the Borana incense market and pastoralist’s participation have been calculated as follows:

Since Borana type incense is sold in domestic market, the final price to calculate marketing costs has been the price paid by domestic consumers.

Table 4:14 Market Chain Actors Selling for Borana Type Incense Price in ETB/Quintal

<u>Market Chain Actors</u>	<u>Selling Price in ETB/Quintal</u>
Pastoralists	3.50
Erder Cooperative	5.65
Assemblers	11.50
Wholesalers	16.00
Retailers	22.00

Source: Market Survey (Target Business Consultants Plc)

As shown in table below the TGMM, the complete distribution channel marketing margin which is the sum of GMM_{EC} , GMM_A , GMM_W and GMM_R is 84 percent. From this margin the

share of each market chain actors are 10, 27, 20 and 27 percents for GMM_{EC} , GMM_A , GMM_W and GMM_R respectively. Producer participation or pastoralist producers' share (GMM_P) from final selling price is 16 percent.

From these findings it has been observed that the pastoralist producers' share i.e. 16 percent is too small because of marketing inefficiency as compared to most of agricultural products which are above 60 and more percents. For instance the share of sesame producers from wholesale price at village market in North Gondar, Metema area is on the average 82 percent, from export price is 60 percent and the share of haricot bean producers from export fob price is about 62 percent according to Demelash, (2004). Hence the small producers' share in Borana type incense market chain has been one of the major factors in discouraging producers to increase the supply of this product. Furthermore, from the TGMM, the smallest GMM is the Erder cooperative marketing margin (GMM_{EC}) i.e. 10 percent and the highest is assemblers and retailers marketing margin which is 27 percent for each. The wholesalers marketing margin is also better than Erder cooperative though less than assemblers and retailers.

Table 4:15 Marketing Margins along Borana Type Incense Market Chain

The Share of Marketing Margins in Percentages							Remark
TGMM	GMM_P	GMM_{EC}	GMM_A	GMM_W	GMM_R	NMM_{EC}	
84	16	10	27	20	27	4.7	

Source: Computed from table 4.14

Although the profitability of Erder Incense Marketing Cooperative is about 18 percent from its selling price as calculated above in section 4.5 above, the net marketing margin (NMM_{EC}) is 4.7 percent which is less by 74 percent. This is because the NMM is computed from the market chain final selling price but not its next market chain actor or buyer's price in order to measure the marketing efficiency. Since the study couldn't compute NMM for all key actors in the market chain due to the lack of marketing costs data except for Erder Cooperative as described above, it has been found very difficult to conclude about the marketing efficiency along the chain. But, from the NMM_{EC} point of view the Borana type market chain might be inefficient, though it needs to be further studied.

6. BUSINESS DEVELOPMENT SERVICES AND THEIR PROVIDERS

Business development services and their providers along the market chain should be discussed so that the services and service providers that exist will be listed and to qualify their quality and identify gaps and opportunities to future improvements and interventions.

Providers of business development services may be individual actors, organizations or companies that can offer business development services to the market chain. The services offered by these actors can be tangible (transport, storage, machinery, among others) or intangible (technical assistance, training, etc.), and formal (NGOs, GOs, Companies, etc.) or informal (transporters, local traders, other farmers, etc.)

Therefore, in the study of gum and incense market chain analysis, who are the service providers and how do they support, what services do they offer, what is the quality of the services offered and how useful these services to solve the problem in each links of the market chain has been analyzed accordingly. As the scope of the study is limited to Borana, major relevant and the most important services and their providers that exist in the Borana type gum and incense market chain will only be discussed here under.

6.1. PROVIDERS OF BUSINESS DEVELOPMENT SERVICES

6.1.1. GOVERNMENT ORGANIZATIONS

i. Cooperative Development Offices

According to Ato Bekele, Head of Yabelo Zone Cooperative Office where the Erder incense marketing cooperative is found, in order to meet the objectives of the cooperative office they have organized about 16 types of cooperatives, provided trainings with the support of NGOs, facilitated the supply of important equipments and materials and connected cooperatives with buyers of their products. While connecting cooperatives and buyers the buyers have been obtained through the respective government bodies from the federal and

regional offices and as the buyer, themselves, came to them to find cooperatives. In connecting buyers and cooperatives, the roles of cooperative offices are to involve as a witness in signing contracts and arbitration, if any disagreement occurred in contract implementation but, by no means have they interfered in their price and other marketing decisions. As Erder Incense Marketing cooperative is newly found, no such services provided to it.

In 2000 E.C, three incense marketing cooperatives have been organized and obtained legal recognition from the respected offices. The fourth one i.e. Erder, “the focus cooperative in the study” is under processing to be recognized legally. Though Erder incense marketing cooperative hasn’t obtained legal recognition until this time, the survey team confirmed the cooperative has already involved in practical incense marketing transaction since January, 2007 and complained the long time taken to be licensed or legally recognized.

The office also informed us that they have given trainings on cooperative management and product preparation and birr 60000 from government as a starting capital and purchase of production equipments. But, these supports might not include again Erder incense marketing cooperative since we couldn’t confirm the receipt of these support from their side.

The survey team observed the government cooperative office is poorly staffed and is not in a position to provide support to this cooperative. The application to get a legal entity status is not yet responded for more than a year. The cooperative office could have play an important role in facilitating marketing possibilities and provision of training to the cooperatives as they are doing to other marketing cooperatives.

ii. Agriculture and Rural Development Offices

The survey team has visited Borana zone ARD office’s so as to collect relevant data for the study. However, the data were incomplete, aggregate and not cover all Woredas within the zone. To this effect, it is impossible to use in the quantitative analysis of the study.

Though the ARD office has the responsibility to provide technical services in production and marketing of natural gum towards the effective and efficient utilization of natural resources for the benefits of pastoralists, their actual performance is very weak and unsatisfactory.

Given the above limitations they informed us the natural gum trees are being managed just like any other forest and no special attention has been given to it.

The Agricultural and Rural Development Office at Moyale zone, Ato Lemessa has told the team that they could not able to provide the support to the pastoralist because of the tribal conflict. Exposure visits were conducted by this office in Tigray region on harvesting of gum and resin though they could not yet extend their support service to the communities because of the problems mentioned above.

iii. Administrative Counsel Offices

The administration counsel offices at different areas of pastoralists expected to provide services in natural gum production and marketing sector in areas of policy and regulation to effectively use the existing potential natural resources in improving the pastoralists' life. In line with this, the survey team has got an opportunity to discuss about the matter among others in Somali region, Liben zone of Moyale Somali woreda administration office with better knowledge and information.

According to the chairperson of woreda counsel, the following services have been provided as far as natural gum production and marketing is concerned:

- Training and creating awareness about the economic importance of natural gum production and marketing
- Controlling illegal movement of natural gums from our region
- Licensing natural gum traders
- Organizing three natural gum marketing cooperatives at Keladema, Chelanko and Gelgelo in cooperation with LVIA
- Controlling illegal border trade or smuggling of natural gum to Kenya

iv. Quality and Standard Authority of Ethiopia (QSAE)

QSAE is an authorized institution by the government to provide services such as setting quality and standard of different products i.e. domestically produced and imported goods and services. In setting grades and standards QSAE has given priority for exportable

products. However, though gums and resins is one of the country's exportable product for the last 3040 years, grades and standards has not yet developed. The transaction has been done simply by buyers and sellers agreement. To this effect buyers dictate grades of gum olibanum to their advantage. For instance, Tigray and Gondar type gum olibanum had 5 grades from first to fifth grades before 5 years, but recently the buyers dictate to differentiate first grade in to first A and B, and Fourth grade in to Fourth normal and special, as a result the grade became seven i.e. First A and B, Second, Third, Fourth normal and special and Fifth grades. To this effect, the buyers have been benefited from first B and Fourth normal price reduction to their advantages.

According to Ato Tamiru Geno, QSAE Agricultural products standard senior expert, because of the repeated request from exporters, NGPME and other stakeholders, the office has started to form technical committee so as to set grades and standards for natural gums before two years ago. The committee has tried to collect background information from national and international sources but, failed to obtain the relevant information to do so and couldn't move further at that time. Hence, the committee has given up its task to date. In the committee members NGPME and EARO have been included. The lack of basic information according to the committee was due to the absence of research based grades so that we can use as a background to start the task. Therefore, the committee has recommended undertaking research on the area, allocating the required budget and forming working groups (task force) for the smooth operation of the work. Although QSAE accepted the recommendation, no further progress has been shown up to now. This might have been due to the lack of required budget. In general due to all these cases and the current BPR implementation in the institution, the task is completely ceased. In the future as once decided the task should be done based on the research undertaking, it will be done accordingly, hopefully, after the implementation of BPR with new and better working atmosphere.

Because of the above problems QSAE was not in a position to provide the required services in Ethiopian natural gum market in general and through out the study market chain actors in particular.

6.1.2. NON GOVERNMENT ORGANIZATION

i. Action for Development (AFD)

Action for development is the promoter of this study. AFD evolved from the FAO-Operated Freedom From Hunger Campaign/Action for Development (FFHC/AD), which was implementing a program of rural development in selected drought prone areas in southern part of Ethiopia for over a decade. AFD is an indigenous voluntary organization, which undertakes participatory integrated rural development programs to complement the initiatives, and build up the capacities of resource poor farmers and pastoralists to attain a better quality of life.

AFD has taken the initiation to form the Erder Incense Marketing cooperatives so that the community will be benefited from the additional income from the marketing of incense. Apart from the formation of the cooperative, AFD provide trainings to the members on harvesting and handling of gum and resin, provides working tools, constructed offices to the cooperative, and provide seed money to help them as a working capital in addition to members contribution.

AFD is also working with other stakeholders who are interested in the gum and resin marketing in the region.

ii. LVIA (Live Voluntarily International Association)

LVIA is a non governmental organization found at Moyale which is nearest to the study area and established with the objective of creating markets for cooperatives as far as natural gums concerned. In meeting its objective LVIA has provided the following services in cooperation with Somali region, Liben zone of Moyale woreda administration counsel office. (The survey team has contacted LVIA not only because of its proximity to the study area but also the type of incense produced, production and marketing systems similarity as well as the importance of including these area incense marketing activities in the study value chain analysis).

- Organizing three incense marketing cooperatives in Keladema, Chelanko and Gelgelo.
- Coordinate the one Italian organization called IPO and donation from EU to process natural gums and extract essential oil by distillation at Keladema cooperative.

- Facilitate cooperation of IPO and cooperatives in providing the necessary supports. As a result, IPO provide one extraction machine to cooperatives.

In spite of the above efforts, the achievement in meeting their objective couldn't be sustainable and satisfactory. This is because, according to LVIA, although IPO provide extraction machine free of charge and took two or three times extracted essential oils abroad in the form of sample for laboratory examination so as to create a better market opportunities for the cooperatives and paid Birr 1000 per liter of this essential oil, either LVIA or cooperatives haven't received any response from IPO until then. To this effect and the donor's EU objection to continue its support because of their lack of confidence in the reliability of IPO, the relationship has already been stopped.

The other problem with respect to essential oil extraction by IPO is that nobody including LIVA staffs found in Moyale from which type of natural gums the oil extracted. According to Francisco, LIVA staff in Addis Ababa and Borana incense researcher, the essential oil extracted by IPO might be from AGERSO. However, they couldn't verified that what is the genus and species of AGERSO from technical experts but as described above according to Ato Lemmesa, natural resource expert at Moyale Oromia DPPC office it is acacia species used to prevent ticks from cattle. Since this information may not be confirmed by research, it needs to be further studied and identified by the respective researchers. This is because, in the study it has been observed that the extracted oil from AGERSO may be highly valued and demanded in international market.

According to the information obtained from LVIA, pastoralists in Somali and Oromia zones around Moyale, Kenya border, collect easily naturally oozing incense from trees while they were in keeping livestock herds. Pastoralist considered the income obtained from sales of incense as a supplementary income generation activity since their regular means of living was livestock production. It is common to see pastoralists to barter natural gums with rice and flour in Kenya market.

As a concluding remark LVIA project coordinators have commented, in spite of the big potential production and marketing in the area, no appropriate and satisfactory study and promotion has been undertaken by the respective government bodies but collect taxes.

The LVIA initiation in supporting pastoralists through their potential natural resource endowment, organizing incense marketing cooperatives towards taking the advantages of market opportunities in incense trade, is very much appreciated. The effort to add value and process incense in to essential oil, cooperate with donors and foreign processing companies is also a good start and an interesting accomplishment. However, all the initiation and other efforts should be sustainable by finding other similar alternative ways.

Export Support Institutions

Recognizing the key role of the export sector in the economic development of Ethiopia and acknowledging that the provision of institutional support is vital for the development of the country's export sector, the government of Ethiopia has promulgated an Export Development Strategy in February 1998 with the objectives highlighting in the strategy paper, sustaining the growth of agricultural production, generation of foreign exchange and promotion of internationally competitive industry. (Ministry of Trade and Industry, 1998)

The strategy highlights the importance of providing all rounded support services and incentives to exporters including market information provision, credit priority, priority in the provision of working premises, warehouses, etc. and it calls for coordination of the export promotion effort and proper utilization of existing capacity in the most efficient way. To this effect, the Ethiopian Export Promotion Agency is established.

As highlighted above in the export development strategy, the government of Ethiopia has recognized the importance of putting in place appropriate export promotion services and the institutions thereof. The establishment of the Ethiopian Export Promotion Agency (EEPA, now called Export Promotion Department (EPD)) concerned with the design and coordination of the overall export promotion is one of the concrete steps in this regard. The Ethiopian trade point under the EPD is a source of trade related information on business and market opportunities, potential clients and suppliers, trade regulations and requirements, etc.

Trade Associations and Cooperative Organizations

Although there are trade associations such as Ethiopian pulses, oilseeds and spices processors and exporters, coffee exporters, flower exporters, etc. there is no gum trade association in the country. Establishment of Gum and Resin exporters association will have a lot of contribution for the growth of export of such products.

In addition to the EPD, Chamber of commerce is one source of information in export market.

6.1.3. BUSINESS DEVELOPMENT SERVICES

RESEARCH AND TRAININGS

The inadequate and insufficient research and training that has been undertaken within the sector from the technical aspects of the collection/harvesting throughout the supply chain to the efficient examination of the most profitable and viable avenues of market access has been the result of a number of factors. Some of the information gaps can be attributed to the prevalent shortage of trained researchers, physical facilities and a government allocation of a budget in the Forestry Research sector as a whole. The lack of reliable data relating to the quantity of the resource balanced against the lack of credibility of the official figures on the volumes traded make it difficult to gain an overview of the sector thus affecting planning for a sustainable future for the resource. Gums, Resins and Aloes 04/07.

The Ethiopian Institute of Agricultural Research, houses the Essential Oils Research Centre which is involved in the creation of essential oils and other derivatives from commercially viable natural products. They also undertake resource assessments on wild harvested crops like the gum and gum resins. They are interested in researching into the possibilities of domestication of the crop. Working with MSc and PhD candidates – they are also strong practitioners and are seeking active collaborations and partnerships with organizations to improve the data on the resource availability as well as the monitoring of quality controls measures employed throughout the value chain.

The Biodiversity Institute and the University of Addis Ababa, Faculty of Science have undertaken doctoral thesis in the chemical and biological aspects of the gums and gum resins. There is a limited disclosure of research findings.

In general the inadequate research and training services provided at all levels of the gum and incense market chain with respect to production, postharvest management or processing and marketing greatly affects the effective and efficient utilization of the existing natural resources. To this effect, the pastoralists couldn't diversify income generation activity and improve their livelihoods with this potential exportable gum and incense natural resource endowment at their surroundings.

STORAGE, TRANSPORT AND PROCESSING

A. Storage

Most of gum and incense traders including Erder Incense Marketing Cooperative do have their own storage facility and receive services from themselves. However, some of them who have no storage facility obtained the storage service on rental basis from the surrounding store owners.

But, in case of producers, the harvested gums and incense are stored in the individual homes and at the village level harvesting site. Different gums and incense are sometimes mixed together and not differentiated by species type. This in turn affects the quality of the product to receive better prices specifically for pastoralist producers.

B. Transport

Transportation service has been provided by organized transport association and private truck owners throughout the country in general and the gum and incense market chain in particular. Hence, the gum and incense traders have obtained transport service on rental basis from these transporters. The transport tariff was too volatile and very high due to the shortage of transport service supply and increasing fuel costs. On the other hand some of gum and incense traders in the study area especially district wholesalers have their own trucks and do not have a problem of transporting their stock to Addis Ababa. This helped them to increase their competitive advantage than the others who used rented trucks. They use also these trucks to collect gum and resin from Kebele assemblers.

However, transportation service from the remote desert areas to woreda town is too difficult to obtain because the inaccessibility of roads for trucks. Therefore, gum and incense producers obliged to use their own or rented pack animals such as camels and donkeys.

C. Processing

Processing of gum and incense involves the manual cleaning, sorting and grading of the raw product, this work is usually done by women either temporarily employed collected gum should be carefully freed of extraneous matter, sorted and ripened in the sun to remove excess moisture to create an export quality. Since producers and other small scale traders don't involve in processing, most of the time exporters and wholesalers have done it. The processing equipment comprises of mainly different sized mesh trays, with wooden frames and metal gauges.

EXPORT PROMOTION AND SUPPORT SERVICES

A. Export Duty Incentives and Cost Sharing Schemes

The Federal Government Proclamation cited as “Export Trade Duty Incentive Scheme Establishing Proclamation No. 249/2001” introduced the export duty incentive scheme with the objective to improve the foreign currency reserve of the country by enhancing export trade and to enable exporters access inputs at world market price, so that they will be able to compete on equal footing with their competitors.

The duty incentive schemes established for exports are: Duty drawback, Voucher, Bonded manufacturing warehouse and Cost sharing schemes.

Duty Draw Back Scheme:

Under this scheme exporters are re funded 100% of the duty paid on raw materials or semi processed goods used in the production of commodities up on exportation of the commodity processed. The duty includes all indirect taxes and duties paid on raw materials and semi-processed commodities imported or produced locally.

Voucher Scheme:

Under this scheme vouchers are issued by the customs authority to exporters having manufacturing license and fulfilling the eligible criteria, stipulated in proclamation no. 249/2001, in the amount of taxes and duties to be paid on raw materials imported by them for their export production. A voucher book is a document prepared by Customs Authority, which is used to import raw materials required to produce exportable products duty free. The voucher is issued by the Customs Authority based on the predetermined amount of taxes and duties by the ministry of Trade and Industry based on the export plan and input/output coefficient approved.

Bonded Manufacturing Warehouse Scheme:

This is a duty free importation scheme which allows exporters, having manufacturing license and insured warehouses that fully comply with all custom laws and regulations, to import required raw materials free of duties for use in the production of manufactured exports. Beneficiaries of this scheme are those exporters who are not eligible to use the voucher system.

B. Cost Sharing Scheme

In addition to export trade duty incentive, the Ministry of Finance and Economic Development has issued a directive in June 2004, in which government supports and encourages organizations engaged or planned to engage in export focused activities through cost sharing in salaries paid to foreign experts hired by these organizations. The directive is meant to exempt income tax to be paid on salaries of foreign professionals and experts by these persons or organizations.

C. Export Credit Guarantee Scheme

According to the revised directive (No. SBB/33/2002), the National Bank of Ethiopia is going to provide an export credit guarantee to safeguard export financing banks against losses resulting from the export transactions they finance, the risk coverage being 80 % of the outstanding loan balance and interest there off extended to an exporter. The scheme covers all export products except coffee.

D. Foreign Exchange Retention Scheme

Eligible exporters of goods and services and recipients of inward remittances are allowed to retain 10% of their export earnings in local banks foreign exchange account.

E. External Loan and Suppliers' or Foreign Partners' Credit

Considering that the investment proclamation has enabled domestic investors in Ethiopia to acquire external loans and with the view of encouraging export production, the NBE has promulgated a Directive for the Registration of External loan and Suppliers' or Foreign Partners' Credit.

According to the revised directive (No. REL/005/2002), recipients of external loans and suppliers' or foreign partners' credit should be registered by the NBE, otherwise, no remittance are allowed for the purpose of payment of such loans or credit. Application for registration of external loan and suppliers' credit is allowed for individuals and enterprises engaged in export oriented activities which generate foreign exchange.

MARKET INFORMATION

Market information on the fluctuating price and value of the commodity is not available to the pastoralists, so they have no means to determine the price rendering them as 'price takers' not 'price makers'. No one provides this service to pastoralists and marketing cooperatives. But, EEPA tried to provide the service to exporters. On the other side traders were hunting this information by using their own market intelligent activities from different sources. To this effect traders have more bargaining power than pastoralists and cooperatives to negotiate set prices. Hence, traders are "price makers" while pastoralists and cooperatives are "price takers" in the market chain.

GOVERNMENT POLICY AND REGULATIONS

The regional bureaus of agriculture in Amhara and Tgray are responsible for looking after the overall areal development. However, very little has been done so far, especially with regard to the development of the areas. The area for collection is obtained by lease for a

year from the local bureau of agriculture. This short duration lease system gives no security to the user. This has hampered the development of the area. For longlived perennial trees a year lease only increases the maximum exploitation of the plant with out a view to longterm development. A royalty fee, Birr 12.00 per quintal, is paid to the local authorities. Tadele et.al. 2004

However in Amhara region knowing that the criticism about the short duration of the lease system, the ARD Bureau has planned to extend the lease period up to 15 years in order that the development of resources will be secured. But, along with this change the Bureau has increased the royalty fee from birr 12 to 80 per quintal.

The experience in southern region may be somewhat different from the above explanations, this is because during our survey around Moyale and Borana, we informed the resource is on community lands there is no issue surrounding ownership, everybody has the right to collect and utilize the resource. It is a labour intensive occupation with a low cash return and it is not considered an attractive income generating activity. Besides, the royalty or tax fee according to the informants ranges from birr 812 per quintal until then. But, the cooperatives were exempted from this tax.

7. CONSTRAINTS FOR INCENSE VALUE CHAIN

7.1. CONSTRAINTS

7.1.1. PRODUCTION CONSTRAINTS

Pastoralist's lack of Awareness about the Economic Importance of Gum and Incense Production: During the survey of Erder Cooperative members, it has been observed that, if they were aware of the economic importance of gum and incense production and marketing, they would involved in these activities before long time ago. However, because of their unawareness, they didn't do so and currently, as initiated by AFD, they start to be benefited from the undertaking and develop awareness.

Underdeveloped Infrastructure and Inaccessibility: The gum and incense trees grow more or less wild in sparsely inhabited areas with arid conditions. Most of these areas are not accessible, prone to many diseases and far away from public services. There is also a shortage of labor force. This has made mobilization of a dedicated labour force, the use of equipment and supplies and the collection of the harvested natural gums and gum resins, extremely difficult.

Borana pastoralists are 'opportunity' collectors – they harvest the gum 'on site' while herding cattle. There is no systematic form of collection or any method employed. Lack of access roads and infrastructural facilities in the remote, rugged and undulating topography of the habitat where the gum and gum resin species grow. The relevant areas are hot, warm, moist or dry and the evapo transpiration rate tends to be very high in many instances. Thus, the water requirement for the pastoralist/collectors, particularly for drinking, is high. Potable water in these areas is scarce, further contributing to the inefficiency of the collectors. There is a prevalence of diseases such as malaria, relapsing fever and dysentery

Research and Development: No adequate and sufficient research has been undertaken in the gum and incense sector. The available researches were either outdated or not

systematically organized with respect to each type of gum and incense at national, regional and some specific areas of interest. Furthermore, the lack of reliable data relating to the quantity of the resource balanced against the lack of credibility of the official figures on the volumes traded make it difficult to gain an overview of the sector thus affecting planning for a sustainable future for the resource. No proper and satisfactory inventory of gum and incense trees has been done by the respective government bodies from national to district and kebele levels. This in turn aggravates further research and development activities.

Insufficient Training: No sufficient training has been given to pastoralist producer of gum and incense concerning the technical aspects of production such as tapping, collection/harvesting and postharvest management in such a way that the productivity of resources will be improved.

Conflicts among Different Ethnic Groups: In Borana Zone, repeated conflicts among the Gebra, Gerri and Borana ethnic groups due to resource competition, where they are found at the most potential gum and incense production areas, affects the surrounding peace, stability and the smooth operation of production.

Lack of Appropriate Production Equipments: No hand tools are being used for the tapping or collection or any equipment

Communal Ownership of Production Resources(gum and incense trees) and Poor Administration: Unlike Amhara and Tigray regions where short leasing period was the critical bottleneck, in Borana zone the government has no control over the resources and it has been communal property. As a result nobody could be responsible to maintain and develop the gum and incense trees for sustainable and long-term benefit since every body property is considered as nobody property. To this effect, since Borana pastoralists are ‘opportunity’ collectors – they tap the gum ‘on site’ while herding cattle, the interference from animals has contributed to the low volume and quality of the production, camels and other livestock broke on the trees causing the barks and branches to be damaged and sometimes even break off and then the resources has been damaged and the expected amount of production couldn’t be harvested.

All the above production constraints are the major factors that have been limited the market supply of gum and incense along the market chain in order to exploit the current high demand for these products in the domestic and/or international markets.

7.1.2. MARKETING CONSTRAINTS

- **Poor Marketing Skills and Lack of Marketing Experts:** Although no one of Erder Incense Marketing Cooperative members has marketing skills, the cooperative didn't employ any marketing expert to run the business efficiently and improve its competitive advantage in the market chain. As a new entrant, the cooperative has started the business with out having strategic, business and action plans.
- **Poor Store and Stock Management:** Though the cooperative had its own storage facility, the inefficiency to manage properly has lead to a big loss of stocks. This was because everybody was store men in handling the stock available at the store in the past and no one had the responsibility to hold it. In addition to this loss, the stock hasn't been properly handled to maintain its quality until final sales. However, wholesalers and exporters have better knowledge of store and stock management.
- **Lack of Market Information:** Access to timely and accurate market information is one important element for transforming Ethiopian Economy from subsistence oriented, low productivity, agriculturally based economy in to a modern, exchange oriented economy, high productivity economy (Tschirley et al., 1995). The existence of information barriers makes unexploited market opportunities, seasonal gluts and producers with in adequate quality specification and control, inequitable returns to producers to producers' pre-harvest losses and fundamentally poor returns to the production and marketing system as a whole.

The information system in Ethiopia is generally poor, and Gum and Incense marketing is not an exception. Absence or inadequacy of such a system has deprived producers and suppliers access to such vital information as alternative market outlets, levels of demand and price, and the standards required by the various players in the market. Productions and marketing decisions have, as a result,

been made arbitrarily or on incomplete information basis. Needless to say producers need market information to help them decide on what, how much and at what quality to produce, and traders decide at what price to buy and sell. Absence of market information has reduced the competitiveness and bargaining power of producers and local suppliers, and forcing them to be “price takers”.

Gum and Incense producer pastoralists and Erder Incense Marketing Cooperative have no any access to market information. Even, AFD, the supporting institution, that provide market information to Livestock Cooperatives, couldn't provide to them accordingly. In addition the Oromo Traditional Market Information System the so called ADEMITU or ADEFANA, used in livestock market information exchange method wouldn't have been applied in gum and incense market. These might be due to the lack of long time experience in gum and incense marketing unlike their lifetime developed experience in livestock production and marketing.

Exporters and wholesalers, to some extent assemblers though not sufficient have better access and use of market information than cooperatives.

- Low Producer or Pastoralist Share's from Final Selling Price
- Low Marketing Margin and Profitability for Cooperative's than Other Actors in the Market Chain
- Un Fair Distribution of Benefits Among the Actors in the Market Chain
- **Quality and Standard:** Quality is one of the most important parameters which make suppliers competitive. But, in Borana, there is no systematic form of collection or recording system in place. Borana pastoralists are 'opportunity' collectors – they tap the gum 'on site' while herding cattle. In many case the collected gums are covered in sand, dust, bark, sticks and other foreign matter. This implied that the naturally oozing gums and gum resins has been in contact with the ground and subsequently stored. Appropriate sacks, ideally polypropylene, are not available to collectors so the fresh resource is stored in a variety of papers and plastics that are not clean. This further degrades the product and reduces the quality. The tapping of the tree in an inappropriate season, i.e tapping during the rainy season that leads to a

continuous flow of the resin but, this causes the resin to become air dried on the branches and makes the trees susceptible to fire.

The international markets for gums and resins are for pharmaceutical applications and for flavoring and fragrance. Therefore, if handled with little regard to hygiene and quality, there is very little potential for these gums and resins to enter these lucrative international markets. As low grades require substantial cleaning and reprocessing in order to meet the quality standards, price reduction can be significant and substantial.

Furthermore, the EQSA has not yet established quality and standards for Ethiopian Natural Gums in general. To this effect, the quality and standards in international market has been determined by buyers and sellers agreement. In this case since buyers have better marketing knowledge and bargaining power than sellers, they dictate the quality requirements to their advantage. As far as the quality and standard in domestic market is concerned, no one could identify each type of gum and incense produced and supplied to the market from different sources. The same product in different market place has named differently and one cannot identify the quality of this product consistently. Therefore, as the study confirmed during the survey, it is hardly possible to identify the quality of the same product in different markets in order that relevant price, market supply and demand data will be collected. This in turn complicates any researcher to analyze the market situation with reliable quantitative data.

Though, EQSA has not yet established quality and standards for gum and incense products, the Tigray and Amhara type gum olibanum has developed their own standard which is known by almost every market chain actors including importers. On the contrary, the Borana type and most of other Ethiopian gum and incense products have no any standard even to speak the same language during the buying and selling transaction has been performed.

- **Credit and Finance:** Finance is the critical element in the development of agricultural commodities marketing in general and gum and incense marketing in particular. From the discussion made with Erder Cooperative and other market chain

actors it has been observed that one of the major constraints in gum and incense production and trade in Borana is shortage and access to capital.

For instance, if there had been a good supply of gum and incense, the Erder Cooperative wouldn't have bought the market supplied volume due to shortage of capital. Because the actual capital they had to start business is not more than ETB 40000 of which ETB 30000 is the support of AFD. This capital let alone to run business, it couldn't cover purchase of equipments and overheads. Besides, they had no awareness and effort to use credit facility in tackling the shortage of capital.

On the other hand, when we observe the situation along the market chain, exporters had better and good opportunity to obtain export guarantee credit as per their export performance. This credit is given to them for a year only with 20 percent collateral and the remaining 80 percent is guaranteed by NBE. The other actor assemblers and wholesalers had better awareness and access to use credit facility from the surrounding private and government banks. They also had better capital as compared to cooperatives.

- **Smuggling (Illegal trade):** Even though no reliable information is obtained since the extent of illegal trade has not been studied until then, it has been considered as one of the major supply side impediments in gum and incense market especially in Oromia and Somali regions. This is because from the total potential production in these areas, insignificant amount of gum and incense have been supplied legally to domestic and export markets. Although it needs to be verified by study, most of traders specifically assemblers in these sectors are unlicensed.

7.1.3. OTHER INSTITUTIONAL AND BUSINESS DEVELOPMENT SERVICE CONSTRAINTS

- The long time taken to be Licensed
- Small Number of Cooperative Members with small size of share contribution.

- Labor Competition, due to the shortage of Water in dry season labour force is focusing on livestock than Gum and Incense Collection
- Inadequate Attention and Lack of Consistence gum and incense tree allocation and controlling system by the Government in order to exploit the big potential production towards increasing the Country's Foreign Exchange Earning through developing export market.
- The degradation of natural resources i.e. gums and incense trees destructed due to population pressure that result in increased cultivation area.
- Lack of relevant production and marketing quantitative (time series) data so as to study gum and incense subsector towards improving the utilization of existing natural resources production and marketing activities in the future.

8. OPPORTUNITIES

- Sustained and increased demand for gum and incense in international market
- The existence of un exploited potential natural resources (gum and incense trees) for production in the Country in general and the study area in particular
- Market oriented economic policies and Export support services by the government
- The existence and willingness of NGOs support like AFD to support and diversify income generation activities of pastoralists
- The regional government support like exempting cooperatives from gum and incense taxes
- The establishment of gum and incense marketing cooperatives and the possibility to be engaged in export market
- As observed in the survey, very recently gum and incense marketing cooperatives have been established. The members of these cooperatives are pastoralists which has accessed to the gum and incense natural resources that they were not effectively utilized. The establishment of these cooperatives is an encouraging activity and a good opportunity for pastoralists to improve their livelihood through effective and efficient utilization of the existing resources.
- The value addition possibility of gum and incense
- According to CBI Market Survey, Resins can consist of resin, essential oils, gums, acids, alcohols and other components. Their uses can be diverse, depending on the components which are extracted. Nevertheless, many resins are mainly used as incense.

The quality of natural gums and resins is also dependent on climatic conditions. Moreover, natural products are sometimes derived from different botanical sources and can vary greatly in quality. The competitive products named before are produced under much more controlled conditions. As a result, they have better homogeneity and quality consistency. Note that a few oleoresins, such as myrrh, opoponax and

frankincense containing particular essential oils are less susceptible to substitution, as their fragrance is more difficult to reproduce synthetically.

- The domestic demand for gum olibanum like Borana type incense
- The use of incense in religious and cultural coffee ceremonies create a good demand for Borana type incense since in most cases supplied to domestic market. Though less significant than export market, it is an important market if better quality product is being supplied. Borana type incense has a medium price among other domestically demanded incense types.
- The demand for organic products in international markets
- The cosmetics industry is still a small market for gums. Gums are valued by cosmetics companies for their emulsifying and adhesive properties. Gums are used by the cosmetics industry for their functional characteristics when synthetic substitutes are not available are less effective, or when cosmetics companies want to produce a natural product. The cosmetics industry is also a small but important market for many (oleo) resins. Especially the essential oils contained in many resins are highly valued by the cosmetics industry for the production of perfumes.
- The growing market for natural food additives.
- The growth is mainly driven by the health trend, which has stimulated demand for natural food ingredients. Consumers pay more attention to food labels and also have more concerns about the safety of synthetic ingredients. Food manufacturers are making efforts to replace synthetic ingredients by positive effect on demand for natural gums and resins.
- The market for natural food additives is growing. The growth is mainly driven by the health trend, which has stimulated demand for natural food ingredients. Consumers pay more attention to food labels and also have more concerns about the safety of synthetic ingredients. Food manufacturers are making efforts to replace synthetic

- ingredients by natural substitutes. The growing demand for natural food additives also has a small but positive effect on demand for natural gums and resins.
- The substitution of natural gums by synthetic products is slowed down by the increased demand for healthy food products. The increasing awareness of the importance of diet and nutrition among EU consumers has been accompanied by increasing concerns about the safety of food. Together with a higher appreciation of products from nature and an expanding environmental consciousness, this has made natural products more popular. Food manufacturers have responded by producing more natural products. In 2007, more than 4,000 processed food products labelled as additive and preservative free were released in Europe.
 - Many Gum and Resins, especially non temperate species are sourced in developing countries.
 - Developing countries supply nearly all gums and resins in the EU, although reexports partly hide this in trade statistics.
 - Imports of gums and resins increased considerably. This indicates continued interest in these products. CBI Market Survey, 2008.

9. CONCLUSION AND RECOMMENDATION

9.1. GENERAL RECOMMENDATION

Although no proper inventory has been made in Ethiopia, there is very high potential for olibanum and other natural gum and resins. The potential is estimated to be well above 2,577,231 quintals per year. However, most of the areas are inaccessible; due to this most of the products are still transported by pack animals like donkeys or camels. In order to utilize the existing potential, development of the infrastructure in the area is inevitable furthermore; very little effort has been made to improve their productivity of the plants.

Although the total production potential is estimated around 2,577,231 quintals per year, the maximum production was only 34,214 quintals in 1994 during the period 1992-1999 (Girma Fitawi, 2000). Even though no reliable production data is available, from the current export volume excluding local consumption, the actual market supply has been not more than 45000 quintals which is about 1.7 percent of its potential production. When we come to Borana type gum and incense production, though no quantitative production and market supply data recorded available, from the exporters and whole sellers' discussions, it has been observed that the actual production and market supply is almost insignificant i.e. in hundred quintals from its potential.

The resource base for gum and incense is almost certainly vastly underexploited but under heavy pressure from shifting cultivators, fuel wood collectors and charcoal makers. The economic importance of gum and incense as raw materials in the manufacture of varnish, laxative, essential oils, perfume, chewing gum, etc., is well documented. More importantly, it is labour intensive and one of the top employment and income generating activities especially in collection, cleaning, sorting and grading in the remotest parts of Ethiopia. At national level, the number of seasonal workers engaged in tapping and grading is estimated to range 20,000 – 30,000 per year. In addition, it is a very important source of income for most rural people. The price paid for collectors on the sites and cleaners/sorters in the main stores is as follows: collectors receive 155 ETB per quintal while collectors get Birr 110, 90, 70, 50, and 30, per quintal for grades 1, 2, 3, 4, and 5, respectively. About 1,500 tons of gums and incense are sold annually through official trading channels; nearly 50 percent of

the produce is exported. The demand for incense exceeds the supply, and the prices are increasing. Girma Deffar, (1998). But, currently, the price paid for cleaners/sorters is improved and becoming ETB 120, 110, 100, 60, 50 and 30 for grades 1, 2, 3, 4 and 5 respectively and unless the domestic price is more attractive, almost 95 percent of the produce could be exported due to the high demand for Ethiopian gum olibanum in international market.

The global demand and price for gum and incense in the major markets increased, as did Ethiopian export of gums. The Ethiopian gum sector has a long tradition and high potential in local and export market. According to MOARD for the last five years (from 1995/1999EC), the annual growth rate of volume and value of natural gum export of Ethiopia are 20.8 and 20.7 percents respectively. From Export 3980 MTS of Ethiopia's natural gums in 1999EC, USD5.65million foreign exchange earned, this performance is more than the 1998EC nine months by 13 and 5 percents in volume and value respectively. From the total gum and incense exported, the share of gum olibanum is 64 percent which is the highest from all and followed by gum Arabic 10 percent, gum myrrh 2 percent and the remaining 24 percent is unspecified type of natural gums.

Though not pastoralists were benefited from the opportunity arises, very recently the world market price for Ethiopian gum olibanum is becoming more attractive in the history of gum olibanum market; the price has increased by more than 100 percent. This is because of the high demand for Ethiopian gum olibanum for its quality and use as a raw material for different purposes. The world market has taken previously not exported or rejected low grade gum olibanums with attractive buying prices too. On the contrary the world market demand and price for gum Arabic has gone down. To this effect there will be an attractive world market for Borana type gum olibanum in the future. The local demand although less significant than that of the international market is still significant and can be expanded as a driving force within the local economy.

Pastoralists are one of the groups of indigenous African rural dwellers who have had to face the most challenges to their way of life in the last quarter century. This has resulted in huge losses of life through sweeping changes being made to their existence as a result of climate change, land encroachment and the march of technology, transport and communications in the new millennium, in additions to increasing populations.

In developing, fine tuning and enhancing occupations that the pastoralists are already engaged in through additional training and strengthening of the entire value chain. This will eventually result in the better utilization of the natural resources that they are already familiar with. The communities have a chance to gain a better return for their efforts. It will make for an easier transition by developing strategies by which they can work more efficiently, effectively and thus profitably. This strategy to diversify incomes will improve their livelihoods by giving them a competitive advantage in their trading activities and the also the welfare of their environment. Among others, Natural gum and incense is one of the major traditional export products of Ethiopia that pastoralists are familiar with. Hence, taking the potential, familiarity and the economic importance of gum and incense production and marketing, AFD is initiated to undertake Value Chain Analysis of Erder Incense Marketing Cooperative's found in Oromia Region Borana Zone of Dahas Woreda. To this effect, the study maps the market chain, identifies key actors and functions in the market chain, describe how the market value chain operates or performs, however the gum and incense market chain is constrained by various production, marketing and development service factors.

Though many constraints identified in the market chain, the most important of these are insufficient market supply or production constraints; lack of pastoralists awareness about the economic importance of gum and incense production, conflicts among different ethnic groups, lack of appropriate production equipments and communal ownership of gum and incense trees, marketing constraints such as; poor management and marketing skills, lack of marketing information, low producer share's from final selling price, low marketing margin and profitability for cooperative in the market chain, absence of shared visions and common goals in the market chain due to the presence of uneven (sometimes opposite) benefit among different market chain actors, quality and standard problems, lack of enough working capital, smuggling or illegal trade and business development service constraints; inadequate training for producer pastoralists, poor government attention for the sector, inadequate research and development.

Therefore, some of the measures or issues that need interventions so as to improve competitiveness and performance of the focus cooperative through out the value chain are:

9.2. IMPROVING THE MAJOR PRODUCTION CONSTRAINTS THROUGH:

- Developing pastoralists awareness about the economic importance of gum and incense production and marketing
Pastoralists should develop their awareness about the economic importance of gum and incense production and marketing activities in order that they develop the feeling of responsibility and sense of ownership as far as practically benefited from the existing resources.
- Improved production techniques
According to Yitebtu Moges (2005), there is an immediate need for the improved harvesting of gum and resins in Borana area. Resin of *B. neglecta* is very thin liquid contrasting the resin from *B. papyrifera* that is thicker and forms granules easily. Therefore, introducing directly the tapping technique practiced in North Ethiopia on *B. papyrifera* may not work. Therefore, it is suggested that research on harvesting of *B. neglecta* be launched in collaboration with Dryland Forestry Research at Forestry Research Center of EARO.
- Improving access to roads and other infrastructures
In order to alleviate the lack of access to roads and other infrastructure problems, measures to improve accessibility of roads, water supply for drinking and health service to protect malaria and other water borne diseases should be taken.
- Improved postharvest management
B. neglecta is the major source of Boranatype incense (Tikur Itan, or black incense). Resin from *B. neglecta* is collected from natural exudates; there is no report on modern harvesting techniques in the literature as far as the knowledge of the consultant is concerned. However, a significant improvement on the quality of black incense can be made through careful sorting and cleaning. Post harvest handling could also improve quality of the incense.
- Improved producer pastoralist share's from the final selling price of gum and incense

9.3. IMPROVING MARKETING CONSTRAINTS THROUGH:

- Providing accurate and timely local and international market information

It is observed that, lack of reliable market information is affecting the performance of gum and incense market, and hence it is required to establish/develops MIS that facilitate production and marketing operations. This could be done by the support organizations. This MIS should contain information and sources on major markets, e.g. market sizes, price levels, prospects, trade fairs, trade statistics, country information, competition, logistics and more relevant information. This MIS should be maintained and kept upto date on a regular basis. It should be made easily available for actors in the market chain. A customized training session / workshop for the target group could make actors acquainted with the value of the MIS. This could be done in similar fashions that AFD and LVIA have adopted for providing market information in livestock sector.

- Improving the efficiency of gum and incense market chain
- Creating better access to finance

The financial constraints faced by gum and incense market chain actors needs to be addressed through:

- o Supporting Credit and Saving Institutions
 - o Vertical linkage with Exporters and Wholesalers
 - o Obtaining loans from Cooperative, Private and Government banks
- Improving the quality of gum and incenses and establishing quality and standards through EQSA.

Resins have an intrinsic quality, which is determined by their chemical composition. Some buyers only accept resins with a specific intrinsic quality, as they know that other resins will not give the desired properties to their final product. Resins also have a handling quality, which is determined by its treatment and handling from collection to processing. During the collection, resins often get contaminated with bark and dirt. During handling between collecting and exporting, resins often get broken into smaller pieces and/or form irregular masses caused by high temperatures. Loss of volatile but valuable oils is particularly bad for the quality of the product. CBI Markt Survey, 2008.

Some of the analytical parameters which are used to determine the quality of resins include optical rotation (tree origin), moisture content, alcohol solubility (organic matter content), ash (nonorganic matter content), volatile oil content, microbiological count. Quality is, however, often determined subjectively by the buyer based on appearance (colour, viscosity) and aroma. If the properties of the product appear to be worse during or after processing, buyers will pay a lower price, assuming that the product is purchased on consignment. Exporters sort and grade their products in advance to indicate prices for different qualities. The products are graded according to size, colour and state of cleanliness. The highest grades are often used for pharmaceutical applications, while the lowest grades are used for incense. Ibid

One of the critical problems identified in the market chain is the existence of poor quality of gum and incense to keep the requirements of world and domestic markets and the quality and standards not yet established by EQSA. The causes for the quality defects are: no or improper tapping, inappropriate collection/harvesting, mixing the product with sands and dusts, un awareness of proper handling and packaging, poor store management and above all the absence of quality and standards to speak common language about these product along the market chain. Moreover, Lack of training about the quality of the products to transfer the existing technical knowledge for the respective market chain actors aggravated the problem too.

Therefore, to improve the quality of gum and incense the following measures should be taken in the short and long runs respectively:

In the short run; Providing appropriate trainings about the quality of gum and incense starting from production to final sales step by step from pastoralists to exporters at least to transfer the existing knowledge found in Tigray and Gondar area and/or specific quality trainings to the Borana type gum and incense, and Preparing the common and usual quality and grades known or established by buyers and sellers agreement in different world and domestic markets (including naming of these products) in writing so as to be known by the market participant and develop their awareness in alleviating the problems temporarily.

In the long run; EQSA should develop and establish the quality and standards for gum and incense products found in Ethiopia according to the market requirements.

These measures should be taken by technical experts from MOARD, EQSA, Forestry Research Center of EARO, Cooperative development offices and other supporting institutions.

- Developing shared vision and common goals among market chain actors
 - Increasing the country's competitiveness in international market
- Besides, improving the supply constraints, all market chain actors should be informed about;
- o The demand, quality and phytosanitary regulations of buyer countries
 - o The world supply of products
 - o Competitors position
 - o Price and export processes
 - o International business environment
 - o Other rule and procedures for entry to market, and creating marketing mix
- Adding more value to the product that would increase possibilities and margins in foreign markets. Distillation and solvent extraction of aromatic gums to produce essential oils and resinoids are certainly possibilities for further research.

9.4. IMPROVING INSTITUTIONAL AND BUSINESS DEVELOPMENT SERVICE CONSTRAINTS THROUGH:

- Encouraging the effort of NGOs such as; AFD and LVIA in providing business support services so as to diversify income generating activities for pastoralists
- Avoiding conflicts among different ethnic groups in cooperation with the government officials so as to create peace and stability in the major potential production areas
- Improved extension service and creating and developing the pastoralists' awareness about the economic importance of gum and incense production
- Improved research and development
- Improved ownership of gum and incense tree resources

- Taking measures to protect illegal domestic and border trade or smuggling and degradation of natural resources
- Encouraging the formation of gum and incense trade association like EOPSPEA
- Shortening the time taken to be licensed through improvement of services for the society as per government intention to develop good administration
- Prioritizing and step by step improving infrastructural and accessibility problems as much as possible
- Giving the required attention to gum and incense subsector in order that the existing potential natural resources will be fully utilized towards improving the pastoralists livelihood as one of the major and tangible income generating activities.
- Developing a systematic recording and documentation (data base) of the relevant quantitative (time series) production and marketing data for future research and development purposes. Besides, collecting and organizing the existing data accordingly from different areas and sources.

9.5. SPECIFIC RECOMMENDATIONS FOR ERDER INCENSE MARKETING COOPERATIVE

Production Constraints through;

- Developing cooperative members' awareness about the economic importance of gum and incense production and marketing.
- Improving access to roads, water supply and health services.
- Improved production techniques than simply harvesting naturally oozing gums.
- Improving producer pastoralists, whether cooperative members or not, share's from final selling price so as to increase and encourage the supply of gum and incense.
- Preparing best practice production and collection technical manual in order to improve production inefficiencies

Marketing Constraints through;

- Preparing strategic, business and annual plans and marketing manuals for the Cooperative towards meeting its objectives.

- Developing the marketing skills of Cooperative through providing appropriate training in order that their bargaining power will be strong.
- Improved the Cooperative management through hiring marketing professionals
- Providing accurate and timely local and international market information.
- Creating better access to finance

The financial constraints faced by gum and incense market chain actors in general and Erder Cooperative in particular needs to be addressed through:

- o Supporting Credit and Saving Institutions
- o Vertical linkage with Exporters and Wholesalers
- o Obtaining loans from Cooperative, Private and Government banks
- Improving store and stock management of the cooperative.
- Shortening of the market chain for the cooperative and support to supply for the world market.
- Improving the Cooperative capacity of cleaning, sorting and grading of gum and incense
- Forward and Backward integration

To ensure a steady supply to buyers specifically Erder Cooperative and reliable market to producer pastoralists in the market chain and to remedy the many constraints its absence has created, establishment of a system for predelivery contractual agreements between the following market chain actors are essential;

- o Pastoralists and Erder Cooperative
- o Erder Cooperative and Exporters or Wholesalers
- o Assemblers and Erder Cooperative
- o Erder Cooperative and District Wholesalers

Such contracts are expected to help facilitate the establishment of purchase prices, the type, amount and the quality of product to be produced and marketed, delivery and payment arrangements between the parties concerned, obligations of contracting parties and the type of support to be provided with one another. To this effect, a guideline, which specifies the procedures, and the rules and regulations that need to be observed, must be developed.

- Adding more value to the product that would increase possibilities and margins in foreign markets.
- Improve the bargaining power of cooperative in negotiating markets, prices, purchasing and selling conditions.

- Improving the long time taken to sale their products by practicing fast sales turnover

Other Institutional and Business Support Constraints through;

- Encouraging the effort of AFD and other interested bodies in providing business support services so as to diversify income generating activities of the cooperative
- Giving technical training on improved harvesting, sorting, cleaning, grading and storing gum and incense products in collaboration with the respective experts
- Providing the relevant production and processing equipments.
- Developing accesses to water supply for pastoralists in order to overcome labour competition in gum and incense production during dry season
- Increasing the number of cooperative members and the cost of each share's for Erder Cooperative since it is one of the means to improve the financial problem.

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Websites

www.fao.org
www.cbi.eu
www.ITC.com

8. ANNEXES

Annex 1: Interviewee of AFD staff and Erder Incense Cooperative Members as of 07/08/08

No	Name of Interviewee	Job Title	Adresss	Remark
1	Jarso Bilala	AFD Agent	Erder Kebele	AFD Staff, Mob 0911094394
2	Gelegalo Shene	Credit Committee	Erder Kebele	Cooperative Member
3	Jatani Haleke	Member	Erder Kebele	Cooperative Member
4	Dada Doyo	Member	Erder Kebele	Cooperative Member
5	Denge Galema	Credit Committee	Erder Kebele	Cooperative Member
6	Garbole Shene	Member	Erder Kebele	Cooperative Member

Annex 2: Key Informants of Rapid Market Survey (RMS)

No	Name of Informants	Job Title	Adress	Telephone	Date Interviewed	Organization
1	Ato Bekele	Head,	Yabelo	-	08/08/08	Borana Zone Coooperative
2	Ato Lemmesa	Natural Resource Expert	Moyale	-	06/08/08	Moyaale Oromia DPPC
3	Dr. Dereje Damte	Project Veternaary	Moyale	0911125103	06/08/08	LVIA
4	Ato Wato Seid	Prj.Coar for Pastoral Food Sec	Moyale	0911741886	06/08/08	LVIA
5	Ato Addisu Abebe	Natural Resource Officer	Moyale	0911564745	06/08/08	LVIA
6	Ms Franchisco	Researcher on Incense	A/A	0116187650		LVIA
7	-	Chairman	Moyale	-	07/08/08	Moyale Somali Woreda Counsel
8	W/Z Washto	Retailer	Hawasa	-	03/08/08	Retail Shop Owner
9	W/Z Zenu	District Wholesaler	Hawasa	0911945449	03/08/08	Large scale retail Shop Owne,r,Jebena Tera
10	Merchhato Retailers	Retailer	A/A	-	18/08/08	Village Market Retailers
11	Redi	Retailer	Hawassa	0916827534	27/10/08	Retail shop owner
12	Haille	Retailer	Shashemene	0916870311	27/10/08	Village Market Retailers
13	Genet	Retailer	Shashemene	0916870862	27/10/08	Village Market Retailers
14	Rehima	Retailer	Shashemene	0916822163	27/10/08	Large scale retail Shop Owne,r

Annex 3: The Contribution of Agricultural Export Commodities to the Total National Export Earning for 1998 and 1999 EC

No	Commodity	Value in 000 USD		% Share From Main Agric Export		% Share From Total Agric Export		% Share From Total Export	
		1998	1999	1999	1998	1999	1998	1999	1998
1	Live Animals /in Head?	27,262	36,508	4.64	3.84	3.57	3.08	3.08	2.70
2	Meat	18,323	15,471	1.96	2.58	1.51	2.07	1.31	1.82
3	Natural Honey	80	1,179	0.15	0.01	0.012	0.01	0.10	0.01
4	Bee Wax	1,516	1,825	0.23	0.21	0.18	0.17	0.15	0.15
5	Civet	219	487,874	0.06	0.03	0.05	0.02	0.04	0.02
6	Oil Seed	209,786	188,003	23.88	29.57	18.38	23.68	15.86	20.81
7	Pulse	35,650	70,109	8.90	5.03	6.86	4.02	5.92	3.54
8	Cereals	13,813	1,607	0.20	1.95	0.16	1.56	0.14	1.37
9	Coffee	365,834	424,144	53.87	51.57	41.47	41.30	35.79	36.29
10	Spice	9,867	10,751	1.37	1.39	1.05	1.11	0.91	0.98
11	Tea	837	914	0.12	0.12	0.09	0.09	0.08	0.08
12	Cotton	6,807	14,341	1.82	0.96	1.40	0.77	1.21	0.68
13	Vegetable & Fruits	14,071	16,373	2.08	1.98	1.60	1.59	1.38	1.40
14	Natural Gum	5,363	5,650	0.72	0.76	0.55	0.61	0.48	0.53
1 Grand Total		709,429	787,364	100.00	100.00	76.99	80.08	66.44	70.37
2 Total Agricultural Export Commodities		885,848	102,269			100	100.00	86.30	87.87
3 Total National Export Earning		1,008,122	1,185,115					100.00	100.00

Source: MOARD, 2007

Annex 4: Monthly Distribution of the Volume Agricultural Export commodities by Type for 1999 EC. Volume in Tons and Live Animals in Head

No.	Commodity	Annual	Hamle	Nehsse	Meskerm	Tikimt	Hidar	Tahasa	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene
1	Live Animals	233,275	12,819	13,453	18,301	15,770	28,826	32,161	27,639	23,450	17,249	12,603	13,919	17,085
2	Meat	5,850	338	391	596	1,128	936	818	386	218	196	243	326	272
3	Natural Honey	406	30	1	4	21	46	19	41	23	62	67	32	59
4	Bee Wax	415	18	18	18	52	36	34	18	35	59	19	55	54
5	Civet	1	0	0	0	0	0	0	0	0	0	0	0	0
6	Oil Seed	235,790	9,201	10,758	7,327	6,607	14,594	19,439	29,164	38,432	33,410	29,346	20,833	17,678
7	Pulse	158,688	9,383	13,292	8,897	9,934	15,694	13,336	14,479	17,941	12,442	14,590	11,536	17,163
8	Cereals	5,755	318	377	231	88	292	122	230	384	979	456	2,163	115
9	Coffee	176,390	13,077	16,856	11,446	8,093	12,314	9,792	9,679	13,543	19,349	21,303	20,796	20,143
10	Tea	691	45	6	0	45	12	55	22	204	65	62	57	120
11	Spice	13,085	827	1,167	848	363	796	703	1,577	1,611	1,101	1,782	1,018	1,292
12	Cotton	11,760	1	263	537	100	1,287	555	810	631	1,316	2,747	2,700	813
13	Vegetable & Fruits	41,028	2,645	3,615	3,475	3,052	2,778	3,841	4,495	3,834	3,642	3,639	3,065	2,946
14	Natural Gum	3,976	328	383	334	406	345	218	294	237	161	235	721	314
Excluding Live Animals		653,835	36,211	47,128	33,715	29,889	49,131	48,930	61,196	77,093	72,782	73,490	63,302	60,968

Source: MOARD, 2007

Annex 5: Monthly Distribution of The Value Agricultural Export Commodities by Type for 1999 EC (Value in .000USD)

No.	Commodity	Annual	Hamle	Nehsse	Meskerm	Tikimt	Hidar	Tahasa	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene
1	Live Animals	36,508	1,700	2,395	3,866	2,545	4,971	3,545	4,387	3,553	2,355	2,490	1,882	2,719
2	Meat	15,471	891	959	1,580	2,973	2,439	2,275	1,053	583	512	631	848	728
3	Natural Honey	1,179	105	3	17	63	145	53	122	67	170	169	84	179
4	Bee Wax	1,825	79	83	85	227	164	153	74	146	256	81	244	234
5	Civet	488	49	12	14	70	150		47	84	44	17	0	0
6	Oil Seed	188,003	6,524	7,679	5,281	5,187	10,303	14,617	22,160	29,523	27,546	23,805	18,729	16,648
7	Pulse	70,109	3,657	5,811	3,909	4,049	5,765	5,695	6,125	8,023	5,965	6,821	5,458	8,830
8	Cereals	1,607	143	91	63	26	86	101	61	132	248	139	500	17
9	Coffee	424,144	30,245	35,735	24,959	17,512	26,618	23,776	25,015	36,453	49,177	52,470	50,817	51,366
10	Tea	913	72	5	0	65	21	70	30	206	97	79	104	164
11	Spice	10,751	702	963	716	388	683	918	1,231	1,177	805	1,332	743	1,092
12	Cotton	14,341	1	267	568	117	1,409	632	886	704	2,785	3,083	2,956	933
13	Vegetable & Fruits	16,373	613	986	818	758	1,457	1,924	2,206	2,407	2,285	1,358	865	697
14	Natural Gum	5,650	393	523	608	661	506	316	351	353	246	382	838	473
Including Live Animals		787,363	45,174	55,512	42,486	34,639	54,718	54,175	63,747	83,412	92,493	92,856	84,070	84,080

Source: MOARD, 2007

Annex 6: Monthly Distributions of Agricultural Commodity Exporters for 1999 EC

No.	Commodity	Annual	Hamle	Nehsse	Meskerm	Tikimt	Hidar	Tahasa	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene
1	Live Animals	150	39	41	50	45	68	61	62	85	66	49	62	69
2	Meat	10	5	7	5	4	6	5	4	4	4	4	4	4
3	Natural Honey	6	6	2	3	*	5	5	7	6	9	5	8	9
4	Bee Wax	10	1	1	1	2	2	2	1	3	5	2	4	4
5	Civet	6	1	1		*	4		1	1	2	2		
6	Oil Seed	81	41	36	27	24	43	43	53	51	66	58	45	46
7	Pulse	209	84	91	86	79	121	95	112	107	83	92	87	86
8	Cereals	26	11	7	6	5	6	5	13	8	7	9	10	7
9	Coffee	79	53	59	51	48	42	48	56	61	67	73	79	70
10	Tea	88	26	30	26	19	25	36	58	47	37	44	39	34
11	Spice	3	1	1	1	1	0	1	2	3	3	2	3	3
12	Cotton	18	3	2	5	3	7	7	3	6	9	10	10	6
13	Vegetable & Fruits	133	48	52	42	50	54	85	92	63	53	55	56	56
14	Natural Gum	20	7	8	12	6	10	6	8	8	4	8	9	6

Source: MOARD, 2007

Annex 7: Number of Export Destination Country By Major Agricultural Export Commodities & Month

No.	Commodity	Annual	Hamle	Nehsse	Meskerm	Tikimt	Hidar	Tahasa	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene
1	Live Animals	9	8	5	5	7	6	8	9	8	8	9	6	6
2	Meat	8	5	7	5	6	7	5	4	5	4	3	3	3
3	Natural Honey	8	4	2	3	4	3	3	3	3	4	3	3	4
4	Bee Wax	10	1	1	1	3	2	1	1	3	3	2	4	4
5	Civet	6	1	1		1	2		1	1	1	1		
6	Oil Seed	32	21	15	14	14	21	21	24	17	24	24	26	22
7	Pulse	39	15	19	20	17	24	25	28	31	26	17	22	20
8	Cereals	8	4	5	3	3	3	4	5	4	5	6	7	4
9	Coffee	40	24	23	27	21	21	22	18	24	33	25	27	29
10	Tea	3	1	1	1	2	1	2	2	3	3	2	6	4
11	Spice	24	10	8	6	13	10	14	15	14	14	15	16	12
12	Cotton	8	1	2	2	2	5	5	3	5	7	7	8	5
13	Vegetable & Fruits	14	3	3	4	4	7	17	10	4	11	8	6	3
14	Natural Gum	17	9	9	8	6	9	8	10	8	6	7	8	10

Source: MOARD, 2007

Annex 8: Annual Growth Rate of Volume and the Value of Agricultural Export Commodities for 1995 1999 EC Volume in Tons and, 000 USD

No.	Commodity	1995		1996		1997		1998		1999		Annual Growth rate (%)	
		Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value	Volume	Value
1	Coffee	126,100	165,300	144,629	208,313	159,845	334,509	153,155	365,834	176,390	424,144	6.9	20.7
2	Oil Seed	83,000	46,100	109,733	90,975	141,232	101,964	236,251	209,786	208,920	188,003	23.1	32.4
3	Pulse	66,200	20,000	75,156	24,884	119,436	35,290	108,024	35,650	158,688	70,108.8	19.1	28.5
4	Cereals and Flour	29,057	14,100	21,829	9,122	18,022	8,761	37,839	13,813	5,755.05	1,606.75	(27.7)	(35.2)
5	Spice	4,348	4,400	10,170	6,845	15,685	11,330	8,555	9,867	1,3040	10,730	24.5	19.5
6	Vegetable & Fruits	25,300	9,600	28,452	6,870	37,645	15,971	35,294	14,071	41,028.3	16,373	9.2	11.2
7	Cotton	7,562	7,735	8,189	10,879	1,228	1,848	6,177	6,807	11,760.1	14,341.5	10.9	13.1
8	Tea	1,782	1,583	1,966	2,100	1,499	1,833	596	837	690.91	913.33	(11.6)	(10.4)
9	Natural Gum	1,544	2,200	3,109	4,369	3,791	4,946	3,529	5,363	3,976.08	5,650.35	20.8	20.7
10	Live Animals (In no)	10,372	480	41,966	2,377	103,905	13,081	163,375	27,262	233,275	36,507.6	86.4	138
11	Meat and Meat Products	1,700	2,400	3,317	6,335	7,754	15,598	7,856	18,323	5,849.77	15,471.5	26.8	45.1
12	Bee Wax	207	500	525	1,389	400	1,177	353	1,516	405.97	1,179.01	14.4	18.7
13	Natural Honey							28	79	414.76	1,824.87		
14	Civet							0.46	219.27	1.02	487.87		
Total		357,172	274,398	449,041	37,44.58	610,442	546,308	788,032	709,427	887,065	787,342		

Source: MOARD, 2007

Annex 9: The Volume and Value of Natural Gum by Destination country for 1998 and 1999EC (HamleSene) Volume in Tons and Value in ,000 USD

No	Destination County	1998				1999				% Change	
		Volume	Fob Value	% Share		Volume	Fob value	% Share			
			In USD	Volume	Value		In USD	Volume	Value	Volume	Value
1	United Arab Emrates	592.9	1,084.5	16.8	20.2	891	1502	22	27	50.3	38.5
2	Germany	413.9	773.8	11.7	14.4	486	719	12	13	17.4	7.0
3	China	672.8	505.8	19.1	9.4	850	703	21	12	26.4	38.9
4	Tunisia	317.0	721.4	9.0	13.5	227	498	6	9	28.2	31.0
5	Guatemala	133.0	205.9	3.8	3.8	212	349	5	6	59.4	69.5
6	Yemen	107.3	174.2	3.0	3.2	214	342	5	6	99.6	96.4
7	Saudi Arabia	70.0	135.9	2.0	2.5	174	335	4	6	148.7	146.6
8	Greece	212.1	318.3	6.0	5.9	208	322	5	6	2.2	1.2
9	Egypt	87.2	165.4	2.5	3.1	195	301	5	5	123.6	82.1
10	Syrian Arab Republic					112	130	3	2		
11	India	46.0	76.7	1.3	1.4	85	92	2	2	84.7	30.3
12	Switzerland					90	75	2	1		
13	Netherlands	46.5	56.4	1.3	1.1	48	56	1	1	3.3	1.3
14	Sudan	145.4	136.5	4.1	2.5	31	47	1	1	78.7	65.9
15	Sierra Leone	64.0	71.2	1.8	1.3	32	30	1	1	50.0	58.4
16	Turkey	60.0	132.7	1.7	2.5	15	28	0	0	75.0	78.9
17	Hong Kong	30.0	20.7	0.9	0.4	30	25	1	0	0.0	18.8
18	United Kingdom	0.3	0.4	0.0	0.0	15	24	0	0	5,669.2	5,389.3
19	New Zealand					15	23	0	0		
20	Djibouti	227.8	229.0	6.5	4.3	27	22	1	0	88.2	90.2
21	Ukraine					16	15	0	0		
22	United States	0.1	0.4	0.0	0.0	2	11	0	0	2,400.0	2,405.7
23	Israel	10.5	12.2	0.3	0.2	1	1	0	0	86.7	91.7
24	Belgium	62.3	116.0	1.8	2.2	0	1	0	0	100.0	99.4
25	Canada	0.0	0.0	0.0	0.0	0	0	0	0	12.5	552.4
26	Australia										
27	Italy	32.3	57.0	0.9	1.1						
28	France	75.0	136.6	2.1	2.5						
29	Taiwan	60.0	128.3	1.7	2.4						
30	Cuba	32.0	55.2	0.9	1.0						
31	Peru	14.3	29.9	0.4	0.6						
32	Tanzania	16.8	18.7	0.5	0.3						
33	Grand Total	3,529.34	5,363	100.0	100.0	3976	5650	100	100	12.7	5.4

Source: MOARD, 2007

**Annex 10: Monthly Distribution of Natural Gums Export Average FOB Price by Major Destination Country HamleSene
1999EC Unit Price USD Per Ton**

Comodity	Hamle	Nehsse	Mesk.	Tikimt	Hidar	Tahasas	Tir	Yekatit	Megabit	Miazia	Ginbot	Sene
Natural Gum	3,263	1,577	1,784	1,778	1,609	1,447	2,104	1,746	1,492	1,574	1,476	2,393
Gum olibunum												
China	768	727	740			850	800					
Germany	800	1,725	1,525	1,450			1,550		2,250			
United Arab	2,000	1,829	2,057	1,964	1,736			1,670				
Total												

Source: MOARD, 2007

Annex 11: The Volume and Value of Total Export commodities by Type For 1998 – 1999 EC

No	Product Category	1998	1999				
		Net Weight in Ton	FOB Value in ,000	% Share	Net Weight in Ton	FOB Value in ,000	% Share
1	Animal Fodder	4213	465	0.05	2707	2306	0.19
2	Animal Products	1195	423	0.04	530	426	0.04
3	Bees Wax	353	1516	0.15	415	1825	0.15
4	Beverage	367	309	0.03	783	613	0.05
5	Cereals	38507.7	14113.5	1.40	5755	1607	0.14
6	Chat	22125	88505	8.78	22667	92810	7.83
7	Coffee	148134	365834	36.30	176390	424144	35.79
8	Coffee, Processed	0	2	0.00	4	21	0.00
9	Cotton	6177	6807	0.68	11760	14342	1.21
10	Finished Leather	168	7648	0.76	174	6273	0.53
11	Flour	668	301	0.03	654	184	0.02
12	Flower in Kg (No)	103612510	21967	2.18	13601238	63611	5.37
13	Food	39924	21162	2.10	2722	2798	0.24
14	Fruits and Vegetable	34545.46	12725.98	1.26	41028	16373	1.38
15	Gold	5	64716	6.42	6	96966	8.18
16	Hides	213	1939	0.19	6543	9808	0.83
17	Leather Products	6272	7213	0.72	676	6588	0.56
18	Live Animals (Heads)	163375	27262	2.71	233275	36508	3.08
19	Meat and Meat Products	7856	18323	1.82	5850	15472	1.31
20	Mineral Products	41	19	0.00	363	323	0.03
21	Natural Gum	3529	5363	0.53	3976	5650	0.48

22	Natural Honey	28	79	0.01	406	1179	0.10
23	Oil Seed	263251	209786	20.82	235790	188003	15.86
24	Cement	5558	342	0.03			0.00
25	Platinum		120	0.01	0	68	0.01
26	Pulse	108773	36995	3.67	158688	70109	5.92
27	Scrap	9900	2443	0.24	5340	4059	0.34
28	Skin	8791	58067	5.76	8380	66861	5.64
29	Skin, Crocodile	0	15	0.00	0	64	0.01
30	Spice	8555	9867	0.98	13085	10751	0.91
31	Tantalite Ore	122	4343	0.43	144	6151	0.52
32	Tea	596	837	0.08	691	913	0.08
33	Textile and Garment	3581	11098	1.10	3721	12420	1.05
34	Others	26427	76100.76	41813	25891	2.18	
	Grand Total		1008122	100.00		1185115	100.00

Source: MOARD, 2007

Annex 12: Traders in Gum, Resins and Waxes include:

- Roeper <http://www.roeper.de/> German trader in gums, resins and waxes
- A2 Trading <http://www.a2trading.com> – German trader in ingredients for pharmaceuticals and food, including gums, resins, balsams and waxes
- Colloides Naturels International <http://www.cniworld.com/> French trader in gum Arabic, guar gum, gum ghatti
- Alland & Robert <http://www.allandetrobert.fr/> French trader in gum Arabic and gum karaya
- Meht <http://www.meht.de/> German trader in resins and balsams
- Ernst H. Singelmann <http://ernsthssingelmann.de> – Importer of gums, resins and balms
- Willy Benecke <http://www.willybenecke.com/> Importer of gums and resins
- Chemcolloids <http://www.chemcolloids.com> – UK trader in gums supplying the food industry
- Moellhausen <http://www.moellhausen.com> – Italian trader in raw materials for food, pharmaceutical as well as cosmetic industries.
- Kerry <http://www.kerry.ie> – Food ingredients supplier and importer of gums
- International Specialty Products – <http://www.ispcorp.com> – Ingredients supplier for the food, cosmetics and pharmaceutical markets.
- Toyota Tsusho <http://www.toyotatsusho.com/> Trader of gums
- Johannes Bassen <mailto:johannes.bassen@tonline.de> – importer of gums
- Valmar Group <http://www.valmargroup.com/> Importer of gum Arabic and gum Ghatti
- EMIGA – <mailto:EMIGA.FR@wanadoo.fr> – Importer of gums
- Caldic <http://www.caldic.com/> Trader of gums
- Alsiano <http://www.alsiano.com> – Danish agent for food and pharmaceutical ingredients
- Polnil <http://www.polnil.com.pl/> Polish agent for pharmaceutical and cosmetic ingredients

Annex 13: Table Gums, resins and their applications

Product	Market	Function	Application
Gums			
Gum Arabic	Food	Emulsifier	Beverages and confectionery
		Encapsulation of flavours	Dry soups, sauces, dessert and cake mixes
		Adhesion	Toppings and icings
		Thickener/binder	Pastilles, gum drops, jelly candies, cough lozenges and other confections high in sucrose
		Foam stabilizer	Marshmallows, caramels, nougats, beer
	Pharmaceutical	Binder, coating, film	Tablets
	Cosmetics	Adhesive agent	Colostomy rings and laxatives
		Texturing	Dental prosthesis, denture fixative
		Emulsion stabilizer, texturing	Lotions, emollient creams
Gum karaya	Pharmaceutical	Thickener	Confections, salad dressings, sauces
Gum tragacanth	Food	Binder, stabilizer	Bread, cakes, pastries
	Pharmaceutical	Soothing	Burns treatment
Guar gum	Food	Thickener	Dressing, desserts, instant products
Locust bean gum	Food	Thickener and gelling agent	Dairy gels, water gel desserts, ice creams, dressing, sauces, soup, fruit preparations, bakery
Gum tara	Food	Thickener and stabiliser	Convenience foods, such as ice cream
	Pharmaceutical	Antiinflammatory	Gargling infusions for inflamed tonsils and washing wounds
Gum ghatti	Food	Emulsifier	Beverages and

			confectionery
		Thickener/binder	Pastilles, gum drops, jelly candies, cough lozenges and other confections high in sucrose
	Pharmaceutical	Binder, coating, film	Tablets
Gum cassia	Food	Thickener and gelling agent	Soup mixes, sauces and selected oilfree salad dressings
		Stabilizer	Frozen dairy desserts
		Clouding and glazing agent	Beverages, such as soft drinks
	Pharmaceutical	Suppuration and pain relief	Skin diseases, such as ring worm, psoriasis and itch
Resins			
Damar	Food	Antiinflammatory and antiseptic	Mouthwashes and gargles, gastrointestinal disorder treatment
Myrrh	Pharmaceutical	Emollient	Skin care
	Cosmetics	Antiwrinkle	Moisturizer
		Fragrance	Perfume (soap)
		Antiseptic and anti-inflammatory	Shampoo, soap
Ladanum	Cosmetics	Fragrance	Perfume (soap)
	Pharmaceutical	Antimicrobial	Skin disease treatment
Peru balsam	Pharmaceutical	Antiseptic and astringent	Medicines
		Fixative	Perfume
	Cosmetics	Fragrance	Perfume (soap)

		Reparation	Dental fillings
Sandarac	Pharmaceutical	Emollient	Skin care
Frankincense	Cosmetics	Fixative	Perfume
		Fragrance	Perfume (soap)
Opoponax	Cosmetics	Fragrance	Perfume
	Pharmaceutical	Soothing	Chest rubs
Turpentine	Pharmaceutical	Antiseptic	Medicines
Tolu balsam	Pharmaceutical	Expectorant, flavour	Cough mixtures
		Fragrance	Perfume (soap)
	Cosmetics	Fixative	Perfume
Asafoetida	Cosmetics	Fragrance	Perfume (soap)
Elemi	Cosmetics	Fixative	Perfume
Galbanum	Cosmetics	Fragrance	Perfume (soap)
Turpentine	Cosmetics	Fragrance	Perfume (soap)
Styrax	Cosmetics	Fragrance	Perfume (soap)
Benzoin	Cosmetics	Fixative	Perfume
Gurjun balsam	Cosmetics	Fragrance	Perfume
Dragon's blood	Pharmaceutical	Coagulant	Healing and treatment of blood disorders
		Inhalation/Diffusion	Hiccups, stress and panic
		Soothing	Rubs for abdominal cramps, spasms and coughs

Sources: FAO, Wikipedia, importers

Annex 14: Price of Gum and Resins in EU Market

Product	Quality/Origin	Period	Incoterms	Price	Developments
Gum Arabic	Kordofan from Sudan	1st half 2008	FOB	€ 1,950 /tonne ¹	Rising
Gum Arabic	No. 2 from Nigeria	1st half 2008	CIF main European port	€ 2,000 /tonne ¹	Rising
Guar gum	100 mesh 3,500 cps	1st half 2008	FOB Kandla, India	€ 870 /tonne (spot) ¹	Fluctuating
Guar gum	200 mesh 5,500 cps	1st half 2008	FOB Kandla, India	€ 790 /tonne (spot) ¹	Fluctuating
Myrrh	1st grade	July 2005	C&F Hamburg	€ 2,900 – 3,300 /tonne ³	Stable
Frankincense	Ethiopia, 1st grade	July 2005	C&F Hamburg	€ 1,700 /tonne ³	Stable
Frankincense	Ethiopia	July 2005	C&F Hamburg	€ 1,100 /tonne ³	Stable
Opoponax	Somalia	July 2005	C&F Hamburg	€ 1,700 – 2,100 /tonne ³	Stable

Source: CBI Market Information Database

1. US\$ converted to € with an exchange rate of \$1 = € 0.65 (average of first half 2008)

2. £ converted to € with an exchange rate of £1 = € 1.29 (average of first half 2008)

3. US\$ converted to € with an exchange rate of \$1 = € 0.83 (average of July 2005)

Public Ledger, IMR International (2008)

Annex 15: Natural Gum Arabic Export of Ethiopia for the Year 2007 in ETB/Quintal.

Year	HS Code	Commercial Description	Destination Countries	Fob Value in ETB	Volume in Kgs	Unit Price/ Kg
2007	13012000	Ethiopian Gum Myrrh	Saudi Arabia	274,476.68	4,020.00	68.28
2007	13012000	Gammur	Saudi Arabia	2,828.19	100.00	28.28
2007	13012000	Ethiopian Gum Olibanum Grade 1a	United Arab Emirates	859,307.90	32,000.00	26.85
2007	13012000	Ethiopian Gum Olibanum 1st	Tunisia	729,075.03	31,950.00	22.82
2007	13012000	Olibanum 1st Grade	United Arab Emirates	348,381.89	16,500.00	21.11
2007	13012000	Gum Olibanum 1st Grade	United Arab Emirates	336,687.71	16,500.00	20.41
2007	13012000	Gum Olibanum 1st Grade	Tunisia	324,874.11	16,500.00	19.69
2007	13012000	Incense	United Kingdom	270.00	14.00	19.29
2007	13012000	Gum Oli Banum	United Arab Emirates	614,924.00	32,000.00	19.22
2007	13012000	Gum Arabic Senegal	Germany	339,250.32	19,988.00	16.97
2007	13012000	Gum Olibanum	Greece	126,561.28	7,500.00	16.87
2007	13012000	Gum Olibanum	Greece	210,303.20	15,000.00	14.02
2007	13012000	Natural Gum	Sudan	490,067.69	38,500.00	12.73
2007	13012000	Gum Olibanum 2nd And 3rd Grade	Germany	338,715.12	28,000.00	12.10
		S/Total		10,823,254.25	956,147.22	11.32
2007	13012000	Gum Arabic	India	959,724.89	87,965.22	10.91
2007	13012000	Gum Arabie	India	178,303.82	17,000.00	10.49
2007	13012000	Gum Olibanum 4th Grade	China	295,935.12	30,000.00	9.86
2007	13012000	Gum Arabic	France	1,013,851.80	120,000.00	8.45
2007	13012000	Gum Arabic Seyal	France	1,506,940.20	180,000.00	8.37
2007	13012000	Kebercho	Yemen	1,534.37	210.00	7.31
2007	13012000	Gum Olibanm 4th Grade	China	1,438,538.57	198,400.00	7.25
2007	13012000	Gum Olibaum 4th Grade	Switzerland	410,782.68	60,000.00	6.85
2007	13012000	Gum Arebic	Yemen	21,919.68	4,000.00	5.48
Average Price	11.32					

Source: ECA Data Base

Annex 16: Gum Arabic Export of Ethiopia for the Year 2008 in ETB/Quintal.

Year	HS Code	Commercial Description	Destination Countries	Fob Value in ETB	Volume in Kgs	Unit Price/Kg
2008	13012000	Frankincense Oil Extract	Belgium	22,905.60	40.00	572.64
2008	13012000	Ethiopian Gum Olibanum	Tunisia	1,302,019.65	31,950.00	40.75
2008	13012000	Ethiopian Gum Olibanum	United Arab Emirates	480,073.44	16,000.00	30.00
2008	13012000	Ethiopian Natural Gum Arabic	France	976,250.00	40,000.00	24.41
2008	13012000	Gum Arabic Grade 3	United Arab Emirates	389,388.65	17,000.00	22.91
2008	13012000	Genuine Ethiopian Gumara Bic Seyal	France	2,169,517.50	100,000.00	21.70
2008	13012000	Genuine Gum Arabic Acacia	India	356,165.38	17,000.00	20.95
		S/Total		9,919,488.04	519,497.07	19.09
2008	13012000	Gum Oil Banum 2nd Grade	Guatemala	802,949.76	48,000.00	16.73
2008	13012000	Gum Arabic	Germany	331,595.20	20,000.00	16.58
2008	13012000	Arbaic Gum	Egypt	16,287.36	1,010.00	16.13
2008	13012000	Natural Gum	Sudan	73,101.75	5,000.00	14.62
2008	13012000	Gum Arabic	India	1,460,500.28	102,000.00	14.32
2008	13012000	Natural Gum	Sudan	186,372.62	14,000.00	13.31
2008	13012000	Olibanium Grade 4	China	986,622.00	75,000.00	13.15
2008	13012000	Olibanum Grade 4 Normal	China	352,365.00	30,000.00	11.75
2008	13012000	Ethiopian Gum Arabic	India	13,373.85	2,497.07	5.36
Average Price						19.09

Source: ECA Data Base

Annex 17: Natural Gum Resins Export of Ethiopia for the Year 2007 in QTB/Quintal.

Year	HS Code	Standard Description	Commercial Description	Destination Countries	Fob Value in ETB	Volume in Kgs	Unit Price/ Kg
2007	13019000	Natural Gum Resins	Incenses	United States	10,453.95	84.40	123.86
2007	13019000	Natural Gum Resins	Oil	Belgium	2,554.66	22.00	116.12
2007	13019000	Natural Gum Resins	Incense	United States	66,479.25	1,000.00	66.48
2007	13019000	Natural Gum Resins	Kerbi	United States	31,688.44	500.00	63.38
2007	13019000	Natural Gum Resins	Ethiopian Gum Myrrh	Saudi Arabia	445,537.80	7,143.00	62.37
2007	13019000	Natural Gum Resins	Incense	Canada	2,380.11	45.00	52.89
2007	13019000	Natural Gum Resins	Incenses	Canada	10,345.70	252.00	41.05
2007	13019000	Natural Gum Resins	Gum Myrrh	Yemen	1,073,150.81	31,000.00	34.62
2007	13019000	Natural Gum Resins	1st Grade Gum Olibanum	United Arab Emirates	398,643.96	16,500.00	24.16
2007	13019000	Natural Gum Resins	1st Grade Gum Olibanum	Tunisia	372,444.54	15,500.00	24.03
2007	13019000	Natural Gum Resins	Gum Olibanum 1st Grade	Tunisia	372,444.54	15,500.00	24.03
2007	13019000	Natural Gum Resins	Gum Olibanum & Gum	Saudi Arabia	357,016.68	15,000.00	23.80
2007	13019000	Natural Gum Resins	Gum Clibanum	United Arab Emirates	380,099.01	16,500.00	23.04
2007	13019000	Natural Gum Resins	Gum	United States	684.57	30.00	22.82
2007	13019000	Natural Gum Resins	Gum Olibanum	Tunisia	2,349,376.04	107,000.00	21.96
2007	13019000	Natural Gum Resins	Gum Olibanum First Grade	Tunisia	321,423.60	15,000.00	21.43
2007	13019000	Natural Gum Resins	Gum Olibanum	Tunisia	949,611.04	44,986.00	21.11
2007	13019000	Natural Gum Resins	Gum Oli Banum 1st Grade A	United Arab Emirates	671,761.60	32,000.00	20.99
2007	13019000	Natural Gum Resins	GUM OLIBANUM 1st GRADE A'	Tunisia	314,840.10	15,000.00	20.99
2007	13019000	Natural Gum Resins	Gum Olibanum 1st Grade	United Arab Emirates	313,443.75	15,000.00	20.90
2007	13019000	Natural Gum Resins	Gum Acacia/Grade/1/	United States	2,464,182.00	120,000.00	20.53
2007	13019000	Natural Gum Resins	Gum Olibanum Gr1 & Gr2	Turkey	303,758.70	15,000.00	20.25
2007	13019000	Natural Gum Resins	Gum Olibanum	Germany	341,606.92	17,000.00	20.09
2007	13019000	Natural Gum Resins	Gums	Greece	20.00	1.00	20.00
2007	13019000	Natural Gum Resins	Ethiopian Gum	Saudi Arabia	36,187.35	1,880.00	19.25

Value Chain Study – Gum and resin

			Myrrh				
2007	13019000	Natural Gum Resins	Insense	Israel	17,915.95	935.00	19.16
2007	13019000	Natural Gum Resins	Gum Olibanum Grade A, Gum Olibanum Grade B	United Arab Emirates	529,015.50	30,000.00	17.63
2007	13019000	Natural Gum Resins	Gum Incense	Italy	68,334.58	4,000.00	17.08
2007	13019000	Natural Gum Resins	Gum Olibanum 1st Grade A	United Arab Emirates	1,121,619.44	66,000.00	16.99
2007	13019000	Natural Gum Resins	Gum Olibanum 1st Grade A&B	United Arab Emirates	506,182.20	30,000.00	16.87
2007	13019000	Natural Gum Resins	Gum Olibanum 1st Grade A 1st Grade B	United Arab Emirates	500,219.77	30,000.00	16.67
2007	13019000	Natural Gum Resins	GUM OLIBANUM 2nd GRADE	Netherlands	526,210.56	32,000.00	16.44
2007	13019000	Natural Gum Resins	Ethiopian Gum Olibanum 21 (Pea Size)	Saudi Arabia	32,843.52	2,000.00	16.42
2007	13019000	Natural Gum Resins	Gum Olibanum Grade B	Saudi Arabia	262,748.16	16,000.00	16.42
2007	13019000	Natural Gum Resins	Gum Olibanum	Saudi Arabia	747,751.98	46,000.00	16.26
2007	13019000	Natural Gum Resins	Gum Olibanum	Egypt	479,524.50	30,000.00	15.98
2007	13019000	Natural Gum Resins	2nd Grade Gum Olibanum	Egypt	479,146.50	30,000.00	15.97
2007	13019000	Natural Gum Resins	Eth Gum Olibanum	Mexico	239,573.25	15,000.00	15.97
2007	13019000	Natural Gum Resins	340bags Gum Olibanum	Guatemala	268,261.67	16,987.00	15.79
2007	13019000	Natural Gum Resins	Ensens	Israel	7,767.92	500.00	15.54
2007	13019000	Natural Gum Resins	Ethiopian Gum Olibanum 1b	Saudi Arabia	124,075.52	8,000.00	15.51
2007	13019000	Natural Gum Resins	340bags Gum Olibanum	Germany	263,503.72	17,000.00	15.50
2007	13019000	Natural Gum Resins	Gum Olibanum	Greece	1,874,263.40	123,000.00	15.24
2007	13019000	Natural Gum Resins	Gum Olibanum Second Grade	Germany	258,163.70	17,000.00	15.19
2007	13019000	Natural Gum Resins	Gum Olibanum	Yemen	240,145.30	16,000.00	15.01
2007	13019000	Natural Gum Resins	Gum Olibanum	Germany	1,528,523.63	101,989.00	14.99
2007	13019000	Natural Gum Resins	Gum Olibanum	Greece	1,373,110.56	93,000.00	14.76
2007	13019000	Natural Gum Resins	Etan	Israel	16,173.40	1,100.00	14.70
2007	13019000	Natural Gum Resins	Gum Oppoponex	Yemen	218,828.3	14,976.00	14.61

Value Chain Study – Gum and resin

					9		
2007	13019000	Natural Gum Resins	Gum Olibanum1st Grade B	Egypt	699,442.64	47,937.50	14.59
2007	13019000	Natural Gum Resins	Gum Arabic	Germany	524,408.65	35,988.50	14.57
2007	13019000	Natural Gum Resins	Incense	Israel	26,530.66	1,840.00	14.42
2007	13019000	Natural Gum Resins	Gum Olibanum G2 & G3	Guatemala	450,661.38	32,200.00	14.00
2007	13019000	Natural Gum Resins	Gum Olibanum	Guatemala	1,126,877.06	81,000.00	13.91
2007	13019000	Natural Gum Resins	Gum Olibanum Gr2, Gr3	Germany	1,252,337.62	90,000.00	13.91
2007	13019000	Natural Gum Resins	Ethiopian Gum Olibanum	United Arab Emirates	207,527.38	14,970.00	13.86
2007	13019000	Natural Gum Resins	Ethiopian Gum Olibanum	New Zealand	205,377.48	14,970.00	13.72
2007	13019000	Natural Gum Resins	Gum Olibanum & Gum Myrry	India	218,911.18	15,959.00	13.72
2007	13019000	Natural Gum Resins	Gum Olibanum 2nd Grade New Crop	Greece	203,776.12	15,000.00	13.59
2007	13019000	Natural Gum Resins	Gum Olibanum	United Arab Emirates	2,790,663.23	205,500.00	13.58
		Natural Gum Resins	S/Total		47,860,492.62	3,576,724.09	13.38
2007	13019000	Natural Gum Resins	Ethiopiaingum Olibanum	Saudi Arabia	26,749.22	2,000.00	13.37
2007	13019000	Natural Gum Resins	Gum Olibonum	Greece	210,310.72	15,974.00	13.17
2007	13019000	Natural Gum Resins	Gum Olibanum 1st Grade B	United Arab Emirates	634,699.14	49,500.00	12.82
2007	13019000	Natural Gum Resins	Gum Olibanum Grade 2,Gum Olibanum Grade 3	Germany	365,476.05	30,000.00	12.18
2007	13019000	Natural Gum Resins	Gum Olibanum	Yemen	552,904.09	46,000.00	12.02
2007	13019000	Natural Gum Resins	Gum Olibanum	United States	190,020.48	16,000.00	11.88
2007	13019000	Natural Gum Resins	Gum Olibanum 2nd,3rd,4th And Gum Oppoponex	Yemen	355,420.82	30,000.00	11.85
2007	13019000	Natural Gum Resins	14 MT GUM OILBANUM 2ND GRADE &14 Mt Grade 3	Germany	326,777.36	28,000.00	11.67
2007	13019000	Natural Gum Resins	320 Bags Gum Olibanum	Yemen	186,668.35	16,000.00	11.67

Value Chain Study – Gum and resin

2007	13019000	Natural Gum Resins	934 4th Grad Spcial, 374 4th Grad Normal	China	1,131,814. 32	98,000.00	11.55
2007	13019000	Natural Gum Resins	Gum Olibanuim	Israel	1,970.50	179.70	10.97
2007	13019000	Natural Gum Resins	Gum Olibanum	Netherlands	180,884.8 8	16,500.00	10.96
2007	13019000	Natural Gum Resins	GUM OLIBANUM 2nd GRADE	United Arab Emirates	176,768.4 6	16,500.00	10.71
2007	13019000	Natural Gum Resins	Gum Olibanum	Syrian Arab Republic	1,184,654. 37	111,913.00	10.59
2007	13019000	Natural Gum Resins	Gum Oil Banum	Greece	168,701.8 4	16,000.00	10.54
2007	13019000	Natural Gum Resins	Gum Olibanum 2nd Grade	United Arab Emirates	346,404.2 1	33,000.00	10.50
2007	13019000	Natural Gum Resins	Gum Olibanum Ogaden & Borana Type	Yemen	155,589.0 0	15,000.00	10.37
2007	13019000	Natural Gum Resins	Natural Gum Olibnum	Yemen	309,476.4 7	30,000.00	10.32
2007	13019000	Natural Gum Resins	Gum Olibannum	India	160,774.2 4	16,000.00	10.05
2007	13019000	Natural Gum Resins	Gum Olibanium Siftings	Netherlands	165,564.3 0	16,500.00	10.03
2007	13019000	Natural Gum Resins	4th Grade Special Gum Olibanum	Hong Kong	315,415.2 9	32,000.00	9.86
2007	13019000	Natural Gum Resins	Gum Olibanum Siftings	Netherlands	154,672.4 0	16,500.00	9.37
2007	13019000	Natural Gum Resins	Gum Olibanium	China	1,267,741. 95	137,988.46	9.19
2007	13019000	Natural Gum Resins	Gum Olbanium	China	586,530.9 8	64,034.60	9.16
2007	13019000	Natural Gum Resins	Ethiopian ,Gum Olibanum	United Arab Emirates	146,051.2 0	16,000.00	9.13
2007	13019000	Natural Gum Resins	Gum Olibanium	United Arab Emirates	146,012.8 0	16,000.00	9.13
2007	13019000	Natural Gum Resins	Olibanium Gum	United Arab Emirates	146,000.0 0	16,000.00	9.13
2007	13019000	Natural Gum Resins	Gum Olibanum	China	3,435,001. 09	379,976.93	9.04
2007	13019000	Natural Gum Resins	Gum Olibanium	Egypt	142,868.8 0	16,000.00	8.93
2007	13019000	Natural Gum Resins	Gum Olibanium	India	281,775.5 2	32,000.00	8.81
2007	13019000	Natural Gum Resins	960 Bags Gum Oli Banum	United Arab Emirates	422,281.0 8	48,000.00	8.80
2007	13019000	Natural Gum Resins	GUM OLIBANIUM 4th GRADE	Switzerland	263,954.9 2	30,000.00	8.80

Value Chain Study – Gum and resin

2007	13019000	Natural Gum Resins	GUM OLBANUM 4th GRADE	India	135,377.28	15,958.00	8.48
2007	13019000	Natural Gum Resins	Gum Oli Banum 4th Grade Special	China	249,586.80	30,000.00	8.32
2007	13019000	Natural Gum Resins	Gum Olibanum	Sierra Leone	264,274.72	32,000.00	8.26
2007	13019000	Natural Gum Resins	Incenses	Israel	3,200.68	400.00	8.00
2007	13019000	Natural Gum Resins	Gum Olibanum	Yemen	117,895.80	16,000.00	7.37
2007	13019000	Natural Gum Resins	Gum Oilbanum	Hong Kong	220,162.62	30,000.00	7.34
2007	13019000	Natural Gum Resins	1240bags Of Olibanum	China	671,318.64	93,000.00	7.22
2007	13019000	Natural Gum Resins	Gum	Israel	1,428.94	200.00	7.14
2007	13019000	Natural Gum Resins	Olibanum(4th Grade Special)	China	397,075.84	56,000.00	7.09
2007	13019000	Natural Gum Resins	Gum Olibanum,Ruturmeric Finger	United Arab Emirates	636,936.07	90,000.00	7.08
2007	13019000	Natural Gum Resins	Gum Olibanum	Israel	9,470.82	1,400.00	6.76
2007	13019000	Natural Gum Resins	Gum Abbanum	Djibouti	5,552.13	888.00	6.25
2007	13019000	Natural Gum Resins	Gum Olibannum	Djibouti	19,886.67	3,182.00	6.25
2007	13019000	Natural Gum Resins	Gum Olibanum	Djibouti	7,345.90	1,184.00	6.20
2007	13019000	Natural Gum Resins	Tisatish	Israel	493.22	150.00	3.29
Average Price	13.38						

Source: ECA Data Base

Annex 18: Natural Gum Resins Export of Ethiopia for the Year 2008 in QTB/Quintal.

Year	HS Code	Standard Description	Commercial Description	Destination Countries	Fob Value in ETB	Volume in Kgs	Unit Price/ Kg
2008	13019000	Natural Gum Resins	Incense	Austria	6,343.96	30.00	211.47
2008	13019000	Natural Gum Resins	Ethiopian Gum Myrrh	Saudi Arabia	56,027.97	600.00	93.38
2008	13019000	Natural Gum Resins	Oil	Belgium	6,487.61	74.00	87.67
2008	13019000	Natural Gum Resins	Gum Olibanum Myrrh	Yemen	664,360.73	15,000.00	44.29
2008	13019000	Natural Gum Resins	Gum	Australia	5,825.07	140.00	41.61
2008	13019000	Natural Gum Resins	Gum Olibanum 1st Grade A	Tunisia	607,904.40	16,000.00	37.99
2008	13019000	Natural Gum Resins	Gum Olbounium	Tunisia	550,158.30	15,000.00	36.68
2008	13019000	Natural Gum Resins	Gum Olibanum	Tunisia	3,110,349.50	91,981.00	33.82
2008	13019000	Natural Gum Resins	Ethiopian Gum Olibanum Grade 1a	Tunisia	1,069,975.14	31,950.00	33.49
2008	13019000	Natural Gum Resins	1st Grade A Gum Olibanum	Tunisia	2,184,088.85	66,000.00	33.09
2008	13019000	Natural Gum Resins	Gum Olibanum, Myrrh	Yemen	407,789.92	14,992.00	27.20
2008	13019000	Natural Gum Resins	Gum Olibanum	Germany	2,886,929.11	109,000.00	26.49
2008	13019000	Natural Gum Resins	Gum Olibanum 1st Grade A	Tunisia	389,821.68	15,000.00	25.99
2008	13019000	Natural Gum Resins	Gum Olibanum	Greece	3,178,129.20	123,975.00	25.64
2008	13019000	Natural Gum Resins	Gum Olibanum 1st Grade	Tunisia	383,332.12	15,000.00	25.56
2008	13019000	Natural Gum Resins	Gum Olibanum, Myrrh, Mur	Yemen	751,086.95	30,000.00	25.04
2008	13019000	Natural Gum Resins	Gum Olibanum 1st,2nd Grade	United Arab Emirates	823,606.63	33,090.00	24.89
2008	13019000	Natural Gum Resins	Incense	Canada	5,582.20	229.00	24.38
2008	13019000	Natural Gum Resins	Gum Olibanum First Grade B	Tunisia	361,946.25	15,000.00	24.13
2008	13019000	Natural Gum Resins	Gumolibanum 1st Grade	United Arab Emirates	369,776.24	16,032.00	23.06
2008	13019000	Natural Gum	Gum Myrrh	France	298,594.06	13,000.00	22.97

Value Chain Study – Gum and resin

		Resins	Ogaden,Olibanum				
2008	13019000	Natural Gum Resins	Ethiopian Gum 01,B Anum 2 & 3	Guatemala	362,567.82	16,000.00	22.66
2008	13019000	Natural Gum Resins	Gum Acacia	United States	878,625.00	40,000.00	21.97
2008	13019000	Natural Gum Resins	Gum Olibanum 1st,3rd,4thspecial 4th Normal	Egypt	336,755.69	16,000.00	21.05
2008	13019000	Natural Gum Resins	Gum Mur	Egypt	60,359.04	3,000.00	20.12
2008	13019000	Natural Gum Resins	Gum	United States	5,319.29	270.00	19.70
2008	13019000	Natural Gum Resins	Gum Olbanum	Greece	585,716.75	30,000.00	19.52
		Natural Gum Resins	S/Total		36,693,288. 59	1,914,977.7 3	19.16
2008	13019000	Natural Gum Resins	Gum Olbanium	United Arab Emirates	607,595.04	32,000.00	18.99
2008	13019000	Natural Gum Resins	Gum Olibanum	United Arab Emirates	2,063,398.9 3	109,972.00	18.76
2008	13019000	Natural Gum Resins	Gum Olibanum	Djibouti	306,301.40	16,500.00	18.56
2008	13019000	Natural Gum Resins	Olibanum 2nd Grade Tigray Type New Crop	United Arab Emirates	300,243.11	16,500.00	18.20
2008	13019000	Natural Gum Resins	Gum Olibanum 1st,2nd,3rd Grade	United Arab Emirates	540,798.53	29,940.00	18.06
2008	13019000	Natural Gum Resins	Ethiopian Gum Olbanum	United Arab Emirates	266,967.93	15,200.00	17.56
2008	13019000	Natural Gum Resins	Gum Olibanum	Yemen	501,056.67	30,000.00	16.70
2008	13019000	Natural Gum Resins	Oil Banum	China	248,296.05	15,000.00	16.55
2008	13019000	Natural Gum Resins	Gum Olibanum 2nd Grade	Greece	505,784.77	31,980.00	15.82
2008	13019000	Natural Gum Resins	Gum Frankincence Special	India	232,759.20	16,000.00	14.55
2008	13019000	Natural Gum Resins	Gum Olibanum	Syrian Arab Republic	1,040,933.3 4	72,000.00	14.46
2008	13019000	Natural Gum Resins	Gum Olibanum Tigray Types	Netherlands	231,412.50	16,500.00	14.03
2008	13019000	Natural Gum Resins	Gum Olibanum	China	1,924,401.0 5	140,000.00	13.75
2008	13019000	Natural Gum Resins	Gum Olibanum Gr3 & Gr2	Germany	1,177,938.4 5	90,000.00	13.09
2008	13019000	Natural Gum Resins	Incense	Israel	1,907.48	150.00	12.72

Value Chain Study – Gum and resin

2008	13019000	Natural Gum Resins	Olibanum 4th Grade Special	China	1,278,568.98	102,000.00	12.53
2008	13019000	Natural Gum Resins	Gum Oilbanum Grade 4	China	358,751.49	29,100.00	12.33
2008	13019000	Natural Gum Resins	Gum Olibanum Normal 4th Grade	China	1,565,725.68	128,000.00	12.23
2008	13019000	Natural Gum Resins	Gums Olibanum 4th Grade Specal	China	532,160.20	44,000.00	12.09
2008	13019000	Natural Gum Resins	Gum Olbanum	China	874,378.12	75,000.00	11.66
2008	13019000	Natural Gum Resins	Gum Arabic	France	696,880.80	60,000.00	11.61
2008	13019000	Natural Gum Resins	Gum Olibanum	Israel	10,110.66	900.00	11.23
2008	13019000	Natural Gum Resins	Gum Olibanum 4th Grade Normal	China	461,384.05	43,500.00	10.61
2008	13019000	Natural Gum Resins	Gum Arabic	India	291,423.20	31,437.73	9.27
2008	13019000	Natural Gum Resins	Etan	Israel	13,793.85	1,635.00	8.44
2008	13019000	Natural Gum Resins	Gum Araboca Grade 3	India	311,276.80	40,000.00	7.78
2008	13019000	Natural Gum Resins	White Icense	United States	1,580.83	300.00	5.27
Average Price	19.16						

Source: ECA Data Base