

# **The Production of Oilseeds in Ethiopia: Value Chain Analysis and the Benefit that Accrue to The Primary Producers**

**A minithesis submitted in partial fulfillment of the requirements for the degree of M Com in Development Studies at the Institute for Social Development, School of Government, Faculty of Economics and Management Science, University of the Western Cape**



**By**

**Elias Gebreselassie Fanta**

**Supervised by**

**Professor Pieter Le Roux**

**Co-supervised by**

**Tobias Birkendorf**

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## Key Words

Oilseeds

Edible oil

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Export promotion

Oil processing

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Governance

Rent and upgrading

Systemic integration



## Abstract

Oilseed is the third most important export item in Ethiopian foreign trade. It has registered a high export growth rate over recent years both in terms of volume and value. Besides its growing share in export, it is widely used for the extraction of edible oil and oilcake that is supplied to the domestic market.

Although farmers are the primary producers of oilseeds, they are not able to benefit from the growing market share of the product due to the fact that they find themselves at the end of an extended market chain. As a result they only receive a very small proportion of what the final buyers are paying for the oilseed products. In addition, there is not much experience on the part of the farmers to process oilseeds, change it to edible oil and oilcake and retain the value addition in the local economy.

This minithesis used the value chain approach to investigate the possibilities for the primary producers to increase their income share from the selling of their products either by directly selling to exporters or by processing oilseeds, producing edible oil and oilcake, and retaining the value addition in the local economy.

The research found out that it is possible to increase the income of the primary producers through establishing a modular relationship between international buyers, exporters and farmers. It also argued that income could be upgraded through improving quality, supplying organic products, improving the market information system and market infrastructural facilities as well as through provision of micro credits to oilseeds farmers.

The research underscored that theoretically it is possible to increase the income of the primary producers through locally processing oilseeds and selling edible oil and oilcake. But the low demand of edible oil and oilcake, the high competition from imported edible oils and the better economic position of local oil processing firms makes it difficult to viably run a small rural oil processing plant at farmers level in the research location.

The research suggested that farmers need to organize themselves in a cooperative so that they can be able to take a collective action to realize the intended income change. Such cooperative needs to be organized in a corporate governance structure where elected farmers are represented in the board while an independent management runs the day-to-day activities of the cooperative.

## Declaration

I declare that the thesis entitled: *'The Production of Oilseeds in Ethiopia: Value Chain Analysis and the Benefit that Accrue to The Primary Producers'* is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Elias Gebreselassie Fanta  
Student No. 2479190



Signed: -----

Date: -----

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## List of Acronyms

AMC	Agricultural Marketing Corporation
BDS	Business Development Service
CSA	Central Statistics Authority
DDT	Dichloro Diphenyl Trichlorethane
EEPA	Ethiopian Export Promotion Agency
EGTE	Ethiopian Grain Trade Enterprise
EOPEA	Ethiopian Oilseeds and Pulses Exporters Association
EOPEC	Ethiopian Oilseeds and Pulses Exporting Corporation
EU	European Union
FAO	Food and Agricultural Organization of the United Nations
FOB	Free On Board
GCC	Global Commodity Chain
GVC	Global Value Chain
kg	Kilo Gram
ISO	International Standard Organization
MIS	Market Information System
n.a.	Data not Available and/or Not Applicable
NGO	Non-governmental Organization
PPP	Public Private Partnership
QSAE	Quality and Standard Authority of Ethiopia
SPSS	Statistical Package for Social Science
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USD	United States Dollar





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# Chapter One

## Introduction

Agriculture is the dominant sector in the Ethiopian national economy. It is a means of subsistence for more than 85 percent (%) of the country's rural population, contributes more than 50% of the national GDP, bring in 90% of its export earnings and provides employment for 88% of the labour force.<sup>1</sup> Ethiopia's export relies heavily on selected agricultural commodities originating mainly from smallholder peasant farming. Coffee, hides and skins, chat and oilseeds are the most important export items in the order of priority.

Oilseeds contribute about 8.8% of the total export in 2002 with a growing share in export earning and volume over the last few years.<sup>2</sup> Oilseeds is not only an export item. There is also large demand for it in the domestic economy since it is used to produce edible oil and oilcake.

The total earning from the oilseeds business, particularly from the export market, has increased over the past few years. However, the gain from the business is not fairly distributed and does not properly reach to the primary producers who find themselves at the end of an extended market chain. The primary producers have no proper access to the final market and lacked knowledge on how to add value through partially or fully processing the oilseed products before it is supplied to the market. This has been a cause for substantial income loss of the majority of farmers. Hence, the primary agenda of this research is the assessment of the possibilities for smallholder farmers to secure a reasonable share of benefit from the value added chain of the oilseeds business.

This thesis intends to answer the following research question – *“Does value addition at oilseed production and/or spreading the gain from export of oilseed products increase the income of the primary producers?”*

The writer uses the theoretical framework of the global value chain analysis to inform the debate on how the oilseeds sub-sector could be better utilized to enable the primary producers to earn better income. The global value chain theoretical framework is helpful in the analysis because it is a descriptive construct, which could be used to generate and

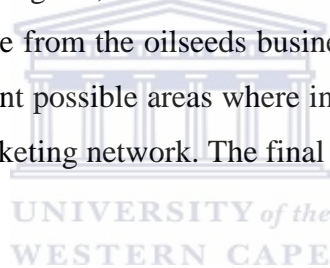
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<sup>1</sup> Agridev, (undated), p. 1.

<sup>2</sup> Ethiopian Export Promotion Agency, [http://www.ethioexport.org/tradeinfo/trade\\_main.shtml](http://www.ethioexport.org/tradeinfo/trade_main.shtml) 21/04/05.

analyse data on how to make better income from the networks of both national and international markets.<sup>3</sup>

The thesis is organized as follows. Chapter two undertakes a literature review and describes the different views reflected in the value chain analysis. Chapter three describes the value chain theory, describes how to apply the theory in the analysis of the research problem, defines empirically testable hypothesis; and outlines the research methodology used in the research process. Chapter four gives background information on the role of oilseeds in the export earnings of Ethiopia. It gives background information on the market organization and destination of oilseed products as well as the number and organization involved in. It also gives background information on the Sedika locality, where this research forms its empirical basis. Chapter four analyses the oilseeds supply and utilization pattern, draws the value chain diagram, describes the different market participants of the chain and shows how the income from the oilseeds business is distributed along the chain. Chapter six describes the different possible areas where income could be upgraded through interventions in the oilseeds marketing network. The final chapter is devoted for conclusion and recommendations.



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<sup>3</sup> Kaplinsky, 2004, p. 80.

## Chapter Two

### Literature Review

#### 2.1. Review of basic research works

There is no clear indication in the literature as to when and who used the value chain approach for the first time. Girvan (1987) argues that analysts charting a path of development for mineral exporting economies used the concept of the value chain in the 1960s and 1970s.<sup>4</sup> French researchers adopted the concept and used it as an analytical tool for empirical agricultural research.<sup>5</sup> The French agricultural commodity chain research is known as *filiere* study and has its origin in technocratic agricultural research.<sup>6</sup> The *filiere* study was mainly restricted to agricultural commodities in developing countries and was heavily influenced by the colonial and postcolonial economic policy of French. This is attributed to the fact that the agricultural development policy of the French colonies was commodity centred.<sup>7</sup>

The concept of the value chain enters into the mainstream thinking after the groundbreaking work of Michael Porter in 1979. The goal of Porter's theory is to find a useful framework for understanding the essence of competition and narrows the gap between theory and practice.<sup>8</sup>

In his 1990 work, Porter addresses a question why some nations succeed and others fail in the international market.<sup>9</sup> To answer this question, Porter traces back to the theories of absolute and comparative advantage of nations of Adam Smith and David Ricardo respectively. Porter argues that the pattern of nation's export and import explained by these traditional theories have limitations to inform today's international trade as the nature and scope of competition has changed.<sup>10</sup>

Porter identifies two key constructs that are necessary for the upgrading of firms competitiveness. The first is referred to as the *value chain*, which disaggregates the firm into its strategically relevant activities. The second theoretical construct is the concept of

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<sup>4</sup> Kaplinsky, 2004, p.81.

<sup>5</sup> Mayoux, 2003, p. 21.

<sup>6</sup> Gibbon and Ponte 2005, p. 75.

<sup>7</sup> Ibid.

<sup>8</sup> Porter, 1998, p. 2.

<sup>9</sup> Porter, 1990, p. 1.

<sup>10</sup> Ibid.

the *value system*, which explains a large stream of activities between forwardly and backwardly linked firms.<sup>11</sup>

Porter's value chain framework could be applied to decompose a single firm into strategically important activities and to the understanding of its impact on cost and value.<sup>12</sup> Porter (1985, 1990) argues that the overall value chain logic and its corresponding idea of securing a competitive advantage through applying generic strategies is applicable to all firms within an industry.<sup>13</sup> His idea of the value chain is designed primarily as a heuristic tool to allow to individual firms or countries to understand which in-house (firm level activities) and external steps can effectively improve their competitiveness.<sup>14</sup> It helps to design a strategy that could generate the highest value addition through adoption of the most effective competitive strategies.

The main limitation of Porter's value chain construct, however, is its weakness to look into the full range of activities, including *coordination*, that are required to bring a specific product from its conception to end use and beyond.<sup>15</sup>

Another construct that evolves in the value chain theory is the concept of the Global Commodity Chain (GCC). The notion of a commodity chain, as 'a network of labour and production processes whose end result is a finished commodity' comes from Hopkins and Wallerstein (1986, 1994).<sup>16</sup> The theory of the GCC is used to discuss the nature of international chains for agricultural products that are involved in the commodity chains either as producers of inputs to others or user of inputs from others.<sup>17</sup> The GCC approach started to attract wide attention of researchers in the mid 1990s.

The GCC theoretical approach, which was first centred on the study of agricultural commodity chain, later started to be used for a value chain research of other commodities beyond agriculture. As a result, many development researchers nowadays use the approach to conduct an empirical study in export structures and value chain relations of commodities such as clothing, footwear, electronics and other commodities imported by developed countries from the third world.<sup>18</sup> In recent literatures, the term Global Commodity Chain has been taken up by Global Value Chain (GVC) in its place because the later is thought to

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<sup>11</sup> Humphrey and Schmitz, 2000, p. 10; Porter, 1985, p. 36.

<sup>12</sup> Stabell and Fjeldstad, 1998, p. 413.

<sup>13</sup> Ibid

<sup>14</sup> Gibbon and Ponte, 2005, p. 77.

<sup>15</sup> Ibid.

<sup>16</sup> Gibbon and Ponte, 2005, p. 74.

<sup>17</sup> Ibid.

<sup>18</sup> Gibbon and Ponte, 2005, p. 75.

better capture a wider variety of products, some of which lacked commodity nature.<sup>19</sup> The term also has the advantage of clarifying the question on who adds value and where along the chain.<sup>20</sup>

Although Hopkins and Wallerstein (1986, 1994) introduced the notion of Global Value Chain (under the term global commodity chain), a relatively coherent work on the concept was introduced by Gereffi (1994).<sup>21</sup> Gereffi and his collaborators work focus on the emergence of a new global system in which economic integration goes beyond international trade in raw materials and finished products.<sup>22</sup> It builds on the world system of analysis, particularly in relation to how countries could better compete in international markets and how the gains from globalisation could fairly be distributed to poor countries and poor people.<sup>23</sup> Gereffi develops a theoretical framework for better understanding the governance structure of the value chain system and the system of integration on sectors producing for the global market.<sup>24</sup> The theory provides a basis to analyse the factors, which explain why some countries advance while others fail in the global economic network. Gereffi, Humphrey and Sturgeon (2003) argue that the theory will help third world country policy makers to assess the situation of global market structure and devise a policy programme that support firms of these countries to be able to enhance their position in the global market.<sup>25</sup> The theory is also helpful to develop an effective development policy related to the promotion of industrialization, employment creation and poverty reduction emanated from the integration of local firms into the global market.<sup>26</sup> The global value chain theory is concerned with finding out how the global value chain governance structure and the power structure within the chain looks like. Gereffi, Humphrey and Sturgeon (2005) argue that power relation within the global value chain determines the market share and the income distribution that arises from the market.<sup>27</sup>

Another much cited writer on the value chain theory is Raphael Kaplinsky. Kaplinsky's work is focused on finding a sound link between the theory and practical research undertakings of the GVC. He develops a methodology to conduct a research on how the

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<sup>19</sup> Gibbon and Ponte, 2005, p. 75.

<sup>20</sup> Humphrey and Schmitz, 2000, p. 10.

<sup>21</sup> Gibbon and Ponte, 2005, p. 75.

<sup>22</sup> Ibid.

<sup>23</sup> Mayoux, 2003, p. 21.

<sup>24</sup> Gereffi, Humphrey and Sturgeon, 2003, p.1.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

<sup>27</sup> Gereffi, Humphrey and Sturgeon, 2005, p.8.

gains from globalisation can be spread to poor countries and poor people using the GVC theoretical approach. In 2000, Kaplinsky (in collaboration with Mike Morris) developed a 'value chain research manual', which can be used by academic writers and practitioners.<sup>28</sup> A host of other writers added to the GVC theory and conducted a number of empirical researches using the theory.<sup>29</sup>

This research uses the Global Value Chain approach developed by Gereffi and his collaborators. The approach is selected because it can enable the researcher to map out the different activities from start to finish along the oilseeds value chain and to capture the point where the biggest benefit is available. The methods on how the theory is applied for practical research are discussed in part 2.3.

## **2.2. Limitations, weaknesses and research gaps**

The basic literature reviewed in the previous section has its own weaknesses and limitations. Porter is concerned with the question how firms and countries could be competitive in the local and international markets. His approach doesn't look at the whole value chain of a product from production to end-use. More over, it ignores the coordination of activities that are divided among firms and that have a global nature.<sup>30</sup>

This research is basically looking on how the market structure look like, who are the participants, where is the big return available and what should be done to upgrade the income of farmers. As a result, Porter's value chain approach will not be useful for this research because it doesn't look into the relationship of upper and lower tire firms within the chain and does not explore the possibilities for upgrading which arises from this relationship.

Although significant achievement has been made in theorizing GVC since the beginning of the 1990s, more remains to be achieved. In this theoretical approach the process of coordination and competition among actors operating in the same function have been given less attention.<sup>31</sup> Furthermore, the analysis focuses on more explicit structural elements of production, distribution and conception than on the social/cultural/ and

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<sup>28</sup> See Kaplinsky and Morris, 2000.

<sup>29</sup> Such empirical researcher work include, for example, global apparel value chain by Olga Memedovic and Gary Gereffi, 2003; and Global coffee value chain by Robert Fitter, and Raphael Kaplinsky 2001.

<sup>30</sup> Gibbon and Ponte, 2005, p. 77.

<sup>31</sup> Gibbon and Ponte, 2005, p. 94.



symbolic relations among actors.<sup>32</sup> Hence, efforts and further debates are still needed to clarify the key concepts of the GVC theory.

In spite of the above weaknesses, the GVC is concerned with how poor countries and firms from these countries could benefit more from globalisation and global income distribution. The theory gives a practical tool for devising a strategy for upgrading and conducting empirical research in the field. The approach can help strategy makers of the third world countries to determine where the highest value can be captured within the national component of the GVC.<sup>33</sup> It also helps to identify the main governing bodies of the chain and the rule setting and monitoring procedures of the governors. This theoretical approach helps firm managers and policy makers from third world countries to better understand the rules and regulation of the governing bodies of buying companies and to be able to command a better share through upgrading of product types and responses to the different market needs. In general, the approach can be used for practical research purposes in the following ways:

- Mapping out the chains and identifying actors involved in particular production sectors: i.e. identifying the different types of activity, geographical location and actors involved in different roles at different levels,
- Following up the relative distribution of ‘values ‘ and the reasons for inequalities and/or inefficiencies and blockages in the chain, and
- Based on the above two analysis: identifying the potential ‘leverage’ points for upgrading in the chain as a whole and/or redistributing values in favour of those at the bottom.<sup>34</sup>

Although the GVC approach was initially used for the purposes mentioned above, the approach is now being adopted and used for a research topic intended to promote poverty oriented enterprise development within a national boundary of a country. For example, the approach can be used to identify the issues where financial services are particularly appropriate or inappropriate for micro-finance programmes and credit and saving groups.<sup>35</sup> It can also be used in business development services (BDS) to identify the level at which services might need to be integrated.<sup>36</sup>

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<sup>32</sup> Gibbon and Ponte, 2005, p. 77.

<sup>33</sup> International Trade Center, 2003, pp. 8-9.

<sup>34</sup> Mayoux, 2003, p. 6.

<sup>35</sup> Mayoux, 2003, p. 7.

<sup>36</sup> Ibid.

In the same vein, the approach would be relevant for the oilseeds value chain because it could help to investigate how the income of oilseeds farmers could be increased through upgrading measures within the components of the value chain.

Based on the framework above, this research is intended to investigate oilseeds issues in two areas of the value chain nodes. The first one is investigation of the value chain network between farmers to exporters (including investigation of what is required in the export market) and the second one is looking for possibilities of upgrading in local processing of oilseeds by farmers (farmer organization).

The theory could be applied to a practical research work through drawing a value chain diagram and identifying the main market players, through calculating the value addition and income share of different market players, through assessing the governance structure of the chain and through identifying areas where upgrading is possible within the chain.

Since oilseeds is an export item, part of its final consumption is taking place in the importing countries. However, it is not within the scope of this research to look into what is going on the value chain of the product after it is exported to another country. Therefore, this research does not look into what is going on the value chain of oilseeds after it is exported to a third country.

### **2.3. Relevance of the global value chain theory for the research work**

Kaplinsky and Morris (2000) develop a comprehensive global value chain research manual, based on the theoretical framework of the GVC approach. The manual is prepared in such a way that it allows researchers to get deep in and utilize what is relevant and appropriate in the investigation of the value chain.<sup>37</sup> The manual gives a range of tools that are deemed suitable to the research question as each chain has its own peculiar characteristics.<sup>38</sup>

The methodology outlined in the manual has covered eight different issues/tools that could be investigated in the value chain research. The eight different issues/tools outlined in the methodology are: point of entry for value chain analysis; mapping value chains; product segments and critical success factors in the final markets; benchmarking production efficiency; governance of value chains; upgrading in the value chains and distributional

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<sup>37</sup> Gibbon and Ponte, 2005, p. 75.

<sup>38</sup> Ibid.

issues.<sup>39</sup> It is up to the researcher, which issues to raise in his/her research, since there is no mechanistic way to apply the tools in a uniform fashion.<sup>40</sup>

Questions may be posed regarding the validity of the GVC theory for firms producing for local market because oilseeds are sold in both local and international markets. The answer is: the framework could be used to explain the different value chains of commodities produced for local or global markets.<sup>41</sup> The most essential point is to investigate the relationship, the coordination and the input-output structure of the product flow in the value chain and explore the possibilities for upgrading.

The theoretical approach of the GVC can be applied to the practical research in the following ways: analysing the nature of the linkage between farmers, middlemen, oil processors and exporters; assessing the impact of the 'influential business unit'; identifying the case in which the market contact between farmers and exporters could be strengthened; assessing the possibilities where the cost of the existing extended market channel could be reduced so that the reduced cost could be used to increase the income share of farmers.<sup>42</sup> This in the end would help to devise a strategy for upgrading that could help to reap a highest income by the primary producers from participating in the value chain.

This research intends to use four out of eight of the tools/issues identified above to answer the research question. The tools or issues utilized in the investigation are mapping value chains and distributional issues (combined together), governance of value chains and upgrading in value chains.

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<sup>39</sup> Gibbon and Ponte, 2005, p. 75.

<sup>40</sup> Ibid.

<sup>41</sup> International Trade Center, 2003, p. 9.

<sup>42</sup> It is assumed that the higher income share that is made out of the oilseeds value chain is going to the different middlemen who are participating in the chain. Reducing this extended chain may reduce the cost of coordinating the network. And the extra money that is used for coordinating may be used for increasing the income of farmers.

## Chapter Three

### Conceptual and Theoretical Framework

#### 3.1. What is global value chain?

In defining the concept of the value chain, different authors use different terminologies. Kaplinsky (2000) for example, uses the term value chain rather than global value chain. More recent literatures like Gibbon and Ponte (2005) use the term global value chain. The writer of this thesis uses the later in order to avoid confusions with the value chain concept of Porter.

A value added chain is the process by which technology is combined with labour, material and human knowledge and then processed inputs are assembled, transported, marketed and distributed.<sup>43</sup> A single firm may consist of only one link in this process or it may be extensively integrated vertically.<sup>44</sup> In a more formal definition, the value chain describes the full range of activities, which are required to bring a product or service from conception, through the various phases of production (involving a combination of physical transformation and the input of various producers services), delivery to final buyers and final disposal after use.<sup>45</sup> This value chain definition refers to a single product or service passing through the different phases from its conception to final use and disposal after use. Examples of such value chain is a cut flower produced in Ethiopia and passed through the different phases of design, production, purchase and use by a final user in Holland.

The general conceptualisation of the value chain can be explained by the following simple logic. Suppose a product is designed, produced and delivered to final users. This product is made of raw materials and other intermediate products. The raw materials and intermediate goods should be transported to the production facilities of the firm that produce the final product. In addition, the final product of the firm has to be transported to distribution centres and delivered to the final users. Final users will buy the product, use it and dispose the left over after use. The whole process of this design, production, marketing, use and final disposal of a certain product or service constitute the notion of a value chain. An example of a simple value chain as portrayed by Kaplinsky (2004) is presented in figure 1 below.

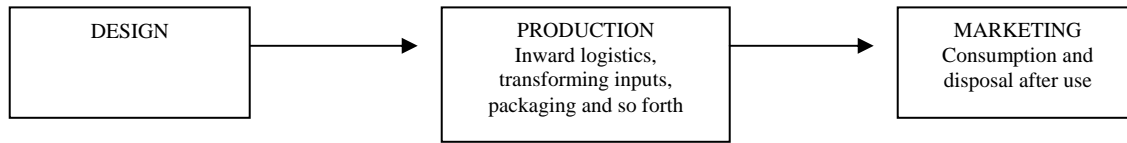
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<sup>43</sup> Gereffi, Humphrey and Sturgeon, 2005, p. 79.; Sturgeon, 2001, p.2.

<sup>44</sup> Gereffi, Humphrey and Sturgeon, 2005, pp. 79-80.

<sup>45</sup> Kaplinsky, 2004, p. 80.

**Figure 1: Simple value chain**



*Source: Kaplinsky, 2004, p. 80.*

In the same vein, oilseeds are passing through the different phases of production, processing, marketing, and final use by consumers. The full range of oilseeds value chain diagram and the different participants and their role in the chain is discussed in chapter 5.

The value chain concept would help to find out the different market nodes where a commodity is passing before it reaches to final consumers. It provides a range of analytical tools to assess what are the desired factors to be successful in the local and international markets.

### **3.2. Value chain analysis as analytical tool for export promotion and development**

Gereffi, Humphrey and Sturgeon (2005) discuss that the world economy has made a significant change in the past few decades especially in the area of international trade and free movement of capital.<sup>46</sup> This historical trend has enhanced growth in the international trade and has facilitated conditions for the integration of the world economy. Globalization has provided opportunity for substantial income growth of countries, which started to participate in the global integration in recent years.<sup>47</sup> This is reflected not only in high-income growth but also in the improved availability of better quality and differentiated products and services.<sup>48</sup>

However, the circumstances under which globalization of trade and free movement of capital operate creates undesired income distributional pattern between people and countries. Such undesired global trade patterns, has widened the income gap and could be one factor for exacerbating the poverty situation in poor countries.

A case in point is the trade regime that is followed by the European Union (EU) and other industrialized nations in agricultural export to the regions. In 2001 for example, EU

<sup>46</sup> Gereffi, Humphrey and Sturgeon, 2005, p. 78.

<sup>47</sup> Kaplinsky and Morris, 2000, p. 1.

<sup>48</sup> Kaplinsky, 2000, p. 3.

and other industrialized countries subsidy for their agricultural sector was amounted to United States Dollar (USD) 311 billion or about USD 850 million per day, dwarfed the amount those same countries gave to poor countries in the form of development assistance.<sup>49</sup> This has created unfair competition between subsidized farmers of the industrialized nations and farmers of poor countries by creating a high entry barrier for export of agricultural products from poor nations to the developed countries market.

As a result of this protectionism and subsidy, developing nations lose about USD 24 billion annually from agriculture or agro industrial income.<sup>50</sup> If we see it regionally, this same trade policy taxed about 10-15% of total agricultural and agro industrial income of Sub-Saharan African countries.<sup>51</sup> This is a substantial sum for many poor Sub-Saharan African countries and would be a great obstacle to meet the millennium development goal.

The above factors could negatively affect the income share of developing countries, which are participating in the global trade. But, non-participation would be much daunting because through participation countries can still generate better income than distancing themselves from the global trade. But countries need to do it in a more systematic way so that they could get the maximum possible advantages/returns.

To this end, the global value chain approach could help to examine the different ways in which global production and distribution systems are functioning and help to devise possibilities for firms in developing countries to enhance their position in the global markets.<sup>52</sup> The GVC approach could enable firms and policy makers in poor countries to analyze what is required in the global market. This can be done through: (1) mapping the value chain relations and tracing the point of entry to participate in the market, (2) assessing what is required in the international market, (3) identifying the main actors in the chain and how it is possible to meet their needs and requirements and (4) identifying the possibilities for upgrading (such as adding value through fully or partially processing the product before sell) in the chain.

The approach would help one to get the required information and identify policy instruments which might help to address regulative and institutional measures that are required to arrest the undesired direction of the global trade.<sup>53</sup> The approach could also be

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<sup>49</sup> Diao, Diaz-Bonilla and Robinson, 2003, p. 1.

<sup>50</sup> Diao, Diaz-Bonilla and Robinson, 2003, p. 2.

<sup>51</sup> Ibid.

<sup>52</sup> Gereffi, Humphrey and Sturgeon, 2005, p. 79.

<sup>53</sup> Kaplinsky, 2000, p. 3.

used for analyzing upgrading possibilities within the national boundary of the value chain i.e. like for example, assessing the possibilities for adding value through fully or partially processing of leather products.

There are a number of value chain empirical researches centered on the agro food sector such as coffee, fresh fruits and vegetables, cotton, banana, etc. exported from developing countries to the industrialized world.<sup>54</sup> Accordingly, the oilseed value chain can also be studied by using the theoretical approach of the GVC.

The basic question that follows is what possible dimensions could be used as a unit of analysis in the value chain research. Gereffi (1994, 1995) identified three key dimension of the GVC that could be used for analysis.<sup>55</sup> A brief explanation of the three dimensions is presented below:

1. The term *input-output structure and geographical coverage of the value chains*: This is mainly used descriptively to outline the chain configuration. It helps to identify the different nodes along the chain and the pattern of chain flows as well as the condition of income distribution.
2. *Form of governance*: Governance addresses the notion of entry barriers and chain coordination.
3. *The institutional framework surrounding the chain*. This means the condition under which lead firms subordinate suppliers through their power of market access and information. This concept also shows how producer could be able to upgrade to higher steps in the chain. At this process the subordinate firms learn about markets and acquire transfer of knowledge and technology.<sup>56</sup>

In their GVC research manual, Kaplinsky and Morris also identify three important components of the value chain that need to be recognized and that transform the heuristic concept of the value chain into analytical tools. These are:

1. Value chains are repositories for rent and these rents are dynamic.
2. Effectively functioning value chains involve some degree of 'governance'.
3. Effective value chains arise from systemic as opposed to point efficiency.<sup>57</sup>

Except for putting the dimensions of the value chain in different orders and terminologies, there is no methodological difference between Gereffi and Kaplinsky in utilizing the theoretical concept for empirical research purpose. The formulations could inspire a researcher to carry out descriptive studies of a wide range, especially with regard

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<sup>54</sup> Ponte, 2001, p. 2.

<sup>55</sup> Gibbon, 2003, p. 14.

<sup>56</sup> Gibbon, 2003, p.76., Palpacuer, Gibbon, Thomsen, (undated), p. 3.

<http://www.ids.ac.uk/globalvaluechains/publications/clothingchains.pdf> (08/10/05).

<sup>57</sup> Kaplinsky, 2004, p. 82

to issues of governance and upgrading. In the following sub-section, this research adopts the different dimensions of the value chain and elaborates how they can be applied as a unit of analysis for the empirical part of the research.

### **3.3. The key dimensions/elements of the value chain**

#### **3.3.1. Systemic efficiency/input-output structure of the value chain**

The first important element of the value chain, in the words of Kaplinsky, is the quest for moving from point to systemic efficiency. An allocation of a resource is economically efficient when there is no one person better off without making another worse off. In the context of the value chain discussion, Morris (2005) indicates that systemic efficiency within the value chain is derived from upgrading both horizontal and vertical integrations between enterprises.<sup>58</sup> In other words systemic efficiency is a concept that requires efficiency throughout the whole line of the value chain.

In the case of the oilseeds business, the researcher uses the concept of systemic efficiency (input-output structure) to map out the chain structure and identify the different nodes and participants of the value chain. Once the chain configuration and the pattern of the chain flow are identified, then value added gains by the different participants/nodes will be calculated. This would help to identify the income distribution pattern of the chain participants and shows signal on where the biggest returns are made. This will be a very important entry point to identify and outline upgrading possibilities for farmers. In addition, it will also help to understand the behaviour of the different participants and identify the power asymmetry in the chain. Identification of the power structure on the other hand will help to understand who has what influence (governance role) and how this influence can be manipulated to upgrade the income of farmers.

#### **3.3.2. Rent and upgrading**

Ricardo uses the term *rent* to define whatever is annually paid by a farmer to his landlord for the service of the land.<sup>59</sup> Ricardo's theory of rent highlights the significant role played by scarcity. He argues that economic rent does not arise from the differential fertility of land itself but from unequal access to these resources.<sup>60</sup>

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<sup>58</sup> Morris, 2005, <http://www.ukzn.ac.za/csds/Publications/App-article-Morris.pdf> 21/05/05.

<sup>59</sup> Kaplinsky, 1998, p.10.

<sup>60</sup> Kaplinsky, 2004, p.82



Another influential work on rent was originated from Joseph Schumpeter. For Schumpeter rent may not only originate from scarcity but can arise from purposive actions.<sup>61</sup> He argues that entrepreneurial surplus can only be created and sustained by those who could innovate new products and new ways of penetrating a market in a purposeful action.<sup>62</sup> Rent can be created through competition that includes segmented markets, differentiated products, technology differences and economies of scale.<sup>63</sup> There is no equilibrium in competition because competition is a dynamic process, which changes the situation in which new product processes and new ways of marketing improved through continuous wave of innovations.<sup>64</sup>

This process of competition will bring a new entrepreneur surplus for those who innovate new combinations in the dynamic rent creation process. Those who create the new combinations continue to reap the benefits until others enter into production of the same item and are able to share the benefit by breaking the barriers to entry. A continuous wave of innovation could help the existing producers to maintain a barrier to entry. Such continuous innovation and upgrading process will change the whole scenario and what was a *producer surplus* change into *consumer surplus* due to the availability of high quality and low priced products.

From the above one can understand that rents are dynamic in nature. Rents can be appropriated from both tangible (upgrading production efficiency through, for example, technological improvement) and intangible (through winning buyers loyalty in brand name) sources. Such dynamic process results in a continuous search for new combinations, which include:

“the introduction of new machinery, replacing one product with another, the creation of a new good which more adequately satisfy existing and previously satisfied needs and the search for new markets in which an article has not been familiar and in which it is not produced.”<sup>65</sup>

In other words, rents can be generated by firms through introducing new innovations either in production processes or in marketing field or in both.<sup>66</sup> This means that firms need to upgrade their production and marketing patterns to come out as a winner in the ever-growing market competition. In other words, upgrading is an innovation to increase value

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<sup>61</sup> Kaplinsky and Morris, 2000, p. 26.

<sup>62</sup> Ibid.

<sup>63</sup> Porter, 1990, p. 20.

<sup>64</sup> Porter, 1990, p. 20., Quick MBA, <http://www.quickmba.com/strategy/porter.shtml> 11/05/05.

<sup>65</sup> Kaplinsky, 1998, p. 11.

<sup>66</sup> Hergert and Morris, 1989, p. 178.

additions.<sup>67</sup> The literature on GVC has identified four kinds of upgrading, i.e. process, product, functional and inter-sectoral.

1. *process* upgrading is: improving the internal process and achieving a more efficient transformation of inputs into outputs.
2. *product* upgrading is: moving into more sophisticated products with increased unit value.
3. *functional* upgrading is: acquiring new functions (or abandoning old ones) that increase the skill content of activities.
4. *intersectoral* upgrading is: applying competences acquired in one function of a chain and using them in a different sector/chain.<sup>68</sup>

Gibbon and Ponte (2005) point out that although the classification is helpful as a starting point, the distinction of the different types of upgrading is problematic.<sup>69</sup> For example, the distinction between product and process upgrading in the case of agricultural products is not clear. In addition, overwhelming attention is given to functional upgrading.<sup>70</sup> *Functional upgrading*<sup>71</sup> is regarded as the most optimal form of upgrading that firms and farmers of developing countries should follow.<sup>72</sup>

The above discussion poses a question on: how the discussion of rent and upgrading is relevant to the case of oilseeds business. Oilseeds is an agricultural commodity, which can only grow under certain climatic pattern and soil type. Farmers put a lot of effort and resources in the production of oilseeds. However, due to market, production practices, natural and other structural problems, farmer's share from the sell of oilseeds is very minimal. In order to increase their income share, farmers need to upgrade their production and marketing practices.

Upgrading in the oilseeds sector can take the following four forms: (1) introducing efficient production, harvest and storage practices and enhancing the quantity of oilseeds production; (2) increasing the production of high value oilseeds (oilseeds with high oil content) and maintaining the quality of oilseeds produced (example, low foreign matter, no adulteration); (3) processing oilseeds, produce edible oil and oilcake instead of selling raw

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<sup>67</sup> Giuliani, Pietrobelli and Rabelotti, 2005, p. 552.

<sup>68</sup> UNIDO, 2004, pp. 10-1; Giuliani, Pietrobelli and Rabelotti, 2005, p. 552.; Humphrey and Schmitz, 2000, pp-13-12.; Gibbon and Ponte, 2005, p.89.

<sup>69</sup> Gibbon and Ponte, 2005, p. 89.

<sup>70</sup> Ibid.

<sup>71</sup> An example of functional upgrading is: upgrading from a mere supplier position to own design manufacturer, and then to own brand holder position of a textile firm in developing country, which supply products to an industrialized countries.

<sup>72</sup> Gibbon and Ponte, 2005, p. 90.

oilseeds; and (4) creating a condition under which farmers could directly sell their products to exporters. This also generates, additional income by reducing actors (middlemen) involved in the value chain and retain the income gain that used to go to these actors.

One or more of the measures mentioned above could bring additional income. The main issue when taking an upgrading decision is to investigate which approach could bring the highest rent to farmers.

### **3.3.3. Governance**

The third important element of the value chain is 'governance'. Governance is seen as a non-market relationship, which plays a role in coordination of economic activities.<sup>73</sup> A non-market relationship can be defined as any individual's interaction, which is not governed by market forces i.e. not governed by demand and supply.<sup>74</sup>

The issue of governance is critical within the value chain because it is an important element that determines the performance and competitiveness of firms. Gereffi (1994) argues that the key actors in the value chain have an influence on the inter-firm division of labour and on upgrading the performance of the particular participants.<sup>75</sup> It means that some firms in the chain set and enforce the parameter under which others in the chain operate.

A practical example of this is the condition in which fresh vegetable producers in an African country are expected to fulfil standards and supply their products on lead-time to a supermarket in Europe. Failure to supply the fresh vegetable on time and at the expected standard will undermine the credibility of the supermarket. Therefore, the supermarket will set a standard and operation procedure so that firms producing fresh vegetable should be bound by the rules set by the supermarket. In these circumstances, the supermarket has the governance role. Another example of governance is a brand name holder of sport shoes, such as Puma or Nike, sets design and quality standards and orders manufacturers in Thailand to produce the brand name products of the desired quality and at the required time. The brand name holders received the product and distribute it along their distributional channels. In doing so the name holder is playing the governance role. Another governing body of the value chain is quality standard setting institution such as International Standard Organization (ISO). This institution gives accreditation for firms

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<sup>73</sup> Humphrey and Schmitz, 2001, p. 3.

<sup>74</sup> Glaeser and Scheinkman, 2000. p. 1.

<sup>75</sup> Humphrey and Schmitz, 2001, p. 3.

who fulfill its quality standards. The accreditation of the quality standard facilitates the sell of the product in the global market.

The GVC literature originally distinguishes broadly between two types of governance. These distinct classifications are:

- *Buyer driven*: - those chains where a buyer plays a critical governance role. These are products most often produced in a developing country under labour intensive technologies. Entry barriers for subordinate firms include advertising cost, product design, market information, etc.
- *Producer driven*: - here producers take responsibility for assisting to enhance the efficiency of their suppliers. This kind of governance is often found in high technology and capital-intensive industries where capital and property requirements are high entry barriers.<sup>76</sup>

An example of a buyer driven governance is a textile industry in a developing country, which works under strict design and material specification given by the lead firm and supply the product with specified quality and lead-time. The lead firms do not own property but decide on what to produce, when and at what cost.

A typical of producer driven governance is an automotive industry outsourcing some of its components production to smaller factories in other countries or regions. For example, Mercedes-Benz subcontracts to produce automotive parts through an agent in South Africa. According to the above classifications oilseeds fall under buyer driven governance.

In their recent work, Gereffi, Humphrey and Sturgeon (2005) identify five basic types of governance classification that goes beyond the original classification of producer and buyer driven dichotomy. These five categories of governance are:

1. *Market*: They are spot or repeated market type, they can persist over time with repeated transaction. Asset specificity is very low, hence the cost of switching to other partners is low to both sides.
2. *Modular*: Suppliers make products according to customer's specification. They finance some of the production on the part of customers. But assume full responsibility for competencies' surrounding process technology. Their technology is sufficiently generic to allow its use by a broad customer base. They make capital outlays on materials and components on behalf of customers.
3. *Relational*: In this value chain type there is complex interactions between buyers and suppliers. This often creates mutual dependency and high level of asset specificity. The asset specificity problem may be managed through building trust with repeated transaction, ethnic and family ties or other forms of social capital.
4. *Captive*: In this kind of value chain smaller suppliers are highly dependent on much large buyers. Supplier's capability is very low thus creating one-way dependency, high

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<sup>76</sup> Kaplinsky, 2004, p. 85.; Gibbon and Ponte, 2005, p.76.

level of asset specificity, high level of suppliers monitoring and high cost of switching to suppliers.

5. *Hierarchy*: Characterized by high vertical integration and low capabilities among independent suppliers.<sup>77</sup>

The theory of governance informs us that the key actors are responsible for the overall coordination, monitoring and rule setting of the value chain. Governance could help to coordinate buying and selling interactions between firms so that these interactions could be systemic rather than random.<sup>78</sup>

Understanding the governance structure of the value chain is important because it enables firms to supply standardized products required by the final market and get continuous accreditation from the governing bodies for their products and services.

In the case of the oilseeds value chain, the notion of governance is used to analyse who has what influence in the chain, what the lead firms require, and what should be done to utilize the existing condition of chain governance to upgrade the income of poor farmers. The methods mentioned in the earlier parts (section 3.3.1. and 3.3.2.) could be applied to achieve these objectives.

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#### **3.4. How to apply the value chain theory to the research question**

As indicated in section 3.3.2, the writer has a view that a positive income change to the farmers is possible in two ways. These are (a) by reducing the extended chain (reduce the number of middlemen involved in the chain) through arranging a direct supply contract with exporters and (b) adding values by processing oilseeds that used to be sold without any value addition. The two basic issues can be captured by the three key elements of the value chain discussed in section 3.3. i.e. (1) systemic efficiency (input-output structure), (2) governance and (3) rent appropriation and upgrading.

The integration of the different elements of the value chain is possible through: (i) developing an input output structure of the oilseeds value chain by using a value chain diagram; analysing the income distribution pattern and identifying the area where the highest value addition is made, (ii) identifying the existing governance structure and the most influential actors within the chain, assessing the characteristics of the actor, analysing the possibilities where income upgrading is possible through influencing the governance

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<sup>77</sup> Gereffi, Humphrey and Sturgeon, 2005, pp.82-83.; Gibbon and Ponte, 2005, pp. 81-82.

<sup>78</sup> Sturgeon, 2001, p. 3.; Kaplinsky and Morris, 2000, p. 29.

structure/actors and (iii) analysing and discussing different areas where income upgrading is possible from participation in the market chain.

### **3.5. Hypothesis**

There are two hypotheses to be derived from the above theoretical discussions and from the research question:

1. Farmer's income in the research area can be increased by processing and producing edible oil and oilcake locally from oilseeds that used to be marketed without any added value.
2. It should be possible to restructure the local oilseeds market between farmers, middlemen and exporters so that the gains from export could fairly be spread to poor farmers, for example, by developing producer cooperatives in such a way that the income share of farmers in the research area can be increased.

Accordingly, the dependent variable is farmer's income increase at the research area.

There are two independent variables:

- The first independent variable is value addition through oil processing.
- The second independent variable is spreading the gains from oilseed export to poor farmers in the research areas.

It means that if the hypothesis holds true, change in value addition and/or spreading the gains from export will bring about a positive change in the income level of the interviewed farmers.

### **3.6. Research methodology**

#### **3.6.1. Research area and sample collection**

The above theoretical conceptualisation necessitates an empirical study to test the hypothesis in a real situation. Five rural oilseeds producing Peasant Associations (lower Administrative unit), in a locality called Sedika, in Robe Woreda (District) of the Arssi Zone, Oromiya state forms the empirical basis of this research. There are three reasons for the selection of the locality. In the first place, Arssi zone in general and Sedika locality in particular are the main oilseeds-growing (particularly of linseed and noug seed) region in the country. Hence, it is assumed that the area could qualify to represent the oilseeds producing regions of the country to form the empirical basis. Second, the area was very accessible for a field research, as it has got all weather road access. In addition, it was

possible to get the support of the Robe Woreda Agricultural office to get into contact with farmers. The support facilitated the field research process.

The researcher interviewed exporters, brokers, business associations, governmental and non-governmental organizations to complete the data required to investigate the information at all levels of the value chain.

This research basically used a quantitative research gathering technique against indicators set to provide a response to the research question. A qualitative research approach was also utilised to get a better insight in the research questions and address other important issues, which could not be adequately captured by the sole application of the quantitative approach.

The researcher conducted a self-administered interview with 60 farmer respondents out of an estimated number of 1344 farmers who produce oilseeds in the area using a semi-structured questionnaire. The data represented 4.5% of the total population. A semi-structured questionnaire is chosen because it is not possible to fully capture all the possible answers that could come from the respondents with a structured questionnaire. The questions were pre-tested with a small group of respondents and corresponding adjustments were made.

The criterion used for the selection of respondents was availability. The reason for choosing this criterion is due to the fact that all villages are apart from each other with a minimum of 5 kilo meter radius from the centre. It was not practically possible to be present at each position due to distance factor and none availability of transport service. Therefore, the researcher had to find a mechanism where most respondents are accessible at a time. With the advice of the Robe Woreda agricultural office, the researcher selected a time when fertilizer and improved seeds were distributed to the farmers. This has created a chance to meet residents form every peasant association for at least two days. In effect, the interview was made with respondents who were coming at an agricultural input distribution centre to collect their annual fertilizer and selected seeds.

From the available respondents, caution was taken to maintain proportion from each peasant association. In addition, the researcher used quota-sampling techniques to maintain fair composition of different age groups and keep the gender balance of the respondents. Unfortunately, the gender balance could not be maintained due to the unwillingness of women respondents to give response to questions because of cultural barriers.

Besides farmers, the researcher also interviewed two currently operating oil presses in Sedika locality. These are the only two oil-pressing mills operating in the Sedika area. The purpose of interviewing the oil presses was to document how the oil presses are operating, what is the cost of establishing them, what challenges they face and what possibilities are available for upgrading so that we could get a lesson for our enquiry of the possibility of oil processing at local village level.

The researcher also conducted a field survey in Addis Ababa, the main terminal market for oilseeds. Here, through the support of the Ethiopian Oilseeds and Pulses Exporters Association (EOPEA), the researcher contacted and interviewed 15 exporters out of a total of 49 registered exporters by the Ethiopian Chamber of Commerce in 2004.<sup>79</sup> The sample represented 30% of the respondents.

The researcher uses purposive or judgmental sampling technique to select respondents through the advice of the EOPEA. The purpose of selecting this technique was to choose cases that are informative to the research. As a result exporters who have long years of experience, who did some research in the area, who tried different options to upgrade their export, who have their own commercial oilseeds farm and those new comers to the business were included in the interview.

The researcher also made an informal discussion with officials of the Ministry of Agriculture, Quality and Standard Authority of Ethiopia (QSAE), NGOs dealing with cooperative issues, Addis Ababa Edible oil manufacturers association, brokers and middlemen in Ehil Brenda (the biggest grain market in Addis Ababa, Ethiopia), Addis Modjjo Edible Oil Complex, etc.

Besides primary data collected through questionnaire, the researcher gathered secondary data from the Ethiopian National Bank, Export Promotion Agency, Central Statistical Authority and Customs Bureau. The author also consulted substantial secondary sources written in grain and oilseeds marketing, edible oil business and related issues. This would help the researcher to compare and contrast information gathered through primary and secondary sources.

The researcher also used secondary sources to describe macro economic situations such as total export, national production of oilseeds etc. In addition, he used secondary data

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<sup>79</sup> Ethiopian Chamber of Commerce, 2004, pp. 31-33.



sources alternatively when these sources considered to be much accurate than the primary sources.<sup>80</sup>

### **3.6.2. Overall framework of the research methodology**

The overall framework of the research methodology was organized under the following five themes: (1) prepare the necessary questionnaire, select the research sites, pre-test the questionnaire and prepare the final questionnaire; (2) investigate the production potential of oilseeds in the research area; (3) assess the oilseeds market structure, identify the main actors in the value chain and the income distribution; (4) assess the circumstances under which farmers could upgrade their marketing practices in the two cases mentioned above i.e. (4.1) in a situation where farmers could add value through production of edible oil and oilcake or (4.2) in the case where farmers change the existing market structure and are able to directly supply to exporters; and (5) assess the overall income change that could be brought to farmers, as a result of the two different strategies i.e. value addition and selling to exporters. The measurement of the above points need appropriate indicators, questions and tools. The necessary indicators and their measurement are formulated as follows:

### **3.6.3. Indicators and measurement**

#### **3.6.3.1. Mapping the input-out structure of the oilseeds value chain**

- a) *Current production of oilseeds in the research area:* identify the different type of oilseeds produced in the research area, and measure the quantity of oilseeds produced per oilseeds type. Then compare the research area's production with the national output to see the contribution of oilseeds for the research area economy.
- b) *Identify the input output structure of the oilseeds value chain:* draw the oilseeds value chain diagram and identify the flow of oilseed products and participants.
- c) *Calculate the value additions at different levels of the chain:* calculates and check where the biggest income is made and how the share of the income distribution looks like. Here the author needs to calculate value addition at two levels i.e. in the chain from farmers to exporters and in the chain from farmers to oil processors. Sells revenue, which is needed to calculate the value additions, is derived by using

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<sup>80</sup> The monthly grain price collected by the Ethiopian Grain Trade Enterprise (EGTE) is consider to be the most reliable as compared to the one collected through primary data sources because it is collected on regular basis, by a trained staff, with accurate measurement scale, in all important grain market centers of Ethiopia.

price information of oilseeds, edible oil and oilcake per unit at different levels of the chain while other costs are calculated by using secondary sources and interview with respondents at each level of the value chain.

### **3.6.3.2. Indicators for governance and upgrading**

Governance and upgrading issues have been investigated by using the following parameters:

- (a) *Which type of governance structure is prevalent in the oilseed value chain: (i.e. market, modular or network, etc.) and who plays what role? What needs to be done to utilize the current governance structure and to upgrading the income of farmers?*
- (b) *What is required in the international market: investigate what international buyers require and how it could be possible to meet the requirements. Example of such requirement could be supplying of organic oilseed products and fulfilling of other requirements (example, products with low pesticides and chemical application).*
- (c) *Income change to farmers if they supply oilseeds to exporters: measured in possible gain if farmers sell their oilseeds to exporters instead of middlemen.*
- (d) *Income upgrading through improving market information system: Assess the existing market information system and its impact on the income of farmers. Investigate areas where the market information system could be improved so that farmers could get better information about what goods are required in the market and what is the corresponding price of the same.*
- (e) *Upgrading through improving the market infrastructure and credit facilities: Investigate the existing market infrastructure and areas where upgrading is possible through improving the market structure (example, a warehouse receipt system). Assess whether there is a rural micro credit facility in the area and investigate possibilities where micro finance could make a difference to upgrade the income of farmers.*

- (f) *Income change to farmers and consumers through processing of oilseeds locally:* estimate the change in the income of farmers if farmers have the opportunity and favourable conditions to process oilseeds and sell their products to local consumer. In addition, measure the possible benefit that could be going to consumers as a consumer surplus in the research area as a result of the supply of edible oil and oilcake by newly established oil processing mills. Then compare the total demand and supply for edible oil and oilcake in the research area and outside. Evaluate whether it is possible to farmers to enter into the edible oil and oilcake business or not given the current market demand, the health standard requirements put by the government, the government policy on import of edible oil and oilcake as well as the monetization of food aid and the trend of the contraband trade in the sector.

#### **3.6.4. Methods of data analysis**

Data collected on the macro level i.e. those collected from the National Bank, Central Statistical Authority, Customs and Export Promotion Agency are analyzed using Microsoft Excel. These data sources are used to analyze the general export situation of oilseeds, production per type and volume etc. The national level data is used to compare both secondary and primary data sources and to support the argument of the writer.

The micro level data collected through self-administered interview is analyzed by using Statistical Package for Social Science (SPSS) software. Close-ended questions are entered into the programme directly while open-ended questions are categorized, coded and entered into the database.

Analyzed data from both sources are presented in the form of tables, graphs, and proportions. These output are used for interpretations and to support the writer's argument.

## **Chapter Four**

### **The Research Background**

#### **4.1. Introduction**

The purpose of this chapter is to give the research background. The chapter begins its discussion with the contribution of oilseeds for the export earnings of the country. It assesses how the oilseeds export has grown over the past years and indicates the determinants of this growth. It also provides background information about the national level oilseeds utilization for the production of edible oil and oilcake.

The chapter gives an overview of the national grain trade policies (including oilseeds) and the growing importance of the private sector participation in the oilseeds business. It discusses the role played by the private exporters and identifies the major policy and business challenges faced by the exporters. It describes the main destination of Ethiopian oilseeds export and shows the future trend of export to the different regions.

The chapter also gives an overview of the research location and discusses how farmers in the research area have responded to the national oilseeds demand. By describing the above points it lays down the research background.

#### **4.2. The contribution of oilseeds in the Ethiopian export**

For about fourteen years, (1976 to 1990) the Ethiopian grain and oilseeds market was under strict control. By law, farmers were forced to sell their products at fixed price to a government parastatal enterprise called Agricultural Marketing Corporation (AMC). The law required farmers to fulfill some quota requirement before they sell the remainder of their grain products to private businessmen.<sup>81</sup> This quota system required farmers to supply from 10 to 50% of their annual grain harvest as quota to the AMC.<sup>82</sup> Moreover, businessmen were also forced to supply 50 to 100% of their grain collection to the AMC below market price.<sup>83</sup> In addition, prices were uniform irrespective of regional variations from 1980/81 onward.<sup>84</sup>

During the same time, sole oilseeds export right was given to another government parastatal called, the Ethiopian Oilseeds and Pulses Exporting Corporation (EOPEC).<sup>85</sup> At

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<sup>81</sup> Amha, 1995, p. 101.

<sup>82</sup> Jayne, Negassa and Myers, 1998, p. 2.

<sup>83</sup> Gabre-Medhin, 2001, p. 6.

<sup>84</sup> Jayne, Negassa and Myers, 1998, p. 2.

<sup>85</sup> Bekele, 2003, p. 131.

the same measure, a large number of private oil presses were nationalized and given preferential right to get oilseeds that used to be supplied by the AMC at fixed price.<sup>86</sup>

This strictly controlled grain market structure created unfair market interaction between the government parastatal and farmers by setting official prices below producers cost. According to Amha (1994) estimation, the magnitude of producer's losses varied from 24 to 52% in two major grain products of maize and teff<sup>87</sup> respectively.<sup>88</sup> This implies that oilseeds producers were also affected by the policy and experienced a certain magnitude of producers' loss. According to the World Bank research, oilseeds played a key role in Ethiopia's export in the early 1970s, just before the reform. For instance, in 1974/75, about 79,000 tons of oilseeds were exported. The volume of export declined to 6,000 tons in 1978/79. This was primarily because the peasants gave first priority to growing basic cereal staples after the market reform in order to meet their basic food needs as their income had been highly deteriorated.<sup>89</sup>

Donors and international lenders criticized the regulated agricultural market regime pursued by the government and put condition for a loan to be effected to the country.<sup>90</sup> Due to this intensified pressure, the government enacted an abrupt and sudden market reform overnight in 1990. The following quotation is taken from the proclamation of March 1990.

“In the trade sector of the economy, the private entrepreneurs will be able to compete with state run enterprise and agriculture or industrial commodities as well as in import export trade. In the area of trade in grain products in particular, trade exchange will henceforth be conducted on the basis of free market pricing while the control situation and the quota system cease. The AMC will enter free market and operate as a state trade organization”.<sup>91</sup>

Soon after the reform, the private sector entered into inter regional and export trade with a relatively minor regulatory controls pertaining to external trade and licensing.<sup>92</sup> Despite the reform, however, Ethiopia's oilseeds export further declined in 1991/92 to just 176 tons due to the disruption of civil war in the country.<sup>93</sup> No significant recovery was registered in 1992/93 as the corresponding figure stood only 392 tons.<sup>94</sup>

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<sup>86</sup> Interview with Mr. Birru Ledi, Manager, Export Department, EGTE, August 18, 2005, Addis Ababa.

<sup>87</sup> Teff (*Eragrostis teff*) is a small tiny grain grows in Ethiopia. It is a major staple food only in Ethiopia. It is used for preparation of '*enjera*', a kind of flat round bread.

<sup>88</sup> Gabre-Medhin, 2001, p. 6

<sup>89</sup> Food and Agricultural Organization, (no page number), 1996. [http://www.africa.upenn.edu/eue\\_web/fao\\_agr.htm](http://www.africa.upenn.edu/eue_web/fao_agr.htm) 16/10/2005.

<sup>90</sup> Amha, 1995, p. 101.

<sup>91</sup> Gabre-Madhin, 2001, p. 7.

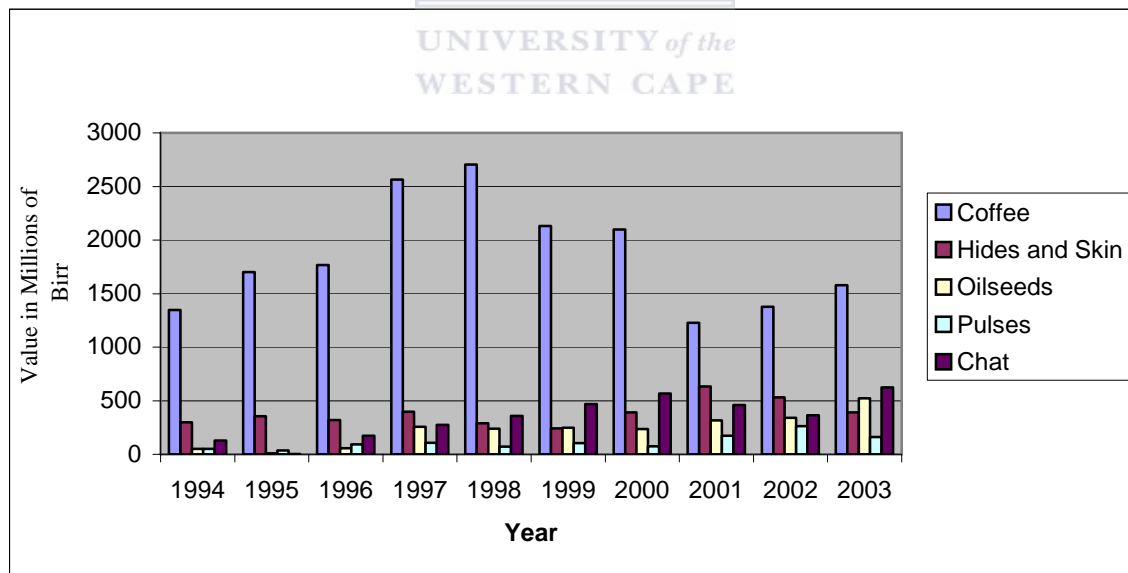
<sup>92</sup> Jayne, Negassa and Myers, 1998, p. 2.

<sup>93</sup> Ibid.

<sup>94</sup> Food and Agricultural Organization (1996) [http://www.africa.upenn.edu/eue\\_web/fao\\_agr.htm](http://www.africa.upenn.edu/eue_web/fao_agr.htm) 16/10/2005.

A significant recovery of oilseeds export took place in 1994 after the economy had undergone a full-scale economic reform in 1992. The 1992 reform was basically targeted to adjust the external and internal imbalance of the economy through trade liberalization and structural adjustment programme. In effect, a series of adjustment measures were taken consecutively. These measures included the devaluation of the Ethiopian currency birr, a tariff reduction, the simplification of import and export licensing system, the introduction of duty draw back and a foreign exchange retention scheme, preferential interest rates for exporters and others.<sup>95</sup> As part of the same structural adjustment measure, the AMC was significantly down sized and renamed as the 'Ethiopian Grain Trade Enterprise' (EGTE).<sup>96</sup> The role of the EGTE was revised to stabilize producer and consumer prices and maintain buffer stocks.<sup>97</sup> In effect, the EGTE now plays only a minor role in the grain trade of Ethiopia, opening up a wide array of opportunities for private traders and exporters. Figure 2 compares the value of oilseeds export with other four major items from 1994 to 2003.

**Figure 2: Value of export for five top commodities of Ethiopia**



Source: Ethiopian Customs Authority, 2005.

Note: 1 USD is equivalent to 8.72 Ethiopian Birr in October 28, 2005.<sup>98</sup>

<sup>95</sup> Gemechu, 2002, p. 10.

<sup>96</sup> Jayne, Negassa and Myers, 1998, p. 2.; Interview with Mr. Birru Ledi, August 18, 2005, Addis Ababa.

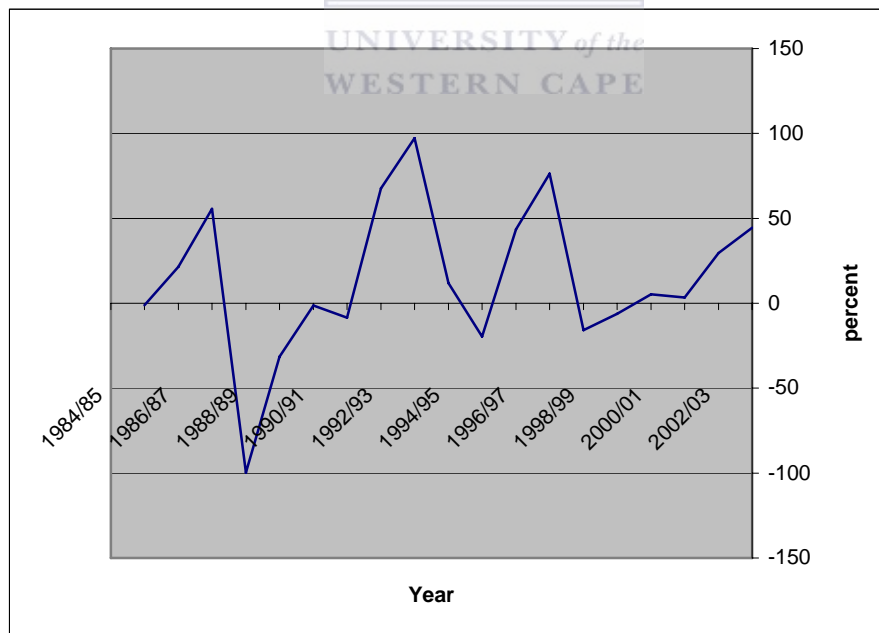
<sup>97</sup> Jayne, Negassa and Myers, 1998, p. 2.; Interview with Mr. Birru Ledi, August 18, 2005, Addis Ababa.

<sup>98</sup> Exchange rate from: <http://uk.finance.yahoo.com/currency/convert?amt=1&from=USD&to=ETB&submit=Convert> 28/10/05

As can be seen in figure 2, coffee is the major export item of Ethiopia for consecutive years. Coffee contributed for about 68% of the total export earnings of the country from 1995 to 1999.<sup>99</sup> Another important commodity item is hides and skins. This commodity has been the second most important item in terms of export value for the last 10 years. However, its contribution has declined gradually, and its second rank of importance has been replaced by the export of chat<sup>100</sup> and oilseeds since 1998 and 2003 respectively.

Except for coffee, the general growth trend of the remaining four export commodities is positive. Chat has showed a remarkable growth trend over the decade. It has replaced the third position of oilseeds since 1996. A significant increase in chat export was recorded in 1999 and 2000 and lately in 2003.<sup>101</sup> Despite some difficult years, the export of hides and skins also showed a general upward growth trend. Export of pulses also showed a positive growth but not to the level registered by chat and oilseeds. The actual growth trend of oilseeds export for the last 20 years is seen in figure 3.

**Figure 3: Oilseeds export growth trend**



*Source: National Bank of Ethiopia, database and authors own calculation, 2005*

As can be seen from figure 3 and as the World Bank above argues, oilseeds export has showed erratic growth trend over the past 20 years. It has registered a negative growth

<sup>99</sup> Fitter and Kaplinsky, 2001, p. 8.

<sup>100</sup> Chat is a stimulant leaf widely consumed by neighboring Muslim countries such as Djibouti, Yemen and Somalia.

<sup>101</sup> Gemechu, 2002, p.7.

trend for almost a decade before the reform of the grain market and the structural adjustment programme of the 1992. It has recovered since 1993 and moved upward until 1994/95. Then after, it had showed a sudden decline up until 1996/97. Again it started shooting up in 1998. However, from 1998/99 to 2001/02 it again showed a negative growth trend. The outbreak of the border war with Eritrea and the closing of the Assab port<sup>102</sup> in 1998 explain the down ward growth trend of oilseeds export over the period. Since 2002, oilseeds export is shooting upward. This can be seen from the steep slope of the line graph from 2002 onwards.

In absolute terms, oilseeds export reached its peak record of birr 712,738,000 in 2003/04 from what was only birr 7,686,000 in 1984/85 and birr 50,130,000 in 1993/94. This is equivalent to an increase of 91% over the past 20 years and an increase of more than 13% in the past 10 years.

Although the general trend of the oilseeds export is full of shock and recurrent crises, the present record of high growth in both absolute and relative terms is an indication of the growing importance of oilseeds in the export sector of Ethiopia.

This growing importance could also be seen from the share of oilseeds in the total export of the country. According to the author's calculation, on the basis of data collected from the National Bank of Ethiopia, the total share of oilseeds in the whole export earnings of the country in 1984/85 was only 2.1%. By 1994/95 the share had further declined and reached 1.8%. By 2002/03, the share had dramatically increased to 13.8%, which implies an increase of nearly 12% within 10 years.

The writer argues that the increase in the value share of oilseeds is partly due to the decline of earnings from coffee export as a result of the dramatic decline of the international price of coffee in the last few years. However, the main factors for the increase in the value earnings are the government reform of the grain market and the rising demand of the Ethiopian oilseed products in the international market.

From this general trend of upward growth, one would expect that oilseeds would continue being of crucial importance and play a bigger role in the export earning of Ethiopia. The recent negotiations between government officials and exporters in the one

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<sup>102</sup> Assab port is used to be the main exits for Ethiopian export items until the outbreak of the border war between neighboring Eritrea in 1998.



hand and the main buyers from South East Asian countries on the other hand support this argument.<sup>103</sup>

### **4.3. Oilseeds type, trade destinations and exporters**

According to the classification made by the Ethiopian Central Statistics Authority, the main grain items categorized as oilseeds are ‘noug seed’<sup>104</sup> (Guizotia Abyssinia also know as Niger seed), linseed, rapeseed, sesame seed, sunflower seed, and groundnuts.<sup>105</sup> The Ethiopian Export Promotion Agency (EEPA) followed other classification. According to the latter classification cottonseed, castor oilseeds, mustard seeds, safflower seed, and oleaginous fruit are also included in the oilseeds category. The major items in the order of importance in 2002 export data of the EEPA are sesame seed, oilseeds and oleaginous fruit, groundnuts, mustard seed, castor seed, cotton seed, rapeseed and linseed.<sup>106</sup>

According to information collected from oilseeds exporters in Addis Ababa, noug seed is the second most important export item. However, it is categorized as ‘oilseeds and oleaginous fruit’ in the EEPA classification for unexplained reason. This indicates that there is no standard classification procedure for oilseeds by government institutions and there is also lack of consistency in recording and keeping the flow of all export commodities.

Sesame seed is the most important export commodity item. It contributes for nearly 80% of the total share of oilseeds export in 2002. While other oilseeds together contribute for only 20% of the total export.<sup>107</sup>

The main destinations of oilseeds export by region are Middle East, Asia (South and South East), European Union (EU), Europe non-EU, North America and Africa.<sup>108</sup> The majority of Ethiopia’s oilseeds in 2002 was exported to the Middle East, which is about 32% of the total. The second most important destination was North America, which accounted for about 17%. EU followed by about 16%. The list export destination was East and South East Asia, which stood at about 8%.

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<sup>103</sup> A group of Chinese businessmen and government officials visited Ethiopia in May 2005. The purpose of the trip was to negotiate on trade terms and improve the oilseeds (particularly of sesame seed) export from Ethiopia to China. An Ethiopian delegation of government officials and oilseeds exporters also paid a visit to China, Japan and Korea in July 2005. The purpose was again to strengthen the oilseeds export trade ties between the respective countries.

<sup>104</sup> The English name for noug seed is ‘niger seed’. The author rather uses its Ethiopian name, noug to avoid confusion with ‘nigger’ since the seed has dark black colour. Using this word may have a negative connotation as the word ‘nigger’ is badly used to discriminate the Black Americans.

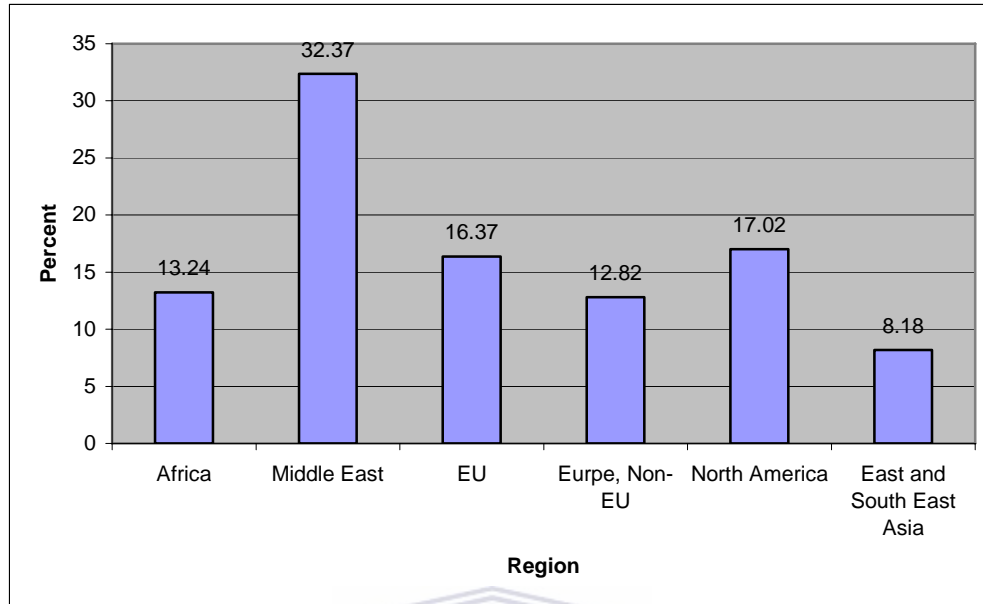
<sup>105</sup> Central Statistical Authority, 2004, p. 14.

<sup>106</sup> Data collected from the EEPA, July, 2005.

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

**Figure 4: Oilseeds export destination in 2002**



Source: *Ethiopian Export Promotion Agency, database and authors own calculation, 2005*

Ethiopian oilseeds have been exported to all regions mentioned above. According to exporters interviewed in Addis Ababa, the Ethiopian oilseeds export increased to South and South East Asia, particularly to China, Singapore and Japan market since 2002.<sup>109</sup> Progressive result has been achieved within few years from participation in these market hubs. Further trade negotiations are underway to widen up the flow of oilseeds from Ethiopia to China and Japan. Ethiopian exporters are also looking to get access to the Korean market.<sup>110</sup>

Participation in the oilseeds export was not totally banned for the private companies before the reform.<sup>111</sup> However, the export companies suffered from capital limitations<sup>112</sup> imposed by the government, shortage of supply and disruption of supply due to the civil war, which was going on the northern part of the country until 1991.

<sup>109</sup> There is no official data on the export of oilseeds since 2002 classified in regions, both from Customs Office and/or from the EEPA.

<sup>110</sup> Interview with different exporters in August, 2005, Addis Ababa.

<sup>111</sup> Interview with Mr. Awad Baobed, Owner and Manager, Omar and Awad Baobed Company Ltd, August 11, 2005, Addis Ababa.

<sup>112</sup> As the country was following strict communist regime, any private business entity was not allowed to own more than Ethiopian birr 500,000.00. This capital ceiling was removed in March 1990 economic reform.

Due to the policy change, a number of private companies have entered into oilseeds export business. There are 48 registered oilseeds exporters by 2004.<sup>113</sup> Some of the exporters organized themselves and form an association to enhance the public private partnership (PPP), to exchange information and to tackle common issues together. According to the secretary of Ethiopian Oilseeds and Pulses Exporters Association, there are 30 registered members of the association by 2005.

There was a rapid increase of new comers to the export business during the past decade. But only a few could be able to survive the intense competition that is prevalent in the sector. As a result, most new companies usually cease operation soon after they enter into the business.<sup>114</sup> This trend indicates that there is good prospect of high returns from the business and at the same time a high entry barrier to new firms coming into the trade.

#### **4.4. The contribution of oilseeds for domestic production of edible oil and oilcake**

More than 80% of sesame seed is used for export, while the highest proportion of noug seed and linseed are used for local production of edible oil and oilcake.<sup>115</sup> There is no data on how much percent of oilseeds of each type are used for local production of edible oil and oilcake. The national survey of large and medium scale oil mills by 2000 indicates that the production of edible oil was 6,579 tons with an average producer's price of 10,144.33 Birr/ton.<sup>116</sup>

A study by UNIDO Ethiopian office indicates that the total production of edible oil and oilcake was amounted to 37,250 tons (excluding products of edible oil and oilcake from cottonseed) in 2003.<sup>117</sup> Based on the UNIDO information, the author calculates that 44,880 tons of oilseeds is required to produce the stated amount of edible oil and oilcake.<sup>118</sup>

A need assessment conducted by the Ministry of Trade and Industry indicates that there was 80,389 tons of edible oil need in the country.<sup>119</sup> This is equivalent to 1.52 kg consumption of edible oil per annum per person. Out of this, the local industries cover about 37% of the need while 24% of the need is covered by import, food aid, food for work

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<sup>113</sup> Ethiopian Chamber of Commerce, 2004, pp. 31-33.

<sup>114</sup> Interview with Mr. Nigussie, secretary, EOEAA, August 22, Addis Ababa.

<sup>115</sup> Ayenew, 2004, p. 8.

<sup>116</sup> Ibid.

<sup>117</sup> UNIDO, 2003, p. 15.

<sup>118</sup> See chapter 5 for the calculation.

<sup>119</sup> Ministry of Trade and Industry, 2000, pp. 1-2.

programmes and/or contraband trade. The assessment indicates that there is an unfulfilled need of 39% or its equivalent i.e. 31,777 metric tons per annum.<sup>120</sup>

The study indicates that local industries operate only at 43% of their full capacity. But didn't mention why they run below capacity despite the fact that there is unsatisfied need of 39%. The study indicates that except the urban population and 23% of the rural coffee growing regions, the remaining 62% of the rural population's edible oil consumption is negligible.<sup>121</sup> Therefore, it was not included in the forecast.

Both edible oil and oilcake production are used for local consumption except a negligible amount of oilcake export by one of the public owned oil press enterprise called Addis Mdojjo, Edible Oil Complex.<sup>122</sup> The export amount of oilcake is not reflected in the Ethiopian Customs Authority or Ethiopian Export Promotion Agency export data. Otherwise Ethiopia is a net importer of edible oil.

#### **4.5. Description of Sedika - the research location**

Sedika is a locality found in Robe Woreda (district), Arssi Zone, Oromiya Regional State. It is located in the southeastern part of the country. It is about 262 km from the capital Addis Ababa, 137 km from the Zonal capital Assala and 37 km from the Woreda capital Robe. Sedika is connected with the Woreda, Zonal or National capitals in a gravel all weather road. Except for having year round access to road transport, other infrastructural facilities are very poor. There are no electricity, no full time telephone service, no bank service (also no micro finance) or any other social infrastructural facilities. There are also no market infrastructures such as grain stores and access to market information.

There are five peasant associations (lower administrative tire), which form the Sedika locality. According to the former communist government administrative classification, the collection of some 5 to 6 peasant association form a peasant service cooperative. The five peasant associations organized under the umbrella of Sedika locality are: (1) Sedika Atucha (2) Sedika Burka (3) Sedika Tokuchuma (4) Sedika Kersa and (5) Sedika 01.

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<sup>120</sup> Ministry of Trade and Industry, 2000, pp. 1-2.

<sup>121</sup> Ibid.

<sup>122</sup> Interview with Mr. Birhanu Desta, Technical Manager, Addis Modjjo Edible Oil Complex, September 4, 2005, Addis Ababa.

According to information gathered from the Sedika agricultural extension agents<sup>123</sup>, there were 8,347 females and 5,800 males, a total of 14,147 inhabitants in Sedika in July 2005. Of the 2,021 households in the locality, 1937 were male headed and 84 were women headed. The average family size in Sedika is approximately 7 persons per family.

The agro climatic condition of the locality is 90% weyna dega (ranges between high land and middle land) and 10% kola (low land). The altitude of the locality ranges from 1600 to 2300 meter above sea level. Both the agro ecological climatic condition and the range of the altitude provide a favourable environment for farming in the locality. Hence, Sedika has been one of grain surplus locality in the Woreda.

Agriculture is the main source of employment in the locality. The income source generated from agriculture include:

- 1) Crop farming, 80%,
- 2) Cattle rearing, 15%,
- 3) Bee keeping, 3% and
- 4) Poultry, 2%.<sup>124</sup>



Although there is no data that shows the actual distribution of employment in the locality, about 7% of interviewed farmers confirmed that they are engaged in petty trade including collection of oilseeds from farmers village and supply to the regional traders in addition to farming. They indicate that it is a common practice for those who are better off to collect oilseeds and hold on and sell it later at the year when the price is getting up.

According to information gathered from the interviewee, average land holding per household is 3.5 hectare. It means that the land holding per hectare in Sedika is better than the national average because in 2000 cropping season 87.4% of rural households in the country operate just below 2 hectares.<sup>125</sup> The main agricultural commodities produced according to their order of importance are: (1) teff (2) linseed (3) wheat (4) noug seed (5) beans etc. It was not possible to get information about the proportion of each agricultural product produced in the locality. To ease this problem, the author used data from the Robe Woreda about the volume of oilseeds production. Detail on the volume of oilseeds production of the Robe Woreda and its connotation for Sedika is discussed in chapter 5.

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<sup>123</sup> The Robe Woreda Agricultural Office has assigned three extension agents in Sedika service cooperative to give technical advice for farmers.

<sup>124</sup> Data from extension agents, Sedika, July, 2005.

<sup>125</sup> Nigatu, 2005, p. 2.

There is also no recorded data which indicates the growth pattern of oilseeds production in the area. However, about 60% of the interviewed farmers confirm that most of them shift their production from other crop to linseed because the price is attractive. According to these farmers, the price of linseed increased from 70 birr per quintal ten years ago to nearly 300 birr per quintal in 2004/05. As a result, the production volume of linseed has increased over recent years because there is a shift in production to meet the growing market need.

About 20% of farmers mentioned that they increased their linseed production over the past years because: (a) linseed doesn't require too much seed and fertilizer application, (b) it has an advantage of keeping it for years without being easily rotten, (c) the labour input required to produce linseed is very low, and (d) the new extension programme enabled farmers to produce up to 26 quintals per hectare.<sup>126</sup>

Unlike linseed, the production of noug seed has not increased in the past years. There were two main reasons mentioned by farmers. First the current average price of noug seed in Sedika is about birr 272 per quintal, while that of linseed is birr 294 per quintal, so linseed is considered as much paying than noug seed. Second noug seed yield per hectare is lower than that of linseed in Sedika, which is also true for the national average. Average noug seed production in Sedika is about 6 quintal per hectare while that of linseed is about 9.4 quintal per hectare. The national average yield per hectare is 4.26 quintal for noug and 5.11 quintal for linseed in 2003/04 production season. So linseed rewards more than noug seed in Sedika. Therefore, it is economically a rational choice if farmers produce more linseed than noug seed.

A question may be posed on the reason why farmers do not produce only linseed rather than noug seed. There are two answers given by the respondents to this question. The first reason has to do with risk aversion: if one type of crop fails for some reason the other will survive. Hence, it will reduce the vulnerability of farmers to disaster and loss of income. The second reason has to do with the retention of soil fertility by crop rotation method. This leads one to conclude that even if the returns on productions are different, for the reasons mentioned above, both linseed and noug seed products will stay on the production list of Sedika farmers.

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<sup>126</sup> Average national linseed production in 2003/2004 production season was about 5.11 quintal per hectare, National Sample Agricultural Survey, 2003/2004.

#### **4.6. Conclusion**

Oilseeds is one of the most important export commodity items of the country. Oilseeds export showed an erratic growth trend for the past 20 years due to policy problems and long years of civil war in the country. Although a substantial oilseeds export has been recorded after the economic reform of the country in 1992, such substantial growth could not be maintained. The outbreak of the border war with Eritrea and the closing down of the Assab port in 1998 were the main causes for the decline of oilseeds export.

Since 2002, oilseeds export has showed a dramatic increase. Such high growth trend is likely to be maintained in the future too. The major export destinations of oilseeds in 2002 were Middle East, North America and EU.

The share of oilseeds to the national exports earning has also increased over the past years. This is due to the decrease in the international price of coffee and the corresponding decline of value earnings from the selling of coffee. In addition, the national economic policy reform also helped to increase the role of the private sector participation and the growing importance of oilseeds in the export earnings of the country.

Oilseeds also play a substantial role in the domestic economy by serving as a main raw material for local oil processing industries. As a result it could create many jobs and could supply the nation with edible oil and oilcake.

The Sedika locality is one of the areas where oilseeds are grown in the country. In the locality, farmers produce linseed and noug seed and channel the products to the national market. Farmer's income from the selling of oilseeds has increased in absolute terms. But there is a need to investigate how the income distribution looks like and what farmers need to do to further increase their income. The next chapter looks at the value chain participants of oilseeds, the income distribution pattern among the participants and comments on what needs to be done to improve the income of farmers.

## Chapter Five

### Oilseeds Value Chain Analysis

#### 5.1. Introduction

Oilseeds is an important cash crop grown in some selected agro ecological settings. The crop is basically produced by smallholder farmers and channeled to final markets. It reached the final buyers after passing different stages. In effect different market players are involved in the value chain of oilseeds.

This chapter begins its discussion by describing the supply pattern of oilseeds in the country. It describes the annual production volume and land coverage of the different types of oilseeds. It also gives an overview of the main oilseeds growing regions of the country. The chapter estimates the national level oilseeds utilization.

Based on the above, the chapter draws up an oilseeds value chain map and describes the different market participants of the oilseeds value chain. From the input output map, it calculates the value added share of the different market participants. The value added share helps to identify the income distribution pattern of the value chain participants and used as a starting point to look for income upgrading possibilities of the primary producers in the research area.

#### 5.2. Oilseeds supply

The 2003/04 national agricultural survey of Ethiopia indicates that the country has produced 3,109,939 quintals of oilseeds in the main harvest season (meher) of the year.<sup>127</sup> The survey indicates that oilseeds constitutes for about 7% (750,000 hectares) of the total areas covered in crop and 2% (more than 3 million quintals) of the total volume of crop production.<sup>128</sup> Dassalenge, Jayne and Shaffer (1998) estimate that oilseeds contribute 5% of the total marketed quantity of grain in the 1995/96 crop year.<sup>129</sup>

Different types of oilseeds are grown in different agro ecological settings. However, the highland regions of Ethiopia are the leading production areas as compared to the lowland regions. Ayenew (2004) indicates that more than 85% of the total annual production of oilseeds originates from the highland regions of Gondar, Gojam, Shewa, Wellega, West Tigray and Arssi (where Sedika is located). The low land regions of Afar,

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<sup>127</sup> Central Statistical Authority, 2004, pp. 27-28.

<sup>128</sup> Central Statistical Authority, 2004, p. 14.

<sup>129</sup> Dassalenge, Jayne and Shaffer, 1998, p. 10.



Gambella and Somali contribute a small proportion of the oilseeds production.<sup>130</sup> Oilseed products grown in the highland regions are noug seed, linseed and rapeseed. Products grown in the low land regions include sesame seed, groundnut and sunflower.<sup>131</sup>

Noug seed, linseed and sesame seed are the three most important oilseed types in terms of area coverage and volume of production. According to the 2003/04 national agricultural survey, the three oilseed types covered 282,000, 143,000 and 91,000 hectares of land respectively. This is equivalent to 6% of the total national land covered by crop.<sup>132</sup> With regard to volume of production, the contribution of each oilseeds type is as follows: noug seed (1,190,000), linseed (774,000) and sesame seed (615,000) quintals which are nearly 83% of the total oilseed products.<sup>133</sup>

**Table 1: National level oilseeds farm land usage, production and yield per hectare**

Oil crop	Total area ('000) hectares			Total production ('000 quintal)			Yield quintals/ha	
	2000/01	2003/04	% Change	2000/01	2003/04	% Change	2000 /01	2000 /02
Noug seed	335.66	267.17	(20.4)	1,189.88	1,137.18	(4.4)	3.54	4.26
Linseed	130.52	170.69	1.0	640.52	872.75	36.3	4.91	5.11
Rapeseed	24.99	23.36	(6.5)	147.36	259.19	75.9	5.90	11.09
Ground nuts	17.20	21.05	22.38	152.10	207.17	36.2	8.84	9.84
Sunflower	10.63	6.20	(4.2)	64.66	37.63	(4.2)	6.08	6.07
Sesame	42.37	89.41	5.0	188.78	596.01	216.0	4.46	6.67
Total	561.37	577.88	2.9	2383.30	3109.94	30.5	-	-

Source: Agricultural Sample Surveys, 2000/01 and 2003/2004, Central Statistical Authority.

Table 1 indicates that cropland covered by oilseed products increased by 2.9% from the 2000/01 crop season to 2003/04, while production increased by 30.5% in the same season. Favorable weather condition and good crop protection from insect infestation could

<sup>130</sup> Ayenew, 2004, pp. 1-2.

<sup>131</sup> Ibid.

<sup>132</sup> Central Statistical Authority, 2004, p. 14.

<sup>133</sup> Ibid.

explain this increase. The recent increase in the price of oilseeds may be one additional factor, which encourages farmers to increase the size of land used for oilseeds production.

In 1996, 55% of grain products of the country (including oilseeds) were dispatched to the Addis Ababa market.<sup>134</sup> The remaining 45% was channeled through other regional markets like Nazareth, Bahr Dar, Gondor, etc.<sup>135</sup> A contingent analysis conducted by Dercon (1995) using the price in Addis Ababa as a reference, indicates that an increased number of regional markets became linked to the Addis Ababa market shortly after liberalization.<sup>136</sup> As a result the Addis Ababa market is serving as a clearinghouse for grain (including oilseeds) in Ethiopia.<sup>137</sup>

In the same way, oilseed products of Sedika are channeled from the farm site to the Addis Ababa or Nazareth terminal markets. There is no recorded data about the total production and cropland coverage of oilseeds in Sedika. It was also not possible for the researcher to estimate the land coverage and product volume of oilseeds during the field survey due to the vast size of the locality. Hence, the author used data sources from Robe Woreda to demonstrate the supply trend of oilseeds from Sedika. It can be assumed that since Sedika is the number one oilseeds production locality in the Woreda, the result shown in Robe is partly a reflection of the reality in Sedika.<sup>138</sup>

Table 2 shows actual cropland coverage and volume of oilseeds production in the Robe Woreda for the two main oilseed products grown in the area in the last three years.<sup>139</sup>

As it can be seen from the table, total cultivated land to produce oilseeds increased from 5935 hectares in 2002/03 to 6094 in 2003/04 and to 6140 hectares in the 2004/05 crop season. This is an increase of 2.4% and 0.75% respectively.

With regard to annual production, total harvest declined from 51,207 in 2002/03 to 47,098 quintals in 2003/04 and lately increased to 53,359 quintals in 2004/05. This is equivalent to a decrease of production by 8% in 2003/04 and an increase by 13.3% in the 2004/05 crop seasons. The main reason for the decrease of production despite an increase in land coverage is probably due to unfavorable climatic conditions or to crop infestation by diseases.

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<sup>134</sup> Tirfe and Abrham, 1998, p. 224.

<sup>135</sup> Ibid.

<sup>136</sup> Gabre-Madhin, 2001, p. 9.

<sup>137</sup> Gabre-Madhin, 2001, p. 2.

<sup>138</sup> Interview with Mr. Aychluhim, Robe Woreda Agricultural Office Representative, Robe, June, 2005.

<sup>139</sup> Noug seed and linseed are the two main oilseed types grown in Robe Woreda. Therefore, data is available for the two products only.

**Table 2: Robe Woreda oilseeds cropland coverage and volume of production**

Oilseed type	2002/03		2003/04		2004/05	
	Crop area in hectare	Volume in quintal	Crop area in hectare	Volume in quintal	Crop area in hectare	Volume in quintal
Noug Seed	988	4935	988	5928	992	5952
Linseed	4965	46272	5106	41170	5148	47407
Total	5953	51207	6094	47098	6140	53359

*Source: Robe Woreda agriculture office, July 2005*

Linseed contributes for 88.8% of total oilseeds production while the remaining balance is covered by noug seed in the 2004/05 crop season. This confirms that linseed is the most favored product by both Sedika locality and for the Robe Woreda farmers.

### **5.3. Oilseeds utilization**

#### **5.3.1. Home based consumption**

Limited proportion of Ethiopia's oilseeds is used for home consumption in different forms. There is no official data regarding the magnitude of oilseeds consumption at home level. However, from the level of export and local consumption of oil pressing mills, one could estimate that the magnitude of oilseeds used for home consumption is not that significant.

#### **5.3.2. Oil processing**

There is no official figure on how much quantity of oilseeds is utilized by domestic industries for the production of edible oil and oilcake. Hence, the author made his own estimate from different data sources. The estimation was made based on the following information. According to the United Nation Industrial Organization (UNIDO) Ethiopia's office estimation, public and private companies produced 50,000 tons of edible oil and oilcake per annum.<sup>140</sup> Out of this, the contribution of public companies is 25,000 tons, while private oil presses cover the remaining balance. Public companies produce 51% of their output from cottonseed, while private companies use other oilseeds type only. Hence, if we deduct 51% from the share of public companies, we get,  $25,000 - 12,750 = 12,250$  tons

<sup>140</sup> UNIDO, 2003, p. 15.

of edible oil and oilcake made of grain (excluding cottonseed) oilseeds by public companies.<sup>141</sup>

Hence, total annual production of edible oil and oilcake from grain oilseeds (i.e. noug seed, linseed, sesame, etc., but not cotton seed) by both the private and public companies is estimated to be:  $25,000+12,250 = 37,250$  tons. It is assumed that 37,250 tons of oilseed is produced from X amount of oilseeds crushed by local industries.

If we deduct 13% of X for impurity (that is deduction for cleaning before oil pressing) and 5% of X for industrial waste (final residual from the process) then we get.<sup>142</sup>

$$37,250 = X - 0.17X$$

$$37,250 = X (1 - 0.17),$$

$$X = 37,250/0.83, \text{ therefore,}$$

$X = 44,880$  tons (total oilseeds used as a raw material by private and public industries).

Accordingly, the national estimated oilseeds consumption of private and public companies will be **448,800** quintals as derived from the calculation above. This is approximately equivalent to 19% of the total national oilseeds production in 2000/01.<sup>143</sup>

But one should note that significant proportion of edible oil and oilcake is produced by small enterprises operating in different regions without getting license and registration. The UNIDO estimate doesn't take this into consideration. So the actual amount of oilseeds consumed by local industries (formal and informal together) is much greater than 19% of the national oilseeds production.

### 5.3.3. Export

The total volume of oilseeds export in 2001 was 754,542 quintals.<sup>144</sup> This was equivalent to 32% of the total national production of 2000/01.<sup>145</sup> If we add this figure to the one consumed by the public and private companies, we get a total utilization of **1,203,342** quintals ( $448800 + 754542$ ), which is approximately equivalent to 51% of the whole national output. The remaining 49% could be used for seed by farmers, for home based consumption or for local informal oil processing.

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<sup>141</sup> According to Central Statistical Authority, cottonseed is not classified as oilseed because it is considered as a byproduct of cotton plantation rather than a main seed planted for the purpose of getting edible oil and oilcake products, See the agricultural sample survey, 2003/04.

<sup>142</sup> The estimate for impurity and industrial waste were taken from information during interview with exporters and Addis Mojdo edible oil factory technical manager, August 2005, Addis Ababa.

<sup>143</sup> The 2000/01 data is purposely taken to match it with the UNIDO publication of 2003.

<sup>144</sup> Ethiopian Customs Authority, 2005.

<sup>145</sup> Calculated from Ethiopian Customs Authority and Central Statistics Authority data, 2005.

## **5.4. Oilseeds value chain**

Smallholder farmers of Sedika grow linseed and noug seed as a cash crop. The oilseed products pass through the different phases of production, processing, marketing, and final use by consumers. The actual map of the input-output structure of the oilseeds value chain originated from Sedika is presented in figure 5.<sup>146</sup>

It was not possible to produce results on what proportion of oilseeds are channeled from one market node to another (for example, what proportion of farmers sell to regional trader, service cooperatives, etc.) due to two main reasons. First, it was not possible for the researcher to go and ask every market participant about the proportion he/she sells to the different market nodes due to time and space limitations. Second, it was not possible to produce the result from secondary source because the available secondary sources are presented as a package for grain products as a whole.<sup>147</sup> However, oilseeds have a different market nature than other grains. Therefore, it may be misleading to directly use from the available secondary sources. A description of the different participants of the market chain and the input output structure is presented in the following sub-sections.

### **5.4.1. Oilseeds producers**

Farmers need agricultural inputs such as fertilizer, improved seeds and pesticides to produce oilseeds. Hence, the value chain of oilseeds starts when the farmers (producers) purchase agricultural inputs. By applying their labour, capital, land and technology, they produce a certain quantity of linseed and noug seed out of a given plot of land.

Producers sell their products to different market nodes, which include regional traders, local collectors, private households (consumers) and service cooperatives.

During the transaction, they negotiate on quality and price of the oilseeds with buyers but have little bargaining power. In most cases farmers are told the market price of the day and sell the product according to the offer given to them by the regional traders.

### **5.4.2. Assemblers (Local collectors)**

Rural assemblers (local collectors) buy oilseed products from farmers in the village to resell it later. Rural assemblers are farmer traders who usually are better off in terms of

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<sup>146</sup> Value chain diagram visualizes the different phases that a commodity passes from conception to final use and disposal. In the literature one generally finds pictorial presentation in a different ways as it is seen in figure 1 and 5.

<sup>147</sup> See for example, Dessalegn, Jayne and Shaffer, 1998, p. 10.

income than the average farmer. In most cases they are independent, but in some cases they can also act as agent for regional traders on commission basis.<sup>148</sup>

### **5.4.3. Regional traders**

Regional traders are usually stationed in local markets like Sedika. They purchase oilseeds from farmers or assemblers based on the price information they get from brokers. They store the oilseeds for some time (usually one to two months) before they sell it to the terminal markets either in Addis Ababa or Nazareth. Regional traders usually sell their products to exporters, wholesalers, local oil presses or price speculators.<sup>149</sup>

### **5.4.4. Service cooperatives**

Service cooperatives were established during the 17 years communist rule of Ethiopia that ended in 1991. They served as a government instrument to implement the communist ideology in rural Ethiopia. They were also used as a grain collection center for the previous government parastatal AMC, which was responsible for the marketing of grain products before the 1990 economic reform. After the change of the communist government, the role of the cooperatives was limited to distribution of agricultural inputs.

Recently, service cooperatives start collecting grains from farmers and selling to potential buyers in the terminal markets. This is assumed to bring better income for farmers as it reduces the number of market participants in the chain. Service cooperatives collect oilseeds from farmers and sell to oilseed processors, exporters and to wholesalers.

### **5.4.5. Brokers, wholesalers and price speculators**

#### **5.4.5.1. Brokers**

According to Gabre-Madhin (2001) brokers are commission agents usually stationed in the terminal markets.<sup>150</sup> Brokers inspect quality and play a mediation role in market negotiation between buyers and sellers and finally take a decision on the daily market-clearing price after they hear the views of buyers and sellers.<sup>151</sup>

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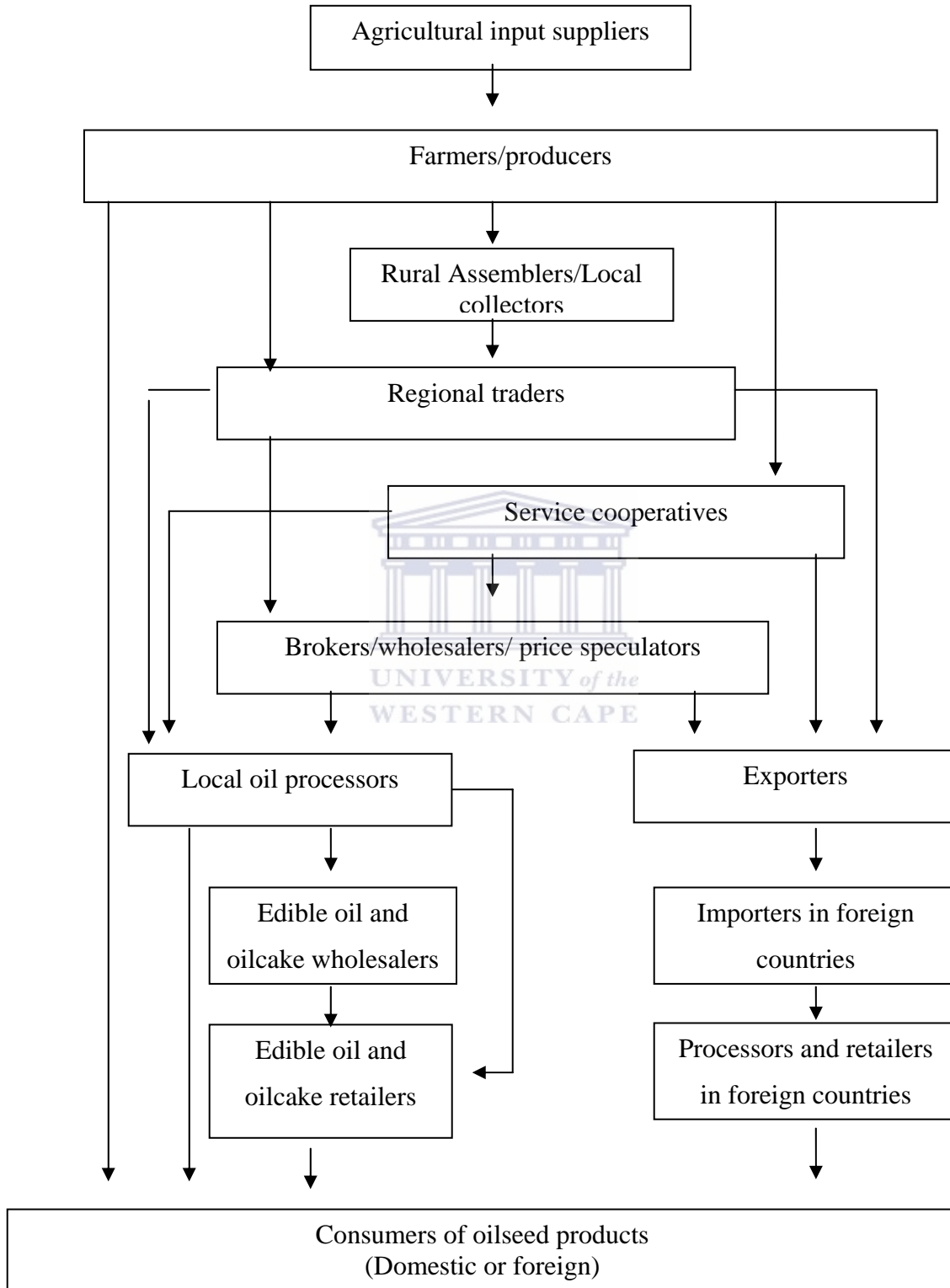
<sup>148</sup> Dessalegn, Jayne and Shaffer, 1998, pp. 8-9.

<sup>149</sup> Price speculators are traders who purchase a large volume of oilseeds with the expectation that it will increase in price some time in the end of the harvest season.

<sup>150</sup> Gabre-Madhin, 2001, p. 14.

<sup>151</sup> Ibid.

**Figure 5: Oilseeds value chain**



*Source: Author's own research, 2005.*

They also provide information on the market price of the day to regional traders before the later transport their oilseeds to the terminal markets. Based on the information they get, regional traders either delegate brokers to sell their oilseed products on behalf of them or go personally to the market place to handle the transaction. If regional traders are not present in person, then brokers sell the oilseeds on behalf of them. Brokers get birr 2 per quintal for their service.<sup>152</sup>

#### **5.4.5.2. Wholesalers**

Wholesalers are traders who are stationed in the terminal markets. They usually buy grain products from regional traders and service cooperatives with the purpose of reselling it later. Wholesalers also serve as a broker in the terminal markets besides their wholesale business. Unlike other grain products, the role of wholesalers in the oilseeds market is very limited because most regional traders deliver their oilseed products either to exporters or to local industries directly through the service of brokers.<sup>153</sup>

Usually, wholesalers purchase oilseeds during the harvest seasons when the market is flooded with new oilseed products by competing with exporters and local industries. Since wholesalers are also working as broker, they depend on the income they get as a commission during low supply seasons.

#### **5.4.5.3. Price speculators**

Price speculators are people who were in the oilseeds business before or are new comers who look into the past years price performance of the oilseeds. There is no boundary to determine who is a price speculator. Wholesalers, regional traders, local collectors and new entrants to the business could purchase large volumes of oilseeds with the speculation that they would sell it at a better price later.

Dessaleng, Jayne and Shaffer (1998) estimate that between January and March, grain traders buy about 51% of their yearly supplies. The volume purchased during the remaining 9 months of the year account for only 49% of the total sell, i.e. October-December (26%), April-June (15%), and July-September (8%) respectively.<sup>154</sup> This indicates that more than half of the total supply is purchased during the three months of the harvest season. It also indicates that prices would increase later in the year as a result of

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<sup>152</sup> Interview with Mr. Mesfin Abera, Mr. Genene Debele, Mr. Seyum Techane, brokers, Nazareth, July 26-27, 2005; and Mr. Arebu Mohamed, broker at Ehil Brenda, August 8, 2005, Addis Ababa.

<sup>153</sup> Interview with Mr. Arebu Mohamed, August 8, 2005, Addis Ababa.

<sup>154</sup> Dessalegn, Jayne and Shaffer, 1998, pp. 14-15.



supply shortfall after the three months of the harvest season, which would encourage many speculators to purchase and store large volume of oilseeds in the harvest season. According to exporters, large volume of 2004/05 sesame seed was purchased by speculators and held on until August 2005. This trend has created market distortions by creating artificial supply shortages.<sup>155</sup>

In general speculators emerge as influential actors in the oilseed business. Some of them get great profits from the erratic price trend, while others make a great loss when their speculation goes wrong.

#### **5.4.6. Local oil processors, wholesalers and retailers**

Local oilseed processors are entrepreneurs who press oilseeds and produce edible oil and oilcake out of it. Then they supply their products to wholesalers or retailers.<sup>156</sup> Wholesalers distribute edible oil and oilcake to retailers. Retailers in turn sell the edible oil and oilcake to consumers. Some small-scale oil presses could sell their products directly to local consumers.

There are about 8 public owned high capacity oil presses and several small-scale factories in the country.<sup>157</sup> As indicated in chapter 4, private and public oil presses operate only at 43% of full capacity.<sup>158</sup> The main reason for the under capacity operation of local industries is the shift in the preference of consumers from locally produced edible oils to imported ones due to the following factors.<sup>159</sup>

First, food aid imported by the United States Agency for International Development (USAID) and the World Food Programme (WFO) are sold in the local market at auction in a monetization programme.<sup>160</sup> According to the Addis Ababa Edible Oil Owners and Producers Association, this monetization programme created entry barriers for local industries because it is sold on auction basis without taking into consideration the production cost of local industries.<sup>161</sup>

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<sup>155</sup> Interview with Mr. Awad Baobed and Mr. Elias Genete, Manager, Agro Promotion, International August 11, 2005, Addis Ababa.

<sup>156</sup> Usually high capacity oil presses like the Addis Mdojjo Edible Oil Complex distribute their products through wholesalers while small-scale oil presses distribute through retailers.

<sup>157</sup> Addis Modjjo Edible Oil Complex, 1996, p. 5.

<sup>158</sup> Ibid.

<sup>159</sup> Imported vegetable edible oil is available at birr 7 per kg, while edible oil produced locally is sold from birr 9.9 to 12, Ayenew, 2004, p. 9.

<sup>160</sup> monetization – is selling of agricultural commodities, generally given as food aid, to obtain foreign currency, <http://www.futureharvest.org/about/glossary.shtml> 09/11/05.

<sup>161</sup> Interview with Mr. Mulugeta Tsegaye, Board Chairman, Addis Ababa Edible Oil Owners and Producers Association, August 26, 2005, Addis Ababa.

A study commissioned by the USAID Ethiopian office rejected the above statement by arguing that the monetization programme is handled through a monetization management unit in a way that it wouldn't affect the competitiveness of the local industries.<sup>162</sup> The government assessment to understand the impact of the monetization programme on the other hand indicates that there is an unsatisfied need of 37% even after the monetization programme.<sup>163</sup>

The writer has view that the selling of the free donations in the national market could have a negative impact on the growth of national industries. However, since Ethiopia is a food insecure country, the import of free food aid is inevitable. Once the food aid is coming to the country, it is much better to monetize it and use the money for relief and development activities rather than freely distributing it because free donations creates dependency syndrome. However, any monetization programme needs to be administered so that it does not have a negative impact on the growth of local industries.

Because of the limited information, the author couldn't prove the negative impact of the monetization programme. It is recommended that the actual effect of the programme needs further investigation.

Secondly, large volumes of edible oil are also imported through illegal contraband trade and sold at a lower price (below the production cost of local industries).<sup>164</sup> The contraband trade creates unfair competition for the local industries because it is supplied to consumers without paying tax while the majority of local producers pay all kinds of taxes (income tax, value added tax) levied by the government.<sup>165</sup>

#### **5.4.7. Exporters**

Exporters mainly get oilseeds from regional traders with the assistance of brokers and transfer it to buyers in the importing regions such as EU, the Middle East and North America.

In an interview, exporters claimed that the price they pay to the oilseed products in the local market is governed by the international price because there is high competition among the exporters themselves to get products to fulfill export orders.

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<sup>162</sup> USAID Ethiopia, 2005, p. 24.

<sup>163</sup> Ministry of Trade and Industry, 2000, pp. 1-2.

<sup>164</sup> Interview with Mr. Mulugeta Tsegaye, August 26, 2005, Addis Ababa.

<sup>165</sup> Agridev, (undated), p. 15.; Interview with Mr. Mulugeta Tsegaye, August 26, 2005, Addis Ababa.

#### 5.4.8. Local consumers

Consumers are the final users of oilseed products. Consumers include people who are using oilseeds and oilseed products such as unprocessed oilseeds for home consumption, edible oil or oilcake. Local consumers get their oilseed products from farmers, edible oil and oilcake retailers or oil pressing mills.

#### 5.5. Value addition along the chains

##### 5.5.1. Value addition along farmers to exporters chain

Table 3 shows the value addition and profit of market participants on linseed and noug seed products originated from Sedika and exported to foreign countries. The table gives the selling price of each market participants, the cost of production or marketing and the percentage of profit and value additions at different steps of the exchange. The value added and profit calculation in this part, regards the chain from farmers to exporters level only.

Noug seed and linseed are selected because these are the main oilseed types grown in Sedika. To calculate the values at different nodes, the author used price and cost information from his field assessment in Sedika, Addis Ababa wholesale price from EGTE and exporters free on board (FOB) price at the port of Djibouti from exporters.<sup>166</sup>

**Table 3: Value added along the chain from farmers to exporters 2004/05 in birr<sup>167</sup>**

Market actors and product type	Cost <sup>168</sup>	Selling price	Profit	% of profit to total profit	% to total value added
Farmers					
- Noug seed	119	273	154	80.6 %	68.1%
- Linseed	119	295	176	93.1%	73.9%
Regional traders					
- Noug seed	293	325	32	16.7%	1
- Linseed	315	320	5	2.6%	3.0%
					6.3%
Exporters at FOB					
- Noug seed	396	401	5	2.6%	19.0%
- Linseed	391	399	8	4.2%	19.8%

Source: EGTE, *Free market grain prices 2004/2005* and author's own calculation

<sup>166</sup> FOB price are the conditions where the goods are placed on board to the vessel by the seller at the port of shipment as specified in the sells contract. After the shipment, the risk of loss and/or damage is transferred to the buyer.

<sup>167</sup> The writer adopted this method of calculating value addition along chains from Kaplinsky and Morris, 2000, pp. 53-54.

<sup>168</sup> The service fee for brokers is included in the cost of the regional traders.

As it can be seen from the table, producers get 80.6 and 93.1% of the final price paid by the international buyers of noug seed and linseed for one quintal respectively. Regional trader's share of the same is 16.7 and 2.6%.<sup>169</sup> Exporters get only 2.6 and 4.2% of the payment for both products respectively.

With regard to percentage share from the total value additions, producers get 68.1 and 73.9% of the total value additions for the two oilseed types respectively. Regional traders get 13.0 and 6.3% while exporters get 19.0 and 19.8% respectively. In the case of noug seed the exporters contributed to 19% of the total value added, but claimed to make only 2.6% of the profit. A similar pattern emerges with regard to linseed. This entails that exporters earn very small proportion of the final price of the oilseed products because of the low mark up value.<sup>170</sup> But in actual birr terms they get a higher profit because they have high turn over as compared to farmers and regional traders.<sup>171</sup>

This can be seen from the fact that on average one exporter sells 8,944 quintals of oilseeds per annum, while a farmer in Sedika produce and sell up to 14 quintals of oilseeds.<sup>172</sup> Table 4 compares the actual profit share of farmers and exporters.

From table 4, one could observe that there is a skewed income distribution to the side of the exporter. An average exporters could get up to birr 58,136 per annum from the oilseeds business while an average farmer in Sedika could only get birr 2,310 per annum.

**Table 4: Actual value added along the chain from farmers to exporters in birr**

Market actors	Average profit from both oilseeds per quintal	Total volume per year in quintal	Actual yearly profit per farmer or exporter
Farmers	165.0	14	2,310
Regional traders	18.5	n.a. <sup>173</sup>	n.a.
Exporters	6.5	8944	58,136

*Source: Author's own calculation based on information from table 3*

<sup>169</sup> The reason for the less percentage of value addition of noug seed by regional traders is due to the fact that noug seed originated from Sedika have not much value/demand than linseed in the terminal markets.

<sup>170</sup> Mark up is the excess of the selling price of a product over the cost of making or buying it, John Black, Oxford Dictionary of Economics, 197, p. 293.

<sup>171</sup> Kaplinsky and Morris, 2000, pp. 78-79, wrote that mark up value depends on the size of the turnover. For example, supermarkets may have low mark up but higher profit given the size of their turn over.

<sup>172</sup> Information gathered from the field data, 2005.

<sup>173</sup> n.a. means data not available.

Data was not available about the average volume of oilseeds traded by regional traders. But clearly the turn over of a regional trader could be much higher than that of a farmer.

### **5.5.2. Value addition along farmers to oilseeds processors chain**

In his attempt to calculate value added along farmers to processors chain, the author had difficulty of getting consistent and reliable information about the oil content of oilseeds because different places of origin of oilseeds have different oil contents. In addition, different oil press machines have different oil squeezing capacity.

To resolve the problem the author went to Nazareth, where part of the oilseeds originated from Sedika is processed. He had a group discussion with brokers in Nazareth and investigated the average oil content of the oilseeds, the crushing capacity of average oil pressing machine and the wholesale and retail price of different types of edible oil and oilcake.<sup>174</sup> Brokers were chosen as a reliable informant because it is assumed that they know better about the price trend of the oilseeds and oilseed products since they coordinate every transaction of oilseeds and oilseed products (edible oil, oilcake).

It was not possible to get the actual cost of production of edible oil and oilcake for oil press mills and retailers due to shortage of data. Hence, the writer estimates that 95% of the cost of producers and retailers are used for purchase of raw material (example, oilseeds used as a raw material) while 5% of the cost is used for running cost, like the cost for salary, electricity, tax etc. and marketing.<sup>175</sup> Based on this assumption, the author calculates the profits and value additions made by different players in the market. Table 5 presents the result.

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<sup>174</sup> Discussion with Mr. Mesfin Abera, Mr. Genene Debele, Mr. Seyum Techane, July 26-27, 2005, Nazareth.

<sup>175</sup> Calculation based on the information from Sedika locality oil press owners indicate that 95% of the total cost is used for purchase of raw materials while 5% of the cost is used to cover other expenses.

**Table 5: Value addition from farmers to oilseed processors chain in birr**

Value added chain	Noug seed					
	Volume (kg)	Total price	Cost	Profit	% of profit on final price	% to total value added
Farmers	100	273	119	154	57.2%	61.2%
Regional traders	100	325	293	32	11.9%	11.7%
Producers/wholesalers	-	411	342	69	25.7%	19.3%
- Edible oil	33	363	-	-	-	-
- Oilcake	53	48	-	-	-	-
Retailers (total)	-	446	432	14	5.2%	7.8%
- Edible oil	33	396	-	-	-	-
- Oilcake	53	50	-	-	-	-
Total	-	-	-	269	100%	100%
Value added chain	Linseed					
Farmers	100	295	119	176	80.7%	76.2%
Regional traders	100	315	320	5	2.3%	5.2%
Producers/wholesalers	-	353	331	22	10.1%	9.8%
- Edible oil	32	288	-	-	-	-
- Oilcake	54	65	-	-	-	-
Retailers (total)	-	387	372	15	6.9%	8.6%
- Edible oil	32	317	-	-	-	-
- Oilcake	54	70	-	-	-	-
Total	-	-	-	218	100%	100%

Source: Author's own calculation based on the information collected from brokers in Nazareth, the field survey in Sedika and EGTE for regional traders price<sup>176</sup>

As stated above, profits are based on the volume of the turn over and not merely on the mark up value. Hence, it is not possible to conclude that the one with highest mark up value gets the highest profits without calculating the cost and the volume of the turn over. To calculate the actual profit, we assume that an average small-scale oil press machine can crush 45 quintals per 24 hours of oilseeds and operates for 26 working days per month.<sup>177</sup> As indicated earlier, oil press machines in Ethiopia are operating at 43% of full capacity

<sup>176</sup> The writer assumes that the Addis Ababa regional traders price is almost equal to Nazareth price, as the two cities are close to each other and are highly integrated. As a result the writer uses the Addis Ababa regional traders price as recorded by the EGTE for the analysis above.

<sup>177</sup> Please see chapter 6.

only. Based on these assumptions, table 6 compares the amount of actual profits that could be made by the market participants.

**Table 6: Actual value added along the chain from farmers to processors in birr**

Market actors	Average profit from both oilseeds per quintal	Production per year in quintal	Actual profit per year
Farmers	165.0	14	2,310
Regional traders	18.5	n.a.	-
Processors	45.5	6037	27,468
Retailers	14.5	n.a.	-

*Source: Author's own calculation, based on information from the field survey*

From table 6 we can see that an average farmer can only get an actual profit of birr 2,310 per annum, while a small scale oil press enterprise which is operating at only 43% of its full capacity could make an annual profit of birr 27,468. The next section considers the conclusions that can be drawn from the above discussions.

## 5.6. Conclusion

There is an extended value chain structure as shown in figure 5. From the figure one can see that oilseed products of farmers channeled through a maximum of 5 to 6 market participants before it reaches to the final consumers. Gabre-Madhin (2001) indicates that it is common practice to change the sacks in which the grain is transported when change of ownership is made during each transaction along the chain.<sup>178</sup> This involves high labour costs to load and unload products and transport them from one store to another. The costs that are incurred as a result of this could be minimized through reducing the number of participants in the chain. So it is worth investigating the possibilities of changing the market structure so that the extra costs could be removed and the primary producers could get a better market gain.

With regard to the income distribution, it is indicated that a large share of the value gain from export is going to exporters due to the high volume of their exchange. It may not be realistic to change this market share in the short run, as exporters are the business unit

<sup>178</sup> Gabre-Madhin, 2001, p. 16.

with highest market power. But still there are other areas of opportunities through which farmers could increase their gains from the market share.

In the same vein, the research confirmed that the highest benefit coming out of the oilseeds processing is going to oil pressing mills as it is reflected in the highest actual market profit they get. Now the basic issue is: is it possible for farmers to do the same and command a better income? The next chapter will investigate the questions raised further.





## **Chapter Six**

### **Governance and Upgrading in the Oilseeds Value Chain**

#### **6.1. Introduction**

The discussions in this chapter are divided into two major parts. Part one comprises of sections 6.2 to 6.7. This part begins with an investigation of the existing governance structure of the oilseeds value chain. This should help the researcher to understand the structure of the oilseeds value chain and the possible areas where income could be upgraded through changing the governance structure. In this part the research also discuss other possible areas of income upgrading other than those mentioned above. It identifies and discusses five possible areas which could help to upgrading the income of farmers. Finally it describes the collective actions required to achieve the indicated income upgrading possibilities.

Part two of the chapter consists of section 6.3. This section calculates the investment cost required to establish a modest oil-pressing mill which could work under rural settings. It also calculates the profit and loss statements that could be brought through running such rural oil press establishment. Based on the profits and loss statement, the chapter calculates the producers and consumers surplus that could be generated.

After calculating the producers and consumers surplus it considers the existing trade, regulatory and institutional frameworks that influence the oil processing business. Based on the discussions it gives recommendations on the feasibility or not of running an oil processing business at farmers level.

#### **6.2. Governance and income upgrading from export**

##### **6.2.1. Market governance**

The following questions were addressed to farmers and exporters to understand the current oilseeds value chain governance structure: (1) ‘from whom are you buying and/or for whom are you selling your oilseed products?’ and (2) ‘who is setting the price?’ Table 7 summarizes farmer’s and exporters responses to the first question: Respondents gave more than one response, hence the sum would be more than 100%.

**Table 7: For whom are you selling (question addressed to farmers) and/or from whom are you buying oilseeds (question addressed to exporters)**

Sell to / buy from	Farmers	Exporters
Regional traders (middlemen)	100%	100%
Exporters	0%	n.a. <sup>179</sup>
Oil processors	0%	n.a.
Service cooperatives	27%	47%
Private households	8%	n.a.
Farmers	n.a.	0%

*Source: Interview with farmers, July 2005, interview with exporters August 2005*

*Number of respondents (n)= 60 farmers and 15 exporters.*

The result indicates that all farmers sell their products to regional traders (middlemen). Out of all, 27% of them sell to cooperatives and 8% sell to private households as well. No farmer sells to exporters or private oil presses. This means that the market forces coordinate the oilseeds exchange. There are no arrangements of trade relations between farmers and exporters or farmers and local oil processors. There is no farmer who depends on one buyer only. This means that farmers can shift their sells from one regional trader to another or to another services cooperative without much switching cost.

Responding to the same question, all exporters said that they bought oilseeds from regional traders (middlemen). In addition, 47% of exporters said they bought from both middlemen and service cooperatives. No exporter bought oilseeds from farmers.

This means that exporters also can shift their purchase from one middleman to another or from middlemen to cooperatives. The cost of switching from one source to another is not high. This also shows that oilseeds business is coordinated based on market exchange.

Generally all market players are not dependent on one another. There is a possibility for farmers to sell their products for whoever offers the highest price. This action of farmers doesn't affect their future sell. Exporters are also free to buy their products from whomever

<sup>179</sup> n.a. Means not applicable or data not available.

they want. They can periodically change their suppliers without fearing retaliation from the latter in future supply of products.

Table 8 presents summary of farmers and exporters responses to the second question, ‘who is setting the price of oilseeds? Both farmers and exporters gave more than one response to the question. Hence, the sum could be again more than 100%.

**Table 8: Who is setting the price of oilseeds in the local market?**

Who is setting the price	Farmer	Exporter
Farmers	7%	20%
Regional traders (middlemen)	93%	67%
Service cooperatives	13%	0%
Brokers	0%	40%
Exporters	0%	27%
Government	0%	0%
International buyers	0%	33%

*Source: Interview with farmers, July 2005, interview with exporters August 2005*

*Number of respondents (n)= 60 farmers and 15 exporters.*

Accordingly, 93% of farmers said that local middlemen set the price, while 13% said both local middlemen and the service cooperative set the price. In addition, 7% of the respondents said farmers set the price. No farmer said brokers, exporters, the government or international buyers set the price.

For the same question, 20% of the exporters said that farmers set the price, 67% said regional traders determine the price, 40% said brokers set the price and 33% said international buyers set the price. No one said that the government sets the price.

From the above, one can conclude that market demand and supply of oilseeds is an important factor in setting the prices of oilseeds than other factors. It means that for the same type and quality of oilseeds, there is no special case or condition, where one supplier can get a privilege or special treatment to sell its products at higher price than the other. It is indicated in chapter 5 that brokers decide the daily market-clearing price but only based on the consent of buyers and sellers. Hence, arms length market based governance is prevalent in the oilseeds value chain.

This means that under the current market structure there is no one actor in the chain with an absolute power. There is also no actor playing a chain coordination role. For example, in the fresh fruits or vegetable chain supplied from Africa to a supermarket in Europe, final buyers (supermarkets) have influence and say how the product is produced, how much is produced and what should be the corresponding price.<sup>180</sup> But under the existing oilseeds value chain, there is no such arrangement. In other words, there is no one in the chain who gives product specification and the accompanied price to be paid for the production of that specific product.

It was argued in the earlier part that other non-market factors such as the agricultural subsidy of EU has negative influence on the income gain of local producers. But it is not possible to change this influence at farmers and exporters level since this requires multi-lateral political and trade negotiations. So there is little, one can do at the moment to influence non-market force for the betterment of farmers in the research area.

Given the above conditions therefore, there are no possibilities for farmers to upgrade their income through influencing the governance structure.

### **6.2.2. Market Information System (MIS)**

This arms length market exchange functions in a situation where there is lack of full information to one side or the other. To analyze the existing market information system, farmers and exporters were asked about where they get their market information and whether the information they get is sufficient. Table 9 presents their responses for the first question.

Accordingly, 84% of the farmers said that they get price information from middlemen at the market spot. 10% said they get it from public radio. The remaining 6% said they get it from farmers, radio and extension agents.

This means that there is information asymmetry at the chain because farmers are highly dependent on the information they get from middlemen; to whom they sell their products. As a result there could be vested interest on the side of the middlemen to hide information from farmers.

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<sup>180</sup> Please see chapter 3 how this works.

**Table 9: Where do you get market information from?**

Source of Market Information	Farmers	Exporters
Middlemen	84%	20%
Public radio	10%	-
Radio, middlemen and extension agents	7%	-
Brokers	-	7%
International buyers	-	13%
Middlemen, brokers and international buyers	-	60%
Total	100%	100%

*Source: Author's compilation based on the information from interview*

*Number of respondents (n) = 60 farmers and 15 exporters*

To the same question, 20% of the exporters responded that they get price information from middlemen. 7% said they get from brokers, while 13% said they get from international buyers. 60% of the exporters said they get it from middlemen, brokers or international buyers. This means that there is no central public information system that provides periodic information about the production condition and price of oilseeds in the local market as well as the price and supply conditions of oilseeds in the international market. This could create high level of uncertainty on the necessary actions that exporters need to take in their business decision.

Asked whether the information they get is sufficient, 94% of the farmers said that the information they get from the above sources is not sufficient.

Responding to the same question 67% of the exporters also said that it is not sufficient. One exporter expressed the view that exporters do not have information about the supply trend of oilseeds in the international market. International buyers also do not have information about the local production conditions.<sup>181</sup> This means that situations on both sides are uncertain. But in some cases international buyers do have a bird's eye view about what is going to happen.<sup>182</sup> They use the small opportunity they get and manipulate

<sup>181</sup> Interview with Dr. Mussie Yakob, Mandura Ethiopia September 1, 2005, Addis Ababa.

<sup>182</sup> Ibid.

the price. The case in point is the last year (2004) oilseeds production decline in China and India.<sup>183</sup>

Ethiopian exporters did not have information about the condition but buyers had. International buyers ordered a large volume of oilseeds at lower prices at the beginning of the Ethiopian harvest season in 2004. It was late when the Ethiopian exporters realized that international price was going up due to the supply shortage from China and India. At the end of the year the price of one quintal of sesame seed for example increased to birr 1200 from what was 450-500 at the beginning of the harvest season.<sup>184</sup>

This indicates that there is no public market information system, which could satisfy the needs of the market participants of the oilseeds value chain. As mentioned in chapter 5, brokers play a role in providing information to regional traders but their role is limited to the terminal markets level. There is no information channel, which links framers with exporters as well as exporters with international buyers.

In general one can conclude that although market forces govern the chain, those who have better market information would benefit more than from those who do not have such information. Therefore, if the income of farmers needs to be increased, then there must be a public market information system that gives up to date market information about the demand of a specific product and the current price of the same in the market. There must also be a market information network, which gives up to date information for exporters and farmers about the international production condition and the price of oilseed products in the international market.

### **6.2.3. The emergence of modular governance**

Although the existing value chain governance of oilseeds is based on market relations, there is a sign of emerging modular governance structure in the export of oilseeds to the Japanese market.<sup>185</sup> Although it was not possible to confirm the information with official data due to none availability of such information after 2002<sup>186</sup>, exporters claimed that since 2002 the Japanese market is becoming a very lucrative destination for Ethiopian

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<sup>183</sup> Interview with Dr. Mussie Yakob, Mandura Ethiopia September 1, 2005, Addis Ababa.

<sup>184</sup> Interview with Mr. Awad Baobed, August 11, 2005, Addis Ababa.

<sup>185</sup> Modular governance is the conditions under which suppliers make products according to customer's specification. Buyers finance some of the production on the part of customers (please see chapter 3 for more).

<sup>186</sup> Please be aware that the export growth trend data (graph 2) presented in chapter 3 only shows the total export. It doesn't show destination of oilseeds export per region.

oilseed products.<sup>187</sup> Shortly after the introduction of the product to the Japanese market, the Ethiopian oilseeds particularly, Humera<sup>188</sup> type sesame seed become the first choice of Japanese consumers. In effect buyers increased the import of the product and start paying more than USD 10 (birr 87) to 15 (birr 131) per quintals above the international market price. But problem arises later when the Japanese buyers realized that there is high chemical residue in the Ethiopian products due to excessive application of pesticides.<sup>189</sup>

The Ethiopian exporters know that farmers do not use fertilizer but use pesticides including the banned Dichloro Diphenyl Trichlorethane (DDT) by most developed countries for agricultural purposes.<sup>190</sup> This is usually done when an agricultural insect is observed during the growing season of oilseeds. DDT is used around the farm field because it is the cheapest and most effective pesticide to protect the plant from that specific crop insect. The insect could damage up to 75% of the farm product.<sup>191</sup>

The issue was tabled during the discussion between the Ethiopian government officials and exporters visit to Japan in July 2005. The Japanese buyers wanted to know the cause of the problem and promise to give support for the use of alterative pesticides. They expressed their wishes to continue buying Ethiopian oilseeds because of its excellent quality and good flavour. But they want to be sure that the chemical application should not exceed the minimum required level.<sup>192</sup>

To this end, the Japanese buyers agreed to give support to Ethiopian farmers so that the farmers can alternatively protect the oilseeds crop from insects by adhering to the application of minimum and less toxic pesticides.<sup>193</sup> The Ethiopians on the other hand need to be ready to trace the source of their oilseeds production and constantly monitor the farming practices according to the Japanese buyers requirement. The two sides together will monitor whether things are being done according to what is required by the Japanese buyers or not on a periodic basis.<sup>194</sup> The Japanese food quality control experts were supposed to visit the oilseeds growing regions in northern Ethiopia in September 2005 to

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<sup>187</sup> Mr. Awad Baobed, Dr. Mussie Yakob, Mr. Elias Geneti, Mr. Nigussie and Mr. Ali Abdo, Manager, Ali Abdo Import Export, August-September 2005, Addis Ababa.

<sup>188</sup> Humera is a region found in the northern part of Ethiopia where first grade sesame seed is grown. Gondor and Wollega regions are the second and the third known sesame seed growing regions.

<sup>189</sup> Mr. Awad Baobed, Dr. Mussie Yakob, Mr. Elias Geneti, Mr. Nigussie and Mr. Ali Abdo, August-September 2005, Addis Ababa.

<sup>190</sup> <http://www.answers.com/topic/ddt> 03/11/05.

<sup>191</sup> Interview with Dr. Mussie Yakob, September 1, 2005, Addis Ababa.

<sup>192</sup> Ibid.

<sup>193</sup> Ibid.

<sup>194</sup> Ibid.

commence the cooperation.<sup>195</sup> The trip could not be materialized due to the political instability in the capital Addis Ababa during that time.

So one could see that a kind of modular value chain governance is emerging where suppliers are expected to make products according to customer's specification. Suppliers could get support from buyers to meet the requirements of the latter.

This entails the introduction of a tripartite contractual agreement between farmers, exporters and Japanese buyers to produce oilseeds in a condition where farmers need to keep all the specification given to them by buyers. In the end, the product will be supplied to Japanese buyers with an additional premium beyond the normal market price. This additional premium would offset the expenses that could be incurred by farmers to keep the specification given to them by the Japanese buyers. Therefore, it would have a net positive contribution to the income increase of the primary producers.

If the Ethiopian suppliers could not meet what is expected of them from the Japanese buyers, then they face exclusion from the market, which could have a detrimental effect on the income of the country in general and the income of poor farmers in particular.

#### **6.2.4. The demand for organic oilseeds**

EU and North America (particularly United States) are the most important destination of Ethiopian oilseed products next to the Middle East.<sup>196</sup> Both the North America and EU market need high quality and organic products.<sup>197</sup>

Exporters were asked whether they got an order to sell organic products from their international buyers or not. Accordingly, 47% said that they received orders to export organic oilseed products.<sup>198</sup> Except for one exporter, all those who received order were not able to supply organic products because they do not have a certificate of accreditation to export such products.<sup>199</sup> This means there is a demand for organic oilseeds in the international market, but almost all exporters except one cannot supply such products because of lack of accreditation.

Exporters who received orders for organic oilseed products mentioned that buyers are willing to pay an average premium of up to USD 8 (birr 70) per quintal for certified

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<sup>195</sup> Interview with Dr. Mussie Yakob, Mandura Ethiopia September 1, 2005, Addis Ababa.

<sup>196</sup> See chapter 4.

<sup>197</sup> Interview with exporters, August to September, 2005, Addis Ababa.

<sup>198</sup> Ibid.

<sup>199</sup> Ibid.



organic products.<sup>200</sup> However, the cost of getting the license and the high expense required to monitor the product origin makes it impossible to get the accreditation at individual exporter level.<sup>201</sup> In effect, there is only one Ethiopian company (Mandura Ethiopia Share Company), which was able to get the accreditation to sell organic oilseeds in the North American and EU markets.

To investigate the potential of producing organic products in Ethiopia, the researcher contacted the company manager of Mandura Ethiopia. According to the manager, the company started to produce organic oilseeds with its own farm land after it realizes that there is a demand for it in the international market, particularly in the EU. The company had to pass long procedures and a convention period of five years before it got the license.<sup>202</sup>

Recently, Mandura Ethiopia has expanded its organic oilseeds export by entering into special production arrangements with new re-settlers (farmers relocated from highly degraded regions to new fertile land) in the western and northwestern part of the country. The manager also confirmed that export of organic oilseeds could have a premium of USD 5 to 10 (birr 44 to 87) per quintal. The premium that his company is commanding is shared between the company and farmers.

He said that the company pays a premium of up to birr 50 per quintal for farmers for supplying organic oilseeds. This is a big difference that could be brought to the country in general and to the poor farmers in particular.<sup>203</sup>

Therefore, other exporters could similarly start supplying organic oilseeds through getting a certificate for themselves and assisting selected smallholder farms to get an accreditation to produce organic oilseeds. This would help exporters to get quality organic oilseed products and command a maximum premium of birr 87 per quintal. This in the end would help farmers to get a share from the selling of organic products and would have a positive impact on their income and living standards.

#### **6.2.5. Quality of oilseeds**

The Quality and Standard Authority of Ethiopia (QSAE) is a government organization responsible for setting quality standards and monitoring quality conventions.

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<sup>200</sup> Interview with Mr. Awad Baobed, August 11, 2005 and Mr. Ali Abdo, September 2, 2005, Addis Ababa.

<sup>201</sup> Ibid.

<sup>202</sup> Interview with Dr. Mussie Yakob, September 1, 2005, Addis Ababa.

<sup>203</sup> Ibid.

The QSAE inspects every oilseeds that are ready for export.<sup>204</sup> The QSAE demands impurity (not to exceed 3%), oil content (at least 34%), and moisture (not more than 11%) from oilseeds that are ready for export. Inspection is limited to exporters level only.<sup>205</sup> It doesn't reach to the middlemen or farmers level. As a result all Sedika farmers interviewed do not have any information about the national quality standards set by the QSAE.

At the research site, the researcher observed that buyers inspect quality through visual inspection. Quality check is limited to inspection for impurity, colour mixture and size of the seed. Hence, quality is defined in Sedika as products with low admixture of foreign matters; uniform colour and a good and average size. However, all standards of oilseed products (good quality or bad quality) purchased by the middlemen are mixed up in a dusty ground before it is packed into a sack. 97% of the farmers confirmed what the researcher observed in Sedika market.

Farmers were asked whether they get some premium from the selling of good quality oilseed products or not. In response, 77% of farmers said that there is a price difference for quality products of between birr 5 to 30, while 20% of the respondents said there is no much difference. The remaining 3% have not answered the question. In addition, 92% of the farmers who said 'there is a price difference' agree that the price premium that they get is not enough to encourage them to keep quality. This means that although there is some premium paid by the middlemen for quality oilseeds, the amount is not sufficient to encourage farmers to keep quality.

Moreover, all farmers expressed their concern about the malpractices of regional traders in mixing good quality with bad one in the dusty ground. Farmers said that this practice of the regional traders creates a perception by many farmers that quality has no value in the market. This in effect could further worsen the quality of oilseed products supplied to the terminal markets and could create a bad reputation about the oilseed products originated from Sedika to terminal markets. As a result it could further affect the income of farmers because the volume that could be sold from Sedika would be less as a result of the bad reputation.

Asked whether there is any support given by the government or other organization to improve quality, 60% of farmers said that there is support. Out of those who said there is support, 33% said the support includes training in production and weeding practices, while

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<sup>204</sup> Interview with Mr. Mekru Denbi, Addis Ababa Branch Head, EQSA, September 2, 2005, Addis Ababa.

<sup>205</sup> Ibid.

3% said the support is limited to the provision of improved seeds and other inputs. The remaining 24% said the support includes both. This means that other important areas such as harvesting and storing which are crucial to keep quality are not given much attention.

Exporters on the other hand complained that the quality of oilseed products coming to the market is very poor. Impurities for example range between 4 and 8% for sesame seed, between 12 to 15 % for noug seed and between 13 and 20% for linseed.<sup>206</sup> There is a deliberate adulteration of foreign matters with oilseeds brought to the market. For example, suppliers mix up sesame seed with white marble stone, noug seed with black soil and linseed with red soil, which is deliberately selected to have the same size as the oilseeds.<sup>207</sup>

Due to such unnecessary market behaviour of the parties involved in the value chain, a large sum of money is paid for transporting and cleaning these deliberately mixed foreign matters. This extra money could be paid to those who genuinely keep product qualities.

Exporters were asked a question on how quality could be maintained and how one could reward those who maintain quality? Table 10 summarizes exporters response to the question. Since respondents gave yes or no answers to each specific question asked, the sum of the responses could be less than 100% as it is seen in table 10.

As it is shown in table 10, 7% of the exporters mentioned that the introduction of a market information system would raise the awareness of farmers about the importance of quality. In addition, it would update farmers about the level of quality required in the market with the corresponding price. So it is one means that could inform farmers about the importance of quality and the price premium that could be generated from keeping quality.

About 40% of the exporters said that the extended market chain (involvement of many middlemen) is the main cause for the deterioration of the quality of oilseed products. Therefore, it would be good if the extended market chain reduced.<sup>208</sup> 20% of the exporters indicated that farmers need to organize themselves in cooperatives and should be able to supply the oilseeds by themselves rather than through middlemen. This measure would ensure a better quality of products and could increase the income to farmers.

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<sup>206</sup> Interview with Mr. Awad Baobed, August 11, Addis Ababa , Mr. Arebu Mohammed, August 8, 2005, Addis Ababa, and range of answers given by other interviewed exporters.

<sup>207</sup> Ibid.

<sup>208</sup> An extended market chain is created due to the involvement of different middlemen in the value chain of oilseeds. These middlemen include local collectors, regional trader and sometimes wholesalers and speculators.

**Table 10: What needs to be done to improve the quality of oilseeds and reward those who maintain quality**

Action required	% of respondents who say yes
Market information	7%
Reduce the extended market chain	40%
Organize farmers cooperative to sell to exporters	20%
Introduce warehouse receipt system	7%
Introduce central auction system	7%

*Source: Author, 2005*

*Number of respondents (n) = 15*

7% of the exporters mentioned that the introduction of a warehouse receipt system would improve quality. A warehouse receipt system is an institutional arrangement where farmers bring their product to an accredited warehouse at the beginning of the harvest season. The quality of the product is inspected and a bond is given, which could be used by farmers to borrow money from banks. Such a receipts system could provide farmers with an instrument that will allow them to extend the selling of their products beyond the harvest season.<sup>209</sup> In addition, it will oblige farmers to keep quality in order to get a bond which has monetary value. The system is not yet introduced in Ethiopia but there is a plan to introduce it as a pilot project in the near future.<sup>210</sup>

Finally, 7% of the exporters mentioned that the introduction of a central auction system in selected terminal markets would improve quality. A central auction market is a system where specific agricultural products are collected in a central warehouse and will be assigned quality standards and grades. After the grading, exporters will bid for the product according to their grade and quality standards. Such a system will require high quality and pays a premium for the quality of the product.

From the above it can be derived that quality is mainly deteriorated due to the involvement of many middlemen in the chain. This extended chain could create an opportunistic behaviour by some chain participants to benefit from mixing up oilseeds with

<sup>209</sup> Lacroix and Varangis, 1996, p. 36.

<sup>210</sup> Interview with Mr. Assafa Mulugeta, grain marketing department head, Ministry of Agriculture, August 25, Addis Ababa.

foreign matters. The best option to resolve the problem could be organizing farmers with cooperatives so that they could supply their product to exporters themselves. This would reduce the size of the market chain and hence reduce the poor quality oilseed products brought to the terminal markets.

The warehouse receipt system could also be helpful because it requires farmers to bring only quality products and consider the quality of the product when issuing a bond. Market information could also improve quality as it helps to aware farmers and middlemen about the importance of quality and the corresponding price of the quality product. The central auction system could also be a help but given the wide geographical distribution of oilseeds production in the country it may not be easy to collect products in central places. Therefore, it needs further research to know its significance.

#### **6.2.6. Seasonality of prices and the need for micro credit**

Oilseeds price in Ethiopia depends primarily on the supply pattern of the main harvest season, called *meher*, which mainly occurs between November to January.<sup>211</sup> During this period prices will be at their lowest level given the large supply that floods the market. Farmers sell their products at this period because they need to get money to cover cash obligations related to loan and tax payments, weddings and food purchase.<sup>212</sup> 79% of the annual sells of farmers in Sedika occur in the period between January and March.<sup>213</sup> This means that only 23% of Ethiopian farmers could keep their products to sell it at a better price at the end of the cropping season.

In the same way, 59% of Sedika farmers sell their oilseeds between December and March. 20% sell between June to August and 3% sell between June to September. The remaining 18% sell at different time of the year depending on their urgent need for money.

Asked about seasonal price difference, 27% of the respondents confirmed that there is a price difference of up to birr 50 between the first four months of the harvest seasons i.e. between December and March, and the shortage season i.e. between June to September. 73% of the respondents said that there is a price difference of between birr 50 to 100 between the two seasons. This means that farmers could lose some part of their potential income (which could reach up to the above-mentioned amounts) due to seasonal variability

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<sup>211</sup> Gabre-Madhin, 2001, p.10.

<sup>212</sup> Gabre-Madhin, 2001, pp. 10-11., Amha, 1995, p. 121.

<sup>213</sup> Dessaleng, Jayne and Shaffer, 1998, pp. 29-30

of prices. Therefore, there is a need to take corrective actions to save some of the income of farmers lost in this way.

Farmers suggested that the availability of a micro credit facility in the area (which is not available so far) could reduce the problem of seasonal price variability. Farmers mentioned a range of answers on what they would do if they get micro credit. Table 11 summarizes the response.

**Table 11: Farmers response on why they need micro credit**

Credit need for	Mentioned
Pay for transport and sell products at terminal markets	10%
Cover loan and tax obligations and sell products later	40%
Generate alternative income sources and cover loan obligations	50%
Improve production practices	10%

*Source: Author, 2005*

*Number of respondents (n) =60*

As indicated in the table above, 50% of the farmers mentioned that they need credit to generate additional income sources such as cattle fattening and horticultural development so that they can sell these products when oilseed prices are getting down. About 40% of the farmers mentioned that the credit could help them to cover tax and other obligations during the harvest season and would enable them to sell their oilseed products later in the year. 10% of the respondents mentioned that they want credit either to improve their production practice or to pay for transport and sell their products at the terminal markets rather than selling it at lower price in the local market.

As can be seen from the response, by using the credit farmers could generate additional income and could be able to cover financial obligations during the harvest season. The additional income could also enhance the economic position of farmers and help them to decide when to sell their products. The micro credit would also help them to invest in production practices and improve quality of products. So it will bring additional benefits to farmers.

### **6.2.7 Intermediate result**

The writer has a view that all the measures mentioned from section 6.2.2 to 6.2.6 could help to increase the income of farmers. However, organizational arrangements are necessary because for individual farmers it would not be economically viable to deal with all the issues mentioned above. Hence, there must be collective action taken by farmers to deal with exporters or any other business unit directly. One means of such collective action is organizing farmers in service cooperatives so that the cooperatives could collect quality products from farmers and supply them to exporters and other business units or accept any other deals mentioned above. This would ensure that farmers get the benefit that used to be disbursed to different middlemen in the chain and would help to reap additional benefits, which could come through, for example, the sell of organic oilseeds.

With these principles in mind, the Sedika service cooperative has started collecting grain products including oilseeds from farmers for the past two years. But as mentioned in section 6.2.1 above, there are not many farmers selling their products to the cooperative.

As can be seen from the response in section 6.2.1, most farmers sell to regional traders (middlemen) rather than to the service cooperative. Those who don't want to sell their products mentioned that they have bad memories of the embezzlement of the service cooperative by people elected to lead it in the past. These farmers indicate that some elected members of the cooperative took birr 10,000 to 40,000 for their private benefit but were not brought before the law. Hence, they have a fear that there is no guarantee to believe the current leaders would not do the same.

Therefore, if the service cooperative needs to meet the above objectives, there must be a change in the current organizational set up of the cooperative. To this end, setting up of an independent management system (employed manager, accountant and other staff) may solve the concern of farmers who do not want to sell to the cooperative. Such a management system could be organized according to a corporate governance structure where farmers could be represented in the board while an independent management runs the day-to-day activities of the cooperative.

## **6.3. Upgrading through local processing of oilseeds**

### **6.3.1. Local processing of oilseeds**

In chapter 5, it was argued that the highest share of the income made in the value chain line from farmers to oil processors is going to the oil processing mills. It means that

the largest share of the actual profit accrued from the oil processing is going to processors as compared to other market participants. Based on the argument above, a question was posed ‘why farmers process their oilseeds at local level?’

To address this question, the author made a general demand assessment for edible oil and oilcake in the research area. The assessment was made based on an interview with two oilseeds processing plants under operation in the research area and a demand assessment through interviews of 60 farmer respondents (farmers in this case are considered as edible oil and oilcake consumers) in the research area. The initial plan of the demand assessment was to interview women (housewives) in the research area, but due to cultural barriers they could not respond to the interview. Hence, the researcher included this question with the general interview and asked farmers to give their responses. This could have some limitations on the content of the information because in a male dominated society like Sedika, men know less about domestic food consumption than women.

As mentioned in chapter 5, the Ministry of Trade and Industry study indicates that the national edible oil consumption is estimated at 1.52 kilogram per person per annum.<sup>214</sup> To verify whether the Ministry of Trade and Industry study is valid for Sedika area as well as to measure the level of demand, the researcher asked respondents how much edible oil they were using per month. In response, nearly 85% of the respondents confirmed that their edible oil consumption is limited to the four harvest months i.e. December to March as well as during religious and cultural holidays only.<sup>215</sup> They said that they don’t use edible oil for cooking through out the year due to low income and substitution effect to other alternative oils such as animal butter.

Respondents indicate that if they use edible oil for a full month, on average they could consume up to 1.84 kg per household per month. If we assume that residents could consume edible oil for a total of five months within a year including the four harvest months and holidays and other special occasions, we could get a total annual consumption of 9.02 kg per household per year. If we divide the total annual household consumption to the average family size of 7<sup>216</sup> of the Sedika locality, then we get an annual consumption of 1.3 kg per person, which is less by 0.22 kg per person from the annual consumption of urban dwellers and farmers in the coffee growing regions. Hence, the total demand of

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<sup>214</sup> Ministry of Trade and Industry, 2000, pp.1-2.

<sup>215</sup> During these four months, farmer’s income is relatively high from the sell of grain products.

<sup>216</sup> Please see chapter 4 for the calculation of average family size.



edible oil in the area is estimated at 18,391 kg per annum i.e. 1533 kg per month, (1.3 kg times total number of population living in the area i.e. 14147 divided by 12 months).

With regard to the demand for oilcake in the area, it was not possible to calculate the precise figure because nearly 95% of the respondents were not able to give the exact figure of their oilcake consumption in the past years. Neither is there any national data, which gives an indication of oilcake consumption in Ethiopia. However, almost all the respondents agree that there is a very low supply of oilcake in the area as compared to the demand. Hence, they have to travel to other places to buy oilcake. Interview with brokers in Nazareth also confirmed that there was no demand shortage for oilcake produced in Nazareth and distributed to many parts of the country.<sup>217</sup> They confirmed that there is a high demand for oilcake, particularly for linseed oilcake in the market because of the expansion of dairy farming and animal fattening firms in different parts of the country. Therefore, this study assumes that there is excess demand for oilcake produced in Sedika, either in the locality itself or outside.

To assess the viability of local oil processing, the researcher estimates the fixed investment cost required for a modest oil press mill in table 12.

As it can be seen from table 12, the total fixed cost required to establish an oil mill is birr 44,800. In addition farmers need to have a working capital of birr 92,262<sup>218</sup> per month to purchase raw materials and cover other variable costs to run the oil pressing mill. The estimated working capital could be used as a revolving fund and the sells revenue collected during any specific month will be used as a working capital for the next month assuming that the machine is working at 25% of full capacity.<sup>219</sup>

At a minimum of 25% of its full capacity, working for 26 days per month and with the oil squeezing capacity of 29 kg per one quintal, it is possible to crush 293 quintals of linseed and produce 8,497 kg of edible oil per month.<sup>220</sup> This is higher by 6,964 kg than what is on demand in the area (i.e. 1533 kg per month).

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<sup>217</sup> Interview with Mr. Mesfin Abera, Mr. Genene Debel, Mr. Seyum Techane, July 26 to 27, 2005, Nazareth.

<sup>218</sup> Variable cost required for one month (26 working days) if the machine is working at 25% full capacity.

<sup>219</sup> 25% capacity is selected arbitrarily given the low demand for edible oil in Sedika.

<sup>220</sup> The oil squeezing capacity is estimated based the information from oil presses in Sedika. The oil press owners in Sedika indicate that oil press machines, which work with diesel power, has a low squeezing capacity than the one which is working with electric engine. Therefore, there is a difference between our estimate of edible oil output in chapter 5 and in this chapter.

**Table 12: Investment cost required to establish a modest oil press in Sedika area, in Ethiopian birr**

Item	Cost	Total cost
<b>Fixed Cost</b>	10,000	
- Oil press machine <sup>221</sup>	8,000	
- Power generator	6,000	
- Filter	5,000	
- Bolts and nuts	5,000	
- Spare parts	8,000	
- Building	2,800	
- Miscellaneous		<b>44,800</b>
<b>Total fixed cost</b>		

*Source: Author's own calculation, 2005 with information collected from oil press machine importers in Addis Ababa and oil press owners in Sedika.*

*Note:*

- The cost for oil press machine, power generator, filter, bolts and nuts are calculated based on information obtained from an importer in Addis Ababa.
- The cost for building and miscellaneous is calculated based on information obtained from oil press owners in Sedika.

Based on the information above, the income and loss statement of a small rural oil pressing establishment can be calculated as presented in Table 13. From table 13, one could see that a modest oil press establishment operating with only 25% of its full capacity could make a monthly profit of birr 6,138.

If we divide this by the volume of oilseeds used as a raw material (i.e. 6138 divided by 293 quintals of oilseeds crushed per month) then it is possible to get birr 21 per quintal.

<sup>221</sup> Model: JM serious two-stage collid mill; origin: China; capacity: 40-50 quintals per 24 hours; power: 15 horsepower; service year: 20.

It means that if an oilseed is processed within Sedika locality it could be possible to retain an additional value of birr 21 per quintal as a producer surplus.

**Table 13: Income and loss statement for a linseed oil processing plant in birr  
(operating at 25% capacity per month)**

<b>Revenue per month</b>	
- Edible oil (crude <sup>222</sup> )	76,473
- Oilcake	21,908
- Other byproduct	1,465
<b>Total revenue</b>	<b>99,810</b>
<b>Expenses per month</b>	
- Raw material (linseed)	86,435
- Diesel oil (fuel)	2,655
- Salary/labour cost	2,100
- Other (water, sanitation etc.)	1,172
- Interest on fixed investments (at 6% per annum)	224
- Maintenance	273
- Depreciation	267
<b>Total expenses</b>	<b>93,126</b>
Profit before tax	6,684
Tax (birr 2 per quintal)	<u>546</u>
<b>Net Profit after tax</b>	<b><u>6138</u></b>

*Source: Author's own calculation, 2005 with information collected from machine importers and oil press owners in Sedika*

**Note:**

- The price of one quintal of linseed is estimated at birr 295 at Sedika.
- One quintal of linseed gives 29 kg of edible oil, 62 kg of oilcake and 2 kg of other byproduct at Sedika. The remaining 7 kg is a waste.
- The price of edible oil is birr 9 per kg and that of oilcake is birr 1.20 per kg and the byproduct (used as energy source) is birr 1 per kg.
- Diesel cost to crush one quintal of oilseeds is estimated at birr 9.

<sup>222</sup> All edible oil produced by informal local industries and supplied to the market is used in crude form.

- Depreciation is calculated on the assumption that machineries and the building will serve for 20 years while spare parts, bolts and nuts, as well as miscellaneous materials serve for 5 years.
- Interest is assumed to be paid for all fixed investment at the current official interest rate of 6% per annum.

There is also an additional gain that is going to consumers of edible oil and oilcake in the area as a consumer's surplus. The consumer's surplus can be calculated as follows. As indicated in chapter 5 the retail price of 1 kg of linseed edible oil is about birr 9.90 per kg and that of oilcake is birr 1.30 per kg. And the producer price of 1 kg of edible oil is birr 9, while that of oilcake is birr 1.2 per kg. If we assume that edible oil consumers in Sedika could get their edible oil and oilcake from producers at producers price, then they could save birr 0.90 and 0.10 per kg of edible oil and oilcake as consumer surplus.

If we multiply the edible oil consumer surplus of birr 0.9 with the total demand for edible oil in the area i.e. 1,533 kg per month, we get a consumer surplus of birr 1380. In the same way, if we multiply the consumer surplus of birr 0.1 with total production of oilcake i.e. 18,166 kg per month, we get a consumer surplus of birr 1817.<sup>223</sup>

In general all consumers in the area can enjoy a total consumer surplus of birr 3197 per month (i.e.  $1380+1817 = 3197$ ). Therefore, from the above one could see that conceptually it is possible to process oilseeds and retain the value addition in the local economy instead of selling raw oilseeds.

### **6.3.2. Major constraints**

Although conceptually it is possible to process oilseeds and get a better value addition, its practical applicability is limited due to many factors. The first factor is the very limited demand of edible oil in the research area. This can be seen from the fact that even at 25% of full capacity, the oil processing establishment can sell only 18% of its total production in Sedika due to low demand. Farmers also lacked experience to sell their products outside of their area. It would also be difficult to compete with bigger oil presses, as well as imported and contraband edible oils due to economies of scale and fierce competition. The presence of two oil presses in the locality also widens the competition.

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<sup>223</sup> It is assumed that all the oilcake produced in the area will be consumed in the area itself (locally) because since recently farmers in Sedika start animal fattening as an additional income generating activity as a result of the increase in the price of fattened cattle/oxen. This would increase the demand for oilcake in the area and makes the assumption realistic.

In addition, the government has put a restriction through a new regulation in the selling of crude edible oil that is produced by small enterprises due to health concerns.<sup>224</sup> In this recent government regulation, it is indicated that crude oil has a high acid content, which could be dangerous for human health. Hence, it is mandatory for each oil presses to neutralize and filter the product before it brings it to the market. The establishment of the neutralization plant may costs about birr 900,000 to 1 million.<sup>225</sup> One needs to do a cost benefit analysis to purchase such a machine by applying dynamic investment methods like the net present value, before comes to a decision to invest such amount of money. However, it was not possible for the researcher to get information about the actual price of such machine and the production capacity to calculate the cash flows. So the economic feasibility of buying such machine at farmers level could not be tested. But one could understand that given the size of the investment and the technical expertise needed to run such machines, it may not be easy for a rural small enterprise to establish such neutralization plant at least in the short run.

At national level, as a result of the new regulation, the government has refused to renew the license of 107 oil presses in Addis Ababa in 2005.<sup>226</sup> The same measure is expected to continue in other parts of the country.<sup>227</sup> Therefore, for the reasons mentioned above, it would not be viable to farmers to establish their own oil processing plant and add value in the local economy.

#### **6.4. Conclusion**

It is made clear in the discussion above that market forces govern the current oilseeds value chain. Other non-market governance factors have very little influence on the oilseeds business. Hence, there are no possibilities to increase the income of the interviewed farmers through influencing the governance structure of the value chain.

However, the discussions in the chapter indicate that income could be upgraded by establishing a modular governance structure of the kind observed in the emerging relationships between Japanese buyers and Ethiopian suppliers. It is also possible to upgrade the income of interviewed farmers through establishing a reliable market information system, acquiring the necessary certificate and supply organic oilseed products,

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<sup>224</sup> The Ethiopian Herald, government daily newspaper, May 18, 2005.

<sup>225</sup> Interview with Mr. Mulugeta Tsegaye, August 26, 2005, Addis Ababa.

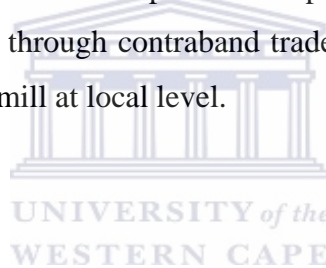
<sup>226</sup> Interview with Mr. Deresa Fufa, quality certification department, head, QSAE, August 28, 2005, Addis Ababa.

<sup>227</sup> Ibid.

improving the quality of oilseeds supplied to the market and controlling the influence of the seasonal variability of prices.

To achieve the above objectives, it is recommended that collective action is necessary because individual farmers could not take the necessary actions required. Such collective action includes a change in the organizational setup of the service cooperative in the research area. Such a change needs to have a corporate kind of governance structure with an independent management.

It is also indicated that theoretically it is possible to increase the income of farmers through processing of oilseeds at local level. Such action would increase the producer's surplus. It also creates an additional surplus for consumers because of the availability of edible oil and oilcake from local producers. However, the low demand for edible oil in the research area, the high competition from public and private oil pressing mills and the unrestricted import of edible oil through contraband trade makes it difficult for farmers to establish a viable oil processing mill at local level.



## **Chapter Seven**

### **Conclusion and Recommendations**

#### **7.1. Conclusion**

This research started with the hypothesis that 'it is possible to increase the income of the primary oilseeds producers in two possible value added activities, i.e. through spreading the gains from export and /or through local processing of oilseeds'.

The research draws the input-output flow diagram of the oilseeds value chain and discussed the role and characteristics of the different participants of the chain. By using the value chain diagram as analytical instrument, the research indicated that oilseed products are mainly channelled from farmers in the research area to the final users in the above two hypothesized directions. The research ascertained that in both directions of the chain, the income distribution from the selling of oilseeds is skewed to either exporters or local processors side. Farmers get very low per capita income from the final price of their products. The main findings of the research and their meaning for the two different hypotheses are summarized as follows.

#### **Hypothesis 1: Spreading the gains from export**

(1) The oilseeds market is governed by market forces both in the local and international markets. This means that other non-market factors like, networks and connections as well as long-term interactions play little role in the selling of oilseed products. Some other non-market influences such as the agricultural subsidy of the EU has an influence. But the influence could not be changed at farmers or exporters level because change in such area requires multi-lateral political and trade negotiations. So there is little one can do to upgrade the income of the interviewed farmers through influencing non-market forces.

(2) There is high level of information asymmetry due to the unavailability of a public market information system. This means that due to lack of information, farmers do not know what kind of oilseed products and at what price required in the market. Due to lack of such information farmers have also little bargaining power in the local market.

Exporters also lacked market information about the global oilseeds production conditions and the corresponding price. This means that exporters could lose possible

advantages or be affected from international trade due to lack of information.

Hence, an introduction of a public market information system would help all market participants including farmers to know the demand condition, the quality required and the corresponding price. The information would help farmers to take production decision in reference to market demand and enhance their bargaining power in the market.

(3) It is indicated that there is an increasing demand for Ethiopian oilseed products in the international market. Particularly there is a rising demand in Japanese. However, recently Japanese buyers found out that there is high chemical residue in the Ethiopian oilseed products due to over application of pesticides. To undo such undesired production practice, buyers promised to give support on the condition that Ethiopians will periodically trace the production practices and origin of products. This requires a tripartite contractual agreement between farmers, exporters and buyers and is expected to bring an additional premium (which off sets the cost) for Ethiopian exporters and farmers.

This emerging relationships shows that there are opportunities for income upgrading from such relationships. To the worst, if Ethiopians could not adhere to the requirements they would lose the additional premium of up to birr 131 which is currently being paid by the Japanese buyers above the international price.

(4) There is high demand for organic oilseed products in the international market, but all exporters, except one could not respond to the demand due to the non-availability of certificates to produce and export such products. If exporters and farmers (through contractual arrangement) could supply organic products to the international market they would command an additional premium of up to birr 87 per quintal. Therefore, there is a potential to increase the income of farmers through production and sell of organic oilseeds. As indicated above, the cost of getting organic products trade license by an individual exporter is not affordable. A single farmer could also not able to get license to produce such products. To resolve the problem government could support exporters and farmers to get the required accreditation. It could also help in facilitating contractual networks between farmers and exporters and in organizing farmers with cooperatives so that they can get a group license.

The government support could reduce the total cost of getting the license and the



coordination costs. Therefore, such measure will bring a net positive income change to the interviewed farmers.

(5) Quality is measured in terms of impurity, colour mixture and size of the seed at the research area. The perception of regional traders (middlemen) about quality is controversial. 77% of interviewed farmers confirmed that middlemen pay a premium of birr 5 to 30 per quintal for quality products. But the same middlemen mix up all good quality and bad quality products in a dusty ground and make the quality worse. Out of those who said there is a price premium for quality, 92% of them said that the price premium of birr 5-30 (which most probably skewed to the lower margin of birr 5) is not enough as compared to the effort that is required to keep quality. As a result, the quality of oilseed products coming to the terminal markets is very poor.

In addition, there is a deliberate adulteration of foreign matters in oilseeds brought to the terminal market. Due to such unnecessary market behaviour, exporters have to pay additional costs to transport and clean impure products. The cost that is incurred in this way could be used to increase the income of organized farmers (cooperatives) who could supply their products directly to exporters.

(6) The majority of farmers sell their oilseed products during the first four months of the harvest season (i.e. December and March) to pay outstanding loans and other obligations. During this time, the market is flooded by products and in effect prices reach their lowest levels. Farmers lose up to birr 100 of their income due to this seasonality.

If a warehouse receipts system and micro credit facilities introduced in the research area, they could help to minimize the loss that farmers could incur due to such seasonality.

(7) It is indicated that there is no good market infrastructure such as a warehouse receipt system. Such a system would help farmers to resolve the seasonality of prices mentioned above because by storing their products farmers could get a bond which could serve to borrow money from banks during the harvest season. This could help farmers to sell their product at any good time of the year rather than during the harvest time only.

There is also no micro credit facility that enables farmers to borrow money to invest in activities that would help to increase productivity and maintain quality. The credit money

can also be used for additional income generating activities and to get income to cover loan obligations. Therefore, micro credit as well would save some amount of farmer's income that would otherwise be wasted if farmers obliged to sell their products at the beginning of the harvest season.

(8) The research draws attention to the fact that farmers do not have their own organization, which could mobilize them to take collective actions. The service cooperative, which is operating in the research area could not get the trust of the majority of the interviewed farmers. As a result of the above facts and due to organizational problems, the cooperative in the research area could not effectively manage the above collective action need of farmers. Therefore, a corporate governance management system is required so that the cooperative management could be independent to freely serve the interest of farmers.

(9) On the above grounds, one could conclude that it is possible to increase the income of the interviewed farmers through improving activities in the export market such as supplying organic and less chemical residue products, establishing a market information system and improving quality. It is also possible to upgrade the income of interviewed farmers through controlling the influence of other factors at local level like seasonality, information asymmetry, lack of market infrastructure and organizational problems of the service cooperatives.

Based on the above grounds, the research found out that the first hypothesis, which says 'it is possible to increase the income of the primary producers (interviewed primary producers) through spreading the gains from export' holds true.<sup>228</sup>

## **Hypothesis 2: Local processing of oilseeds**

It was indicated that on average local industries operate only at 43% full capacity due to the limited market and the availability of imported edible oils at lower price. It was also indicated that part of the edible oil import is coming into the country illegally (in a contraband trade) without paying tax. This makes local producers less competitive because most of them are paying taxes levied by the government, while contraband edible oil is smuggled without paying tax.

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<sup>228</sup> In order to generalize the result of the sample for the total population, one needs to make a statistical test.

The monetization (the selling of food aid through auction and use the money for development activities) programme is a source of controversy between government and oil processors. The latter complained that edible oil coming to the country as food aid is sold through auction below the local industries production cost. The government market study for edible oil on the other hand indicates that there is still 37% unsatisfied demand in the country after the monetization programme. But the study doesn't give reasons on why local industries operate below capacity despite the fact that there is unsatisfied need.

A study of USAID on the other hand argues that the monetization programme is handled in a way that it could not undermine the competitiveness of local producers.<sup>229</sup> Although further research is required to understand the impact of food aid on the local production of edible oil, one could understand that unless local production costs (including taxes) are taken into consideration when setting the initial auction price, then the monetization programme would affect the competitiveness of the local oil processors.

It is also indicated that the government restricted the selling of all non-filtered edible oil (crude oil) produced by local industries in the market on the ground that it has negative effect on consumer's health because it has high acid content. So all producers are required to neutralize and filter their crude oil before they bring it to the market. This regulation creates difficulty to start a small-scale oil processing mill at farmers level because the neutralization plant requires a huge investment and high level of technical expertise that could not be viable to run it at farmers level.

The annual consumption of edible oil in the research area is estimated at 1.3 kg per person. This consumption level is very low as compared to the production capacity of a small oil pressing mill that is ideal to establish in the research area. Since the demand is too low, it can cover only 18% of the production of a small oil-pressing mill, which is assumed to operate at 25% of full capacity.

The research couldn't found out the exact demand of oilcake in the research area or out side due to the non-availability of national data sources and other information constraints. However, it indicated that there is high demand for oilcake due to the expansion of a dairy farming and animal-fattening projects throughout the country. There is a growing demand for oilcake in the research area too because recently farmers start animal fattening projects as an additional income generating activity.

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<sup>229</sup> USAID, 2005, p. 24., see also chapter 5.

The research discussed that although conceptually it is possible to make both producers and consumers surplus from the production and selling of edible oil and oilcake at local level, the low demand of edible oil in the area; the unrestricted import of edible oil through contraband trade; and the limited experience of farmers as well as the new government restriction on the sell of crude oil make it very difficult to commence a viable oil processing plant at local level. The monetization programme could also have negative impact, but needs further investigation.

Therefore, it is not possible to increase the income of interviewed farmers through local processing of oilseeds. Hence, the second hypothesis does not hold true.

## **7.2. Recommendations**

To achieve a sustainable income increase at farmers level, it is recommended that farmers, the government and/or concerned organizations need to take the following actions:

- Establish a public market information system, which provide up to date price and related information on periodic basis to all market participants.
- Introduce institutional arrangements, which facilitates a tripartite contractual arrangement between exporters, farmers and international buyers so that it could be possible to trace product origins as well as get an accreditation for organic oilseeds production and marketing.
- Assist farmers and exporters to get an internationally accredited license to produce and sell organic products.
- Introduce and create awareness about the quality standards set by the QSAE at farmers and middlemen levels. Train farmers on harvesting and storing practices so that they can keep quality. Take legal actions against those who deliberately mix foreign matters with oilseed products.
- Introduce a warehouse receipt system and micro credit facilities.
- Stop edible oil contraband trade.
- Make a thorough study of the impact of the monetization programme and take the necessary actions.
- Review the organizational set up of the service cooperatives and makes it professional, transparent and accountable to its members.

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## Annexes

### Annex 1 List of interviewed people

No.	Name and title	Organization and position	Date	Place
1	Biru Ledi (Mr.)	Ethiopian Grain Trade Enterprise, Manager, Export Department	18/08/05	Addis Ababa
2	Awad Baobed (Mr.)	Omar and Awad Baobed PLC, Owner and Manager	11/08/05	Addis Ababa
3	Nigussie (Mr.)	Oilseeds and Pulses Exporters Association, Secretary	22/08/05	Addis Ababa
4	Birhanu Desta (Mr.)	Addis Mojojo Edible Oil Complex, Technical Sector Manager	04/09/05	Addis Ababa
5	Aychiluhim (Mr.)	Robe Woreda, Agricultural Office, Representative	10/07/05	Robe
6	Hussen Kekebo (Mr.)	Robe Woreda Agricultural Office, Extension Agent for Sedika	12/07/05	Sedika
7	Mesfin Abera (Mr.)	Broker, Nazareth Terminal Market	26/07/05	Nazareth
8	Genene Debela (Mr.)	Broker, Nazareth Terminal Market	26/07/05	Nazareth
9	Seyum Techane (Mr.)	Broker, Nazareth Terminal Market	26/07/05	Nazareth
10	Arebu Mohammed (Mr.)	Broker, Ehil Brenda, Addis Ababa Terminal Market	08/08/05	Addis Ababa
11	Mulugeta Tsegaye (Mr.)	Addis Ababa Edible Oil Press Processors Association, Board Chairman	26/08/05	Addis Ababa
12	Elias Geneti (Mr.)	Agro Promotion International, Owner and Manager	11/08/05	Addis Ababa
13	Mussie Yakob (PhD)	Mandura Ethiopia, Owner and Manager	01/09/05	Addis Ababa
14	Ali Abdo (Mr.)	Ali Abdo Ali Import and Export, Manager	02/09/05	Addis Ababa
15	Mekru Denbi (Mr.)	Quality and Standard Authority of Ethiopia, Addis Ababa Branch Head	01/09/05	Addis Ababa
16	Deresse Fufa (Mr.)	Quality and Standard Authority of Ethiopia, Quality Certification Department Head	01/09/05	Addis Ababa
17	Assefa Mulugeta (Mr.)	Ministry of Agriculture, Grain Marketing Department Head	25/08/05	Addis Ababa

## Annex 2: Questionnaire for Oilseed Farmers

Date: \_\_\_\_\_

Kebelle/Village /place of interview: \_\_\_\_\_

Time interview started: \_\_\_\_\_ Time interview finished: \_\_\_\_\_

Interviewer: \_\_\_\_\_

### Interviewee background information

1. Age: \_\_\_\_\_

2. Sex

Female (1)

Male (2)

3. Marital status

Single (1)

Married (2)

Divorced (3)

Widow (4)

4. Level of Education

No education (1)

Non-formal education (2)

Elementary education (3)  Junior education (4)

High school (5)  Other (6) \_\_\_\_\_

5. Family size: \_\_\_\_\_

6. Agricultural land area owned in hectares \_\_\_\_\_

### Oilseed production

7. Type of oilseed production<sup>230</sup>. What kind of oilseed you produce in your farm?

Nigger (nug) seed (1)

Lin seed (2)

Rapeseed (3)

Sun flower (4)

Other (5) \_\_\_\_\_

8. Annual average production of oilseed per type in quintals. On average how many quintals of oilseed per year per oilseed type you produce?

• Nigger (nug) seed  Amount in quintals \_\_\_\_\_

1-5 (1)

6-10 (2)

More than 10 (3)

<sup>230</sup> The types of oilseed produced are found from the Ethiopian Export Promotion Agency: Ethiopia's External Trade Statistics. [http://www.ethioexport.org/tradeinfo/trade\\_main.shtml](http://www.ethioexport.org/tradeinfo/trade_main.shtml) 21/04/2005.

- Sunflower             Amount in hectare \_\_\_\_\_  
 1-5 (1)       6-10 (2)       More than 10 (3)
- Rape seed             Amount in hectare \_\_\_\_\_  
 1-5 (1)       6-10 (2)       More than 10 (3)
- Lin seed               Amount in hectare \_\_\_\_\_  
 1-5 (1)       6-10 (2)       More than 10 (3)
- Others \_\_\_\_\_  Amount in hectare \_\_\_\_\_  
 1-5 (1)       6-10 (2)       More than 10 (3)

9. Total land area allocated for oilseed production. How many plots of land you allocated for oilseed production in general?

Total land area allocated for oilseed production? \_\_\_\_\_ Hectares

- Less than 1 hectare (1)       1- 2 hectare (2)
- 2 – 3 hectare (3)       3 – 4 hectares (4)
- More than 4 hectare (5)       I don't know (9)

**Income gain from the sell of oilseed**

10. What is your yearly average selling price of one quintal of oilseed in Ethiopian Birr?

- Nigger seed       Estimated amount \_\_\_\_\_  
 101-200 (1)    201-300 (2)    More than 300 (3)
- Sunflower       Estimated amount \_\_\_\_\_  
 101-200 (1)    201-300 (2)    More than 300 (3)
- Rape seed       Estimated amount \_\_\_\_\_  
 101-200 (1)    201-300 (2)    More than 300 (3/)
- Lin seed       Estimated amount \_\_\_\_\_  
 101-200 (2)    201-300 (3)    More than 300 (4)
- Other \_\_\_\_\_  
 Estimated amount \_\_\_\_\_  
 101-200 (1)    201-300 (2)    More than 300 (3)



16. Who has what influence in setting the price of oilseed, if prices are set in negotiation?

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17. What criteria buyers use to select their oilseed orders? Please explain the list of criteria's set by buyers in the marketing of oilseeds?

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18. What kinds of quality standards are in place in the marketing of oilseed products? And what kinds of oilseed qualities are known?

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19. Who is setting the quality standard of oilseeds?

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20. Does Ethiopian Quality and Standard Authority involved in the setting of oilseed quality standards?

Yes       No

If yes, what kind of standards and certification mechanisms are in place?

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21. What is the cost/impact of none compliance to the rules and standards set by the standard setting organization (example Ethiopian Quality and Standard Authority)?

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22. Is there any kind of support given by an organization to improve the quality of oilseeds in your area?

- Yes (1)                       No (2)

23. If yes, what kind of support and from whom is it available?

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24. Do you have any information about the demand of organic oilseeds in the international market? Is there any organization, which approaches you to produce organic oilseed?

- Yes (1)                       No (2)

25. If yes what is your response and what kind of results you get from the sell of organic oilseeds?



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26. How do you evaluate the degree of competition in terms of price when you sell your oilseed products?

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27. What mechanism you use to overcome the problem of high competition in price?

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28. Is there a situation where you get advance order to your oilseeds from your buyers?

- Yes (1)                       No (2)

29. If yes, how far is your response time (from order to delivery) matters in the

relationship with your buyers and future sell of your products? Please explain.

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30. Is there a situation where you deliver your oilseed in different and attractive ways to your buyers (for example, using different packing materials, using identification or label name to different sources of oilseed etc.)?

- Yes (1)                       No (2)

31. If yes, what is the impact on the price and marketability of your oilseed products?

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32. Which time of the year is more appropriate for selling oilseed products?

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33. When do you often market your products?

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34. Is there significant price difference when you sell in harvest season and late in the year?

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35. If there are problems in the marketing of your products as mentioned in question number 34, what strategy do you use to overcome such problems?

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36. Is there any micro finance institution, which provides you credit?

- Yes (1)                       No (2)

37. If yes, what types of loan and credit facilities are available that would help to



overcome your financial problems?

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38. For what purpose do you use the loan you get from the micro finance institution?

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39. Where do you get information about price and other market related issues of oilseed products?

- From radio (1)                       From extension workers (2)  
 From other farmers (3)            From middlemen (4)  
 From brokers (5)                    Others (6) \_\_\_\_\_  
 I don't know (9)

40. The market information that you get from the different sources are

- Sufficient (1)                       Deficient (2)

41. In your opinion, what needs to be done to improve the market information?

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42. In your judgment is there a way that farmers could increase their income share from the sell of their oilseed?

- Yes (1)                                       No (2),

43. If yes how do you think it is improved?

- Through making some changes in the oilseed products (process and sell edible oil and oilcake) (1)                       Selling direct to exporters (2)  
 Other means (4) \_\_\_\_\_  I don't know (9)

44. Please explain how it is possible to improve farmer's income in each ways you mentioned.

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45. Is there any cooperative or self-help group that you are involved in?

- Yes (1)                       No (2)

46. If yes what are the functions of the association/s?

- Helping each other during production (1)     Saving and credit (2)  
 Working and managing social development projects (3)  
 Marketing of products (4)                       Buying agricultural inputs (5)  
 Other social services (6) \_\_\_\_\_

47. How do you think that these associations are helpful in upgrading the income of oilseed farmers?

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48. Is there any collective action taken (cooperative) to process oilseed and sell edible oil and oil cake instead of oilseed in you locality?

- Yes (1)                       No (2) If yes

49. What government policy is required to foster the activities of the self-help group or cooperative?

50. How much edible oil and oilcake your family consume per month

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51. What kind of other supports required from relevant government organs and other responsible organizations to improve the income of oilseed?

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### Annex 3: Questionnaire for Oilseed Exporters

Date: \_\_\_\_\_

Place of interview: \_\_\_\_\_

Time interview started: \_\_\_\_\_ Time interview finished: \_\_\_\_\_

Interviewer: \_\_\_\_\_

#### Interviewee information

1. Name of the organization: \_\_\_\_\_

2. Year of establishment \_\_\_\_\_

3. Ownership and management status:

Owner (1)       Manager (2)       Owner and manager (3)

4. Year of birth: \_\_\_\_\_

5. Sex:       Female (1)       Male (2)

6. Level of Education

No education (1)       Non-formal education (2)

Elementary education (3)       Junior education (4)

High school (5)       Other (6) \_\_\_\_\_

7. Number of employees in the organization: \_\_\_\_\_

#### Oilseed buying

8. What type of oilseed are you trading?

Sesame seed (1)       Nigger (nug) seed (2)

Sunflower (3)       Groundnuts (4)       Rape seeds (5)

Lin seeds (6)

Others (7) \_\_\_\_\_

9. On average how many tones of oilseed are you trading per year? \_\_\_\_\_

\_\_\_\_\_ (1)       \_\_\_\_\_ (2)

\_\_\_\_\_ (3)       \_\_\_\_\_ (4)

10. On average how much you pay for one quintal of oilseed?

- Sesame seed     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)
- Nigger seed     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)
- Sunflower     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)
- Groundnuts     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)
- Rape seeds     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)
- Linseed     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)
- Others \_\_\_\_\_  
     Less than 200 (1)     201-250 (2)     251-300 (3)  
     3001-350 (4)     More than 350 (5)

11. Who are your suppliers of oilseed?

- Individual farmers (1)     Farmers cooperatives (2)
- Middlemen (3)     Others (4) \_\_\_\_\_
- I don't know (9)

12. Who is setting the price when you buy oilseed products?

- Farmers (1)     Local middlemen (2)     Brokers (3)
- Government (4)     Exporters (5)
- Others (6) \_\_\_\_\_     I don't know (9)

13. Where do you get information about price and other market related issues of oilseed products in the local market?

- From radio (1)     From extension workers (2)
- From other farmers (3)     From middlemen (4)
- From brokers (5)     Others (6) \_\_\_\_\_
- I don't know (9)

14. The market information that you get from the different sources are

- Sufficient (1)       Deficient (2)

In your opinion, what needs to be done to improve the market information?

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15. What criteria you use to select the oilseeds/oilseed suppliers? (Please explain the list of criteria's set)?

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16. In your opinion could you get all your oilseed supply requests from suppliers?

- Yes (1)       No (2),

17. If no what are the main reasons?

- Low availability of oilseed (1)       Low quality of oilseed (2)  
 High price of oilseed (3)       Lack of reliable supplier (4)  
 Financial problems (5)       Trade regulation problems (6)  
 Other (7) \_\_\_\_\_

18. In your opinion how the above problem could be solved?

- Large oilseed production (1)       Increasing quality (2)  
 Better credit facilities (3)       Conducive trade regulations (4)  
 Supporting local suppliers (5)       Supporting cooperatives (6)  
 Other (7) \_\_\_\_\_

### **Oilseed export**

19. To which region/s are you exporting your oilseed?

- European Union (1)       North America (2)  
 Middle East (3)       North Africa (4)  
 East Africa (5)       Other (9) \_\_\_\_\_

20. On average how much is your selling price of one quintal of oilseeds per type?

- Sesame seed     Less than 250 (1)     251-300 (2)       301-350 (3)  
 351-400 (4)       More than 400 (5)

- Nigger seed     Less than 250 (1)     251-300 (2)     301-350 (3)  
     351-400 (4)     More than 400 (5)
- Sunflower     Less than 250 (1)     251-300 (2)     301-350 (3)  
     351-400 (4)     More than 400 (5)
- Rape seeds     Less than 250 (1)     251-300 (2)     301-350 (3)  
     351-400 (4)     More than 400 (5)
- Linseeds     Less than 250 (1)     251-300 (2)     301-350 (3)  
     351-400 (4)     More than 400 (5)
- Others \_\_\_\_\_  
     Less than 250 (1)     251-300 (2)     301-350 (3)  
     351-400 (4)     More than 400 (5)

21. What are the estimated average expenses (transport, labour, tax, storage, interest, etc.) to buy and sell one quintal of oilseed in birr?<sup>232</sup>

- Less than 20 (1)     21-40 (2)     41-60 (3)     More than 60 (4)

22. Could you meet all the criteria set by importers of oilseed?

- Yes (1)     No (2),

23. If no, how do you think it can be improved?

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24. Who has what influence (governance role) in the export of oilseed?

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### Upgrading

25. In your judgment is there a way that farmers could directly supply their oilseed products to exporters and raise income share from the sell of their oilseeds to both farmers and exporters?

- Yes (1)     No (2), if yes how do you think it can be improved? Please explain:

<sup>232</sup> Interviewee will be assisted in calculating the different costs involved

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26. What kinds of oilseeds qualities are known?

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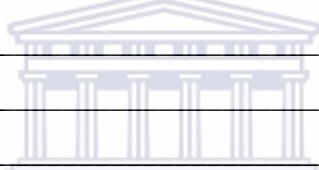
27. Who is setting the quality standard of oilseeds?

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28. What kind of standards and certification mechanisms are in place?



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29. What is the cost/impact of none compliance to the rules and standards set by the standard setting organization (example Ethiopian Quality and Standard Authority)?

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30. Do you have any order from your buyers to export organic oilseeds? (Is there any organization, which approaches you to export organic oilseeds)?

- Yes (1)       No (2)

31. If yes what is your response and what kind of results you expect from the sell of organic oilseeds?

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32. If yes, how farmers could be involved in the production of organic oilseeds and be able to share income from the better sell of organic oilseeds?

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33. Are government incentives for export include the oilseed sector?

- Yes (1)                       No (2), if yes what are the incentives?

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34. What needs to be included in the incentives?

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35. What other support required from relevant government organs and other responsible organizations to foster the oilseed export business?

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