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Gebrehiwot, Berihu Assefa and Gebreeyesus, Mulu

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**About the Author(s):**

(1) Berihu Assefa is a Lead Researcher at the Policy Studies Institute (email: berihuua86@gmail.com)
(2) Mulu Gebre-eyesus is a Lead Researcher at the Policy Studies Institute (email: mulu.yesus@gmail.com)

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## Abstract

Ethiopia prioritizes the leather sector. However, the sector has underperformed relative to targets and Ethiopia's potential. It has been long recognized that the major problem is the quality of raw hides and skins in the Ethiopian leather sector value chain. However, there has been little evidence how and why quality leakages happen along the leather sector value chain. Our thorough analysis of the leather sector value chain shows that the quality problems are caused by structural problems (at the breeding and post-breeding stages), disconnect between quality and price (i.e., price does not signal quality), lack of efficient marketing, transportation and storage systems, and lack of better tanning technologies.

**Key Words**: Ethiopia, quality, leather, incentive, signaling

# 1. Introduction

Ethiopia has one of the largest livestock population in Africa, with 59.5 million cattle, 30.7 million sheep and 30.2 million goats (CSA, 2016/17). Large livestock population not only provides an important source of livelihood for rural communities in the country but it also renders a tremendous potential supply base of raw hides and skins (RHS) for the development of the leather industry. Cognizant of this, Ethiopia has prioritized the leather and leather products sector (IDS, 2003, GTP-I & II) and has designed and implemented sectoral policies, roadmaps and plans and created specialized institutions such as the leather industry development institute (LIDI) that support sustainable development of the leather industry.

Despite the potential that exists in the livestock population and the policies and institutions that support the development of the leather sector, the sector is characterized by low performance. For example, the leather sector generated an export value of 132 million USD (against targeted amount of 500million USD) in the final year of GTP- I (NPC, 2016).

Existing studies indicate that the main reasons for low performance include low technology utilization, and low quality and unreliable supply of RHS (Dinh et al., 2012; Oqubay, 2015); supply of RHS (both quality & quantity), market, skilled labor and financial constraints (USAID, 2013); low quality of RHS (MoA and ILRI, 2013). What has emerged from our review of the existing studies and our discussion with various stakeholders is the importance of the quality of RHS. Two papers that have tried to address the issue of quality of RHS are Hailemariam (2005) and MoA and ILRI (2013). Hailemariam (2005) studied how quality leakages happen at the livestock sector and he attributes the causes to widespread livestock diseases & traditional husbandry practices. Likewise, MoA and ILRI (2013) attributed poor quality RHS to poor livestock husbandry, inadequate and erratic feed resources, and low genetic potential of the indigenous national herd. However, both papers focus on quality problems at the animal husbandry level.

In discussing quality problems, it is critical to see the full picture. We argue that quality leakages occur along the value chain (animal husbandry, processing and marketing of RHS, tanning and leather goods processing subsector). Each of these sub-sectors involves many actors and stakeholders that affect the quantity and quality of supply of RHS and leather products directly or indirectly. There is little evidence on how and why quality leakages occur along the whole leather sector value chain. So, our study aims to critically examine the quality related leakages at every stage of the value chain and identify the underlying causes.

The rest of the paper proceeds as follows. Section two discusses the methodology. Section three discusses the development of the Ethiopian leather industry. Section four maps the leather industry value chain and identifies how quality problems occur at each stage. Section five discusses the key drivers of quality problems in the sector. Section six concludes the paper.

## 2. Methodology

We use industrial organizational approach. As developed by Bain (1956), Grether (1970) and Williamson (1990), the industrial organization approach allows us to examine the structure of the actors, their behavior and interactions in the leather value chain. First, we map the whole value chain of the sector, starting from animal husbandry through the leather goods production and distribution. We then identify the major actors and their corresponding roles in the leather sector value chain. Here, the aim is to examine the industrial organization of the leather sector by studying the interactions of the actors, the price transmission mechanism, and the incentive structure (or the lack thereof). A careful examination of the whole process would allow us to tease out the main constraints and market failures along the production and marketing chains of the leather sector.

Our study employs both qualitative and quantitative data. The qualitative data are collected through various engagements including key informant interviews (KIIs) with the key actors along the leather value chain to understand their motivation, behavior and experience, and incentive structure. On the other hand, our quantitative data comes from secondary sources. Using local and international data sources, we describe the status and global position of the Ethiopian leather sector.

# 3. Development of the Ethiopian leather industry

## 3.1. Brief history and policy evolution

The establishment of manufacturing sector in Ethiopia dates back to the early 1920s. The leather sector was among those industries established during this early stage of industrial endeavor. Though it remained underdeveloped for much of its history, the leather and leather products industry has remained an important source of foreign exchange and employment. As of late, the government of Ethiopia has made the leather and leather products industry among the seven top priority manufacturing subsectors due to its potential in areas of backward linkages, export earnings and employment opportunities (GTP-I and GTP-II). However, the industry suffers from a myriad of challenges that relate to quality of raw materials, market, skilled labor and finance.

Starting from the days of the imperial regime, various policies and strategies have been developed to boost the performance of the manufacturing sector in general and that of the leather and leather products industry in particular. With the First Five-Year plan (1958-1962) of the imperial government followed an industrial policy that aimed at development of import substituting light industries where foreign investment was expected to play a leading role. As part of this policy, the Livestock and Meat Board (LMB) was formed in 1964 using Proclamation No. 212/64. The proclamation targeted improving leather quality through modern preservation process and a trading system that applies price discrimination on basis of quality of raw materials (Mahmud, 2000). The board was also involved in setting up market centers in different provinces and appraising and monitoring the erection of slaughterhouses. In 1972, the LMB initiated and implemented the Second Livestock Development Project (Girma, 2002).

Once the regime was toppled in 1974, the new government came up with a socialist economic plan which started with nationalization of private enterprises in 1975. Accordingly, eight tanneries and six shoe factories were nationalized and became parts of a newly established public enterprise- the National Leather and Shoe Corporation (Abebe and Schaefer, 2013). During this regime the performance of the leather industry was severely hampered and could not compete at the international stage. Mismanagement of the State Owned Enterprises (SOEs)

coupled with a prolonged civil war brought about a sharp decline in performance of the manufacturing sector (Gebreeyesus, 2013). New technologies that could have transformed the leather sector were in short supply and exports were restricted to RHSs. The leather and leather products industry were merely supplying the domestic market.

Once the Derg was removed by the Ethiopian People Revolutionary Demographic Front (EPRDF) in 1991, the course of the whole economic policy orientation of the country shifted to a one that favored the market. Thus, various reform measures were undertaken in early 1990s that aimed at laying ground for market friendly economic system. As a result, a number of leather industry establishments were privatized. It also allowed revival of private tanneries and leather goods manufacturing factories. In early 2000s, for example, newly established private footwear companies were able to match the production capacity of the large SOEs which were privatized in the early 1990s (Sonobe et al, 2009).

Along with the new economic policy direction and the resulting privatization of SOEs, the strategic importance (in the industrial endeavor of Ethiopia) of the leather sector has improved gradually. Thus, Ethiopia has been introducing a number of policy measures and framing institutional setups that are aimed to promote the leather industry. The 1998 export promotion strategy identified the leather industry as one of the main industrial subsectors. Similarly, the 2002 industrial strategy was meant to promote high valued agricultural exports and labor intensive manufacturing industries, such as, the leather and leather products industry (Gebreeyesus, 2013 and Altenburg, 2010). Starting from early 2000s, the successive national development plans of Ethiopia have all treated the leather industry among the main industrial subsectors primarily due to its strong backward linkages to the rural economy and its potential for poverty reduction (USAID, 2013). However, the latest two national development plans (GTP-I and GTP-II) have put to the fore the leather industry as among the main sources of export earnings of the country. Accordingly, both documents emphasized the need to promote domestic value addition and technological advancement within the industry.

Given the fact that RHSs are the most invaluable inputs of production to the leather sector and that Ethiopia is amply endowed with these raw materials, the government of Ethiopia has

issued a number of proclamations and regulations specific to RHSs. The RHSs marketing network has been among the major challenges within the industry. In 2005, the government introduced a proclamation- the RHSs Marketing System Proclamation No. 457/2005- that repealed the existing regulation (Regulation No. 25/1975). However, the proclamation was not as much concerned about competitiveness of the leather industry as it was about efficient sales of RHSs. For instance, with the new proclamation, while traders were required to secure certificate of competence before obtaining trade license and transportation was required to be backed by certificate of consignment, the RHSs marketing was assumed to be carried out only on basis of width of raw skins and weight of raw hides. No further quality and price differentiation mechanisms were introduced by the proclamation.

A 2008 proclamation- the Raw and Semi-processed Hides and Skins Export Tax Proclamation No. 567/2008- indicated government's intention of gearing the sector towards domestic value addition and export of fully processed hides and skins and leather products. This proclamation introduced taxes that were meant to discourage export of RHSs. Table 3.1 summarizes the items and the corresponding tax rates introduced by the proclamation.

**Table 3-1 Export tax rates on different hides and skins types**

| Hides and skins types | Rate |
|---|---|
| RHSs | 150% |
| Wet blue cow hides | 20% |
| Pickled sheep skins | 10% |
| Wet blue sheep skins | 5% |
| Wet blue goat skins | 5% |

Source: The raw and semi-processed hides and skins export tax proclamation No. 567/2008

This proclamation was widely unpopular among exporters within the sector for a while. During our KIIs with experts in the industry, we found that certain firms in the industry are still longing

for revocation of the proclamation.[1] However, though export earnings in the industry plunged in the aftermath of the proclamation [though it is unclear whether the poor showings were due to this proclamation or the 2008-09 global financial crisis], earnings gradually recovered on all fronts. Yet, though export earnings from leather goods improved significantly, those from RHSs have started to decline lately. This might indicate that firms in the industry have slowly but surely followed suit to the domestic value addition counsel of the government.

In an attempt to arrest backwardness and inefficiency in the RHSs market structure, to avoid existing RHSs wastage and quality defects, and to boost competitiveness of the leather industry, the government issued another proclamation- the RHSs marketing proclamation No. 814/2013- in March 2014. This proclamation repealed Proc. No. 457/2005 and emphasized on the need to both determine market price of RHSs on basis of quality and cut the long supply chain in the market. The proclamation splits the RHSs market structure into two: First level marketing of RHSs- which endorses marketing of RHSs at market centers to be conducted only between individual producers and suppliers or individual producers and traditional tanners or small abattoirs and suppliers- and Second level marketing of RHSs- which allows marketing of RHSs to be conducted only between suppliers and tanneries, or big abattoirs and tanneries or export abattoirs and tanneries. The proclamation prohibits any actor in the supply chain from involving in a marketing level it is not allowed to involve and from conducting resale.

Our key informants stated that the proclamation has so far failed to meet its objective due mainly to its inherent assumption that RHSs suppliers from regional markets can fulfill requirements of competence, including warehouses, processing units, and required working capital. Besides, the proclamation failed to clearly define how quality should be measured and valued in the market. The particulars of this proclamation were issued as the council of ministers regulation No. 339/2015 and the ministry of trade directive No. 005/2013. But both documents also failed by reiterating the statement 'RHSs should be supplied in compliance with the quality standard set by the Ethiopian standardization agency' of the proclamation. At the

[1] We also heard that some customers from Europe, particularly those in Italy and England, had temporarily boycotted buying processed leather from Ethiopia.

time of writing, we are informed that a new proclamation that revises this proclamation is tabled to the parliament for approval.

## 3.2. The performance of the Ethiopian leather industry

The Ethiopian leather industry contributes significantly to the country's economy in terms of job creations, export earnings and gross value of production. Besides, the industry has expanded in both medium and large scale industry and micro and small enterprises categories. Taking the latest data of the CSA, we have summarized below the performance of this industry.

### i) Labor absorption within the leather industry

Currently, the leather industry is among the top five medium and large scale manufacturing industries (defined as industrial establishments which engage ten persons or more) that generates large number of jobs. Between the years 2010/11 and 2014/15, on average 16,894 persons were engaged in the leather industry. That is, on average leather was generating 6.4% of the total manufacturing jobs. If we split the jobs by industry sub-category, we find that a comparable number of persons were engaged both in the footwear field and in the tanning and dressing of leather, luggage & handbags field. Table 3.2 summarizes the relative position of leather in its contribution towards labor absorption.

**Table 3-2 The top 5 manufacturing industries on basis of labor absorptions (2010/11-2014/15)**

| | | Years | | | | | Av. (2010/11 - 14/15) | |
|---|---|---|---|---|---|---|---|---|
| **Rank** | **Manufacturing subsector** | **2010/11** | **2011/12** | **2012/13** | **2013/14** | **2014/15** | **Number** | **Share (%)** |
| 1 | Food products and beverages | 67471 | 54849 | 58710 | 59415 | 129909 | 74071 | 27.9 |
| 2 | Textile | 13436 | 32624 | 35361 | 57044 | 30734 | 33840 | 12.7 |
| 3 | Other non-metallic mineral products | 18115 | 25042 | 40305 | 30178 | 29198 | 28568 | 10.8 |
| **4** | **Leather** | **14136** | **15173** | **19011** | **18918** | **17234** | **16894** | **6.4** |
| 5 | Rubber and plastic products* | 11019 | 12762 | 84105 | 18091 | 19778 | 15413 | 5.8 |
| | **Medium & large Industries-Total** | **175641** | **200014** | **313958** | **304764** | **333084** | **265492** | **100.0** |

Notes: Value for year 2012/13 dropped in average calculation- as it is an outlier.

Source: CSA (2016)

### ii) Export earnings from the leather industry

The leather sector has long been among the major sources of export earnings to the economy. Over the last ten years, the sector has accounted on average for 4.1% of Ethiopia's total export earnings. The sector's products (RHSs, leather products, and footwear) are together among the top ten export commodities of the country. Export earnings from the sector were around 100 million USD in both 2007 and 2008, but fell down by half in the aftermath of the global financial crisis. Starting with 2010, these export earnings recovered to a point when the country generated 135 million USD in 2013. Lately, the figures have dwindled again. Table 3.3 summarizes some of the major export commodities by value of Ethiopia in the last ten years.

**Table 3-3 Major export commodities of Ethiopia ('000 USD) and their share from total exports**

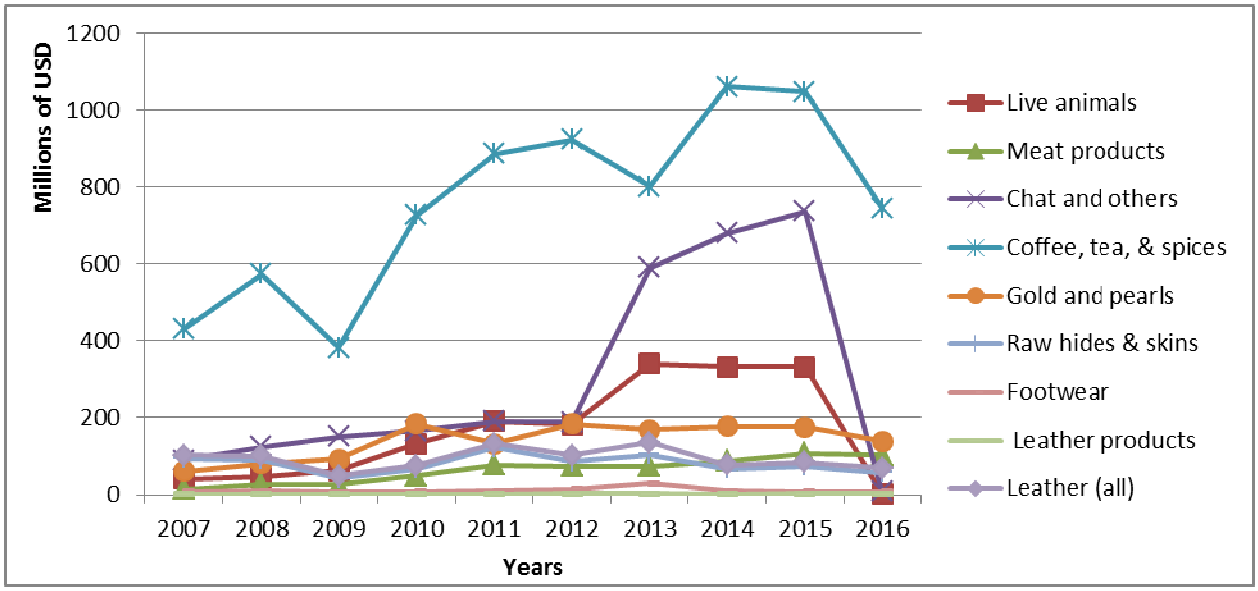
| Export Commodities | | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Live animals** | Value | 40602 | 46425 | 62032 | 132424 | 190357 | 181927 | 340859 | 332249 | 332180 | 2813 |
| | Share-% | 3 | 3 | 4 | 6 | 7 | 6 | 8 | 7 | 8 | 0 |
| **Meat products** | Value | 13700 | 28197 | 26045 | 49548 | 77210 | 73769 | 73957 | 87661 | 106860 | 102423 |
| | Share-% | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 7 |
| **Chat and others** | Value | 88597 | 124167 | 150585 | 165112 | 191350 | 188532 | 589798 | 679688 | 737486 | 6739 |
| | Share-% | 7 | 8 | 9 | 7 | 7 | 7 | 14 | 15 | 18 | 0 |
| **Coffee, tea, & spices** | Value | 430872 | 574397 | 382900 | 727564 | 887110 | 923209 | 802785 | 1061589 | 1049201 | 745936 |
| | Share-% | 34 | 36 | 24 | 32 | 34 | 32 | 20 | 24 | 25 | 49 |
| **Gold and pearls** | Value | 60002 | 80226 | 93000 | 183938 | 132513 | 184806 | 169204 | 176757 | 175008 | 139452 |
| | Share-% | 5 | 5 | 6 | 8 | 5 | 6 | 4 | 4 | 4 | 9 |
| **Raw hides & skins** | Value | 93394 | 90960 | 42769 | 67178 | 122713 | 85608 | 103422 | 67021 | 73657 | 58166 |
| | Share-% | 7 | 6 | 3 | 3 | 5 | 3 | 3 | 2 | 2 | 4 |
| **Footwear** | Value | 8200 | 9667 | 6611 | 7962 | 8637 | 14400 | 28343 | 8522 | 8284 | 7654 |
| | Share-% | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |
| **Leather products** | Value | 248 | 94 | 483 | 638 | 676 | 2996 | 3286 | 1281 | 1703 | 2814 |
| | Share-% | 0.02 | 0.01 | 0.03 | 0.03 | 0.03 | 0.10 | 0.08 | 0.03 | 0.04 | 0.19 |
| **Leather all** | Value | **101843** | **100721** | **49864** | **75778** | **132026** | **103004** | **135051** | **76825** | **83644** | **68633** |
| | Share-% | **8.0** | **6.3** | **3.1** | **3.3** | **5.0** | **3.6** | **3.3** | **1.7** | **2.0** | **4.6** |
| Share from exports | | 58 | 60 | 48 | 58 | 62 | 58 | 52 | 54 | 59 | 71 |

Source: UN COMTRADE (2017)

Over the last ten years, only coffee, tea and spices, chat and others, and gold and pearls look to have contributed more to Ethiopia's export earnings than products of the leather sector. Yet, though it stood only second to coffee, tea and spices in export earnings in 2007 (34% vs. 8%), the sector contributed only about 2% of the country's export earnings in both 2014 and 2015 implying inconsistency in its relative performance. Besides, though Ethiopia's export earnings have been increasing overall in the last decade, lately it has showed a decline, and in this regard

too the leather sector is not an exception. The following trend chart depicts the late decline in overall export performance of the economy and that of the leather sector too.

**Figure 3-1 Trends in export earnings (millions of USD) of Ethiopian major goods (2007- 2016)**




Source: UN COMTRADE (2017)

### iii) Production and capacity utilization

The CSA statistical bulletin (2016) indicates that leather is among the top five manufacturing subsectors in its gross value of production. The following table summarizes gross value production attained by the top five industries between the years 2010/11 and 2014/15.

**Table 3-4 Top 5 manufacturing subsectors on gross value of production ('000 ETB)**

| | | Years | | | | | Av.(2010/11-14/15) | |
|---|---|---|---|---|---|---|---|---|
| **Rank** | **Manufacturing subsector** | **2010/11** | **2011/12** | **2012/13** | **2013/14** | **2014/15** | **Number** | **Share(%)** |
| 1 | Food products and beverages | 22906434 | 34126786 | 38061446 | 45078983 | 51491376 | 38333005 | 36.4 |
| 2 | Other non-metallic minerals | 5501636 | 11179083 | 10668627 | 13121640 | 15608233 | 11215844 | 10.7 |
| 3 | Chemicals and chemical products | 4422353 | 6875044 | 9664263 | 10123738 | 9359779 | 8089035 | 7.7 |
| 4 | Fabricated metals except machine | 3099514 | 7160943 | 10368127 | 11437211 | 6980611 | 7809281 | 7.4 |
| **5** | **Leather** | **3410512** | **8015645** | **9081486** | **7462411** | **5873365** | **6768684** | **6.4** |
| | **Medium & large Industries-Total** | 52325424 | 93008051 | 112920004 | 125809697 | 141974948 | 105207625 | 100.0 |

Source: CSA (2016)

Production wise, the leather industry's position in the manufacturing sector is relatively tenacious. As compared to industries such as textiles and rubber and plastic products, the leather industry has been making higher gross value of production between the years 2010/11 and 2014/15 consistently. About 6.4% of the gross value of production in manufacturing was generated from the leather during these five years, a comparable figure to its contribution in labor absorption. When we further split the leather industry into its categories (the tanning and dressing of leather, luggage and hand bags and the manufacture of footwear), we observe that, during those five years, the former category had the bigger share from the whole of gross value of production of the industry.

## 3.3. The Ethiopian leather sector value chain in the global context

The leather industry's global supply chain is composed of RHSs, tanned leather, and footwear and has witnessed varying growth patterns in the past. For instance between the years 1981 and 2006, the growth has been impressive reaching USD 59.8 billion in 2006. The growth contribution of RHSs, tanned leather, and footwear were respectively 12.1%, 30.1% and 57.5% during this period (FAO, 2008). However, the widespread economic downturn that followed the world financial crisis during 2008-2009 has severely affected the RHSs market (FAO, 2009). Yet, the recovery from the financial crisis coupled with the growth of world population and per capita consumption of leather has helped the global leather industry market to witness strong growth later (FAO, 2016). The following sub-section discusses relative performance and potential of the Ethiopian leather industry in the global leather supply chain. We use measures of export share and revealed comparative advantage to assess the leather industry's current position and future potential in the global leather market.

### 3.3.1 Export performance in the global market

The RHSs production is basically a function of livestock population of a country. Ethiopia is one of the major producers of livestock in the world. Table 3-5 summarizes list of the top ten livestock populations in the world in 2014 and their average share between 2001 and 2014.

**Table 3-5 Top ten ranking livestock populations (in thousands) and their global share (%)**

| | | Livestock Population (2014) | | | | | Average (2001-2014) | |
|---|---|---|---|---|---|---|---|---|
| **Rank** | **Country** | **Cattle** | **Goats** | **Sheep** | **Total** | **Share (%)** | **Number** | **Share (%)** |
| 1 | China | 114112 | 185837 | 194927 | 494876 | 13.44 | 465117 | 13.54 |
| 2 | India | 187000 | 133000 | 63000 | 383000 | 10.40 | 390415 | 11.36 |
| 3 | Brazil | 212366 | 8852 | 17614 | 238832 | 6.49 | 228485 | 6.65 |
| 4 | Pakistan | 39743 | 66615 | 29095 | 135453 | 3.68 | 114531 | 3.33 |
| 5 | Nigeria | 19543 | 72467 | 41327 | 133336 | 3.62 | 107249 | 3.12 |
| **6** | **Ethiopia** | **56706** | **29113** | **29332** | **115152** | **3.13** | **88921** | **2.59** |
| 7 | Australia | 29103 | 3570 | 72612 | 105285 | 2.86 | 117647 | 3.42 |
| 8 | Sudan | 30191 | 31029 | 39846 | 101066 | 2.75 | _ | _ |
| 9 | USA | 88526 | 2611 | 5245 | 96382 | 2.62 | 103045 | 3.00 |
| 10 | Bangladesh | 23488 | 55900 | 1925 | 81313 | 2.21 | 70798 | 2.06 |
| | **Africa** | **312327** | **374380** | **340749** | **1027457** | **27.91** | **872046** | **25.38** |
| | World | 1474527 | 1011252 | 1195625 | 3681403 | 100 | 3435804 | 100.00 |
| Ethiopia's share in Africa | | 18.2 | 7.8 | 8.6 | 11.2 | 11.2 | 10.2 | 10.2 |

Source: FAO (2017)

As shown in Table 3-5 China and India together accounted for about a quarter of the world's livestock population during 2001-2014. Ethiopia was ranked sixth in 2014 for its overall livestock population in the world and stood second (only next to Nigeria) in Africa. The FAO dataset shows that the country's livestock population has been growing continuously between 2001 and 2014. Besides, in 2014, its cattle population accounted for more than 18% of Africa's cattle population. Overall Ethiopia's livestock population accounted for about 11% of Africa's livestock population in 2014, and its average share was about 10% between 2001 and 2014.

Using the relative position of countries on their livestock population and significance of their involvement in the global leather market, we selected four economies each from Africa and Asia to conduct a comparative analysis on the performance of the Ethiopian leather industry. Table 3-6 summarizes export performance of these economies on the global market for RHSs.

**Table 3-6 Export performances of selected economies in RHSs ('000 USD)**

| Year | Countries | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Egypt** | **Ethiopia** | **Kenya** | **Nigeria** | **China** | **India** | **Pakistan** | **Viet Nam** | **SSA** |
| **2007** | _ | **93394** | 47254 | 383232 | 1176970 | 805164 | 391728 | 173284 | 858349 |
| **2008** | 45712 | **90960** | 48611 | 680927 | 398982 | 845668 | 382136 | 245466 | 1121446 |
| **2009** | 101508 | **42769** | 29322 | 512507 | 241579 | 562082 | 268993 | 170417 | 806166 |
| **2010** | 158414 | **67178** | 53016 | 3038033 | 411728 | 789832 | 414131 | 245165 | 3475944 |
| **2011** | 142258 | **122713** | _ | 779490 | 452789 | 1014617 | 466831 | 252548 | 1347650 |
| **2012** | 109530 | **85608** | _ | 1130606 | 445187 | 1073742 | 456902 | 255046 | 1661845 |
| **2013** | 168428 | **103422** | 100149 | 924015 | 466067 | 1349059 | 529615 | 278540 | 1796808 |
| **2014** | 195116 | **67021** | _ | 591921 | 563330 | 1363716 | 547272 | 351217 | 1291588 |
| **2015** | 157714 | **73657** | _ | _ | 665877 | 1096323 | 424855 | 454984 | 523966 |
| **2016** | 119710 | **58166** | _ | 45029 | 626960 | 908749 | 348857 | _ | 493066 |

Source: UN COMTRADE (2017)

The export earning of Ethiopia in the global RHSs market has been less than that of its comparator countries over the last decade. Though its livestock population is comparable to Nigeria or Pakistan and even superior to Egypt or Viet Nam, its export earnings and hence share in the global market has remained relatively low. The government's prioritization of domestic value addition in the industry and challenges related to quality of RHSs might explain the evidently poor export performance. The above table also shows that export performance of almost all (Egypt was an exception) selected economies on the global RHSs market was relatively poor in the aftermath of the global financial crisis.

The leather goods export performance of Ethiopia has been continuously improving for much of the last ten years (see Table 3-7 & Table 3-8). Yet, its share in global export of leather products remains very small. Although African countries such as Ethiopia and Nigeria do have relatively large livestock populations, they are yet to secure meaningful shares on the global markets for leather products. The share of the whole of Sub-Saharan Africa (SSA) region from world's exports of leather products has remained very small. In fact, all the four Asian comparator countries managed to earn tenfold or more than what SSA did in the last ten years. This shows that Ethiopia and its peers in Africa have a long way to catch up with the Asian competitors.

### Table 3-7 Export performances of selected economies in leather goods ('000 USD)

| Year | Countries | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Egypt** | **Ethiopia** | **Kenya** | **Nigeria** | **China** | **India** | **Pakistan** | **Viet Nam** | **SSA** |
| **2007** | _ | **248** | 912 | 2275 | 14327787 | 1328002 | 691293 | 483004 | 52601 |
| **2008** | 12069 | **94** | 6198 | 410 | 16989376 | 1622022 | 766573 | 626332 | 64319 |
| **2009** | 9030 | **483** | 1395 | 1638 | 15115638 | 1417471 | 577622 | 653502 | 49541 |
| **2010** | 6728 | **638** | 2200 | 6348 | 20845585 | 1446996 | 618606 | 856880 | 115580 |
| **2011** | 6300 | **676** | _ | 3933 | 26892327 | 2023911 | 680414 | 1151117 | 128061 |
| **2012** | 2023 | **2996** | _ | 0 | 28243843 | 2036379 | 673235 | 1379300 | 114097 |
| **2013** | 3585 | **3286** | 1609 | 2 | 30673232 | 2513188 | 743470 | 1776790 | 108222 |
| **2014** | 2900 | **1281** | _ | _ | 30365883 | 2548217 | 741246 | 2350776 | 120365 |
| **2015** | 968 | **1703** | _ | _ | 31031735 | 2425276 | 687228 | 2704003 | 105897 |
| **2016** | 923 | **2814** | _ | _ | 27367409 | 2345799 | 644420 | _ | 106015 |

Source: UN COMTRADE (2017)

### Table 3-8 Export performances of selected economies in footwear ('000 USD)

| Year | Countries | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Egypt** | **Ethiopia** | **Kenya** | **Nigeria** | **China** | **India** | **Pakistan** | **Viet Nam** | **SSA** |
| **2007** | _ | **8200** | 45654 | 59705 | 25350737 | 1412039 | 113193 | 4076199 | 184431 |
| **2008** | 8109 | **9667** | 38187 | 55178 | 29720438 | 1581201 | 133177 | 4872365 | 173847 |
| **2009** | 17159 | **6611** | 34831 | 85799 | 28016268 | 1481177 | 117256 | 4151908 | 232161 |
| **2010** | 17394 | **7962** | 41201 | 340865 | 35633851 | 1642895 | 92679 | 5229846 | 635403 |
| **2011** | 18817 | **8637** | _ | 123832 | 41722333 | 2090537 | 112259 | 6717915 | 436823 |
| **2012** | 9180 | **14400** | _ | 162417 | 46811268 | 1958290 | 102141 | 7515321 | 492268 |
| **2013** | 10730 | **28343** | 46353 | 191749 | 50761328 | 2608184 | 109210 | 8721913 | 545886 |
| **2014** | 12085 | **8522** | _ | 61504 | 56248574 | 2990733 | 132222 | 10690489 | 378408 |
| **2015** | 9179 | **8284** | _ | _ | 53509469 | 2771020 | 116860 | 12438847 | 223666 |
| **2016** | 5425 | **7654** | _ | 2153 | 47202913 | 2747900 | 108285 | _ | 182768 |

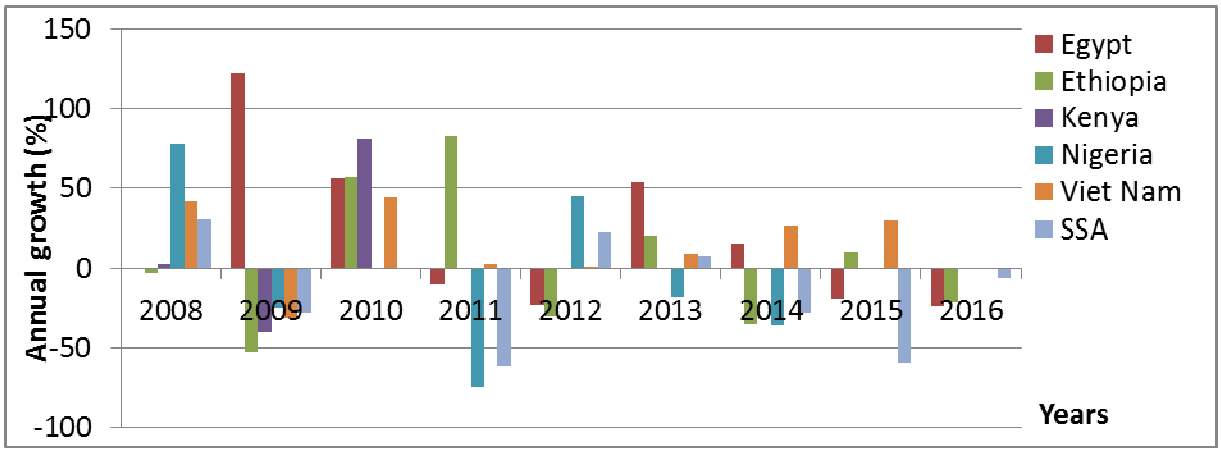
Source: UN COMTRADE (2017)

Over the last ten years, the listed African countries have secured more export earnings from footwear than from leather goods. Yet, over the same period, Ethiopia and its African peers have also observed patchy export performance on their footwear products per se. The data on the last ten years indicate that the footwear export earnings of the whole of SSA region has remained one-tenth or less than that of any of China, India, or even Viet Nam. Thus, SSA and

hence Ethiopia have still a long way to close the gap on their Asian comparators on shares from the global market for footwear products.

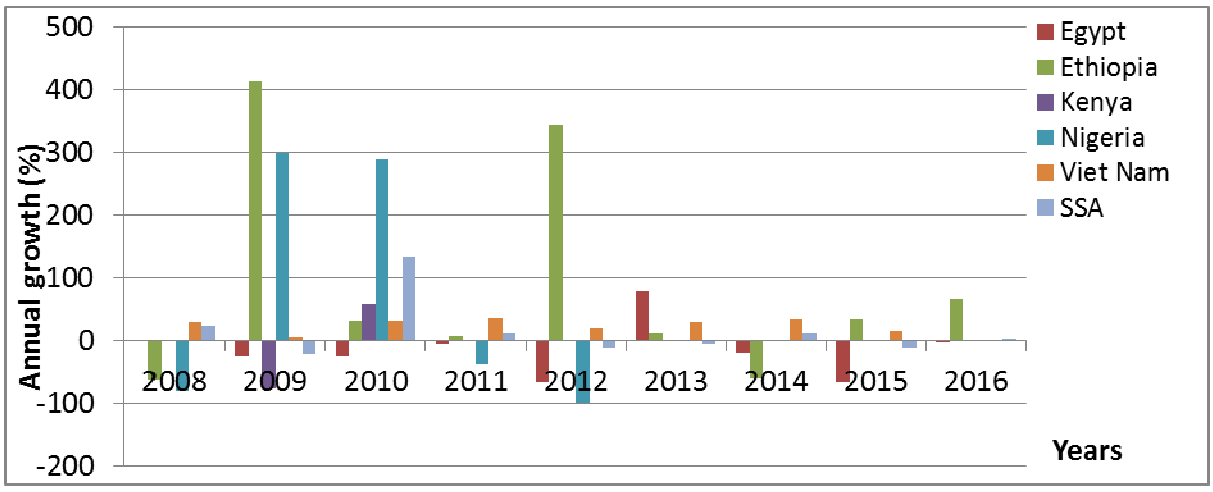
In terms of export growth performance, over the past ten years, annual growth rates of exports of the leather sector swung for most selected economies. These mixed results were particularly observed on the market for RHSs. As of late, and by comparison, the global footwear market has witnessed small export growth rates among the selected economies. Besides, Ethiopia has experienced positive growth rates for its leather goods exports for most of the ten years.

**Figure 3-2 Growth trends of export earnings of selected economies from RHSs**



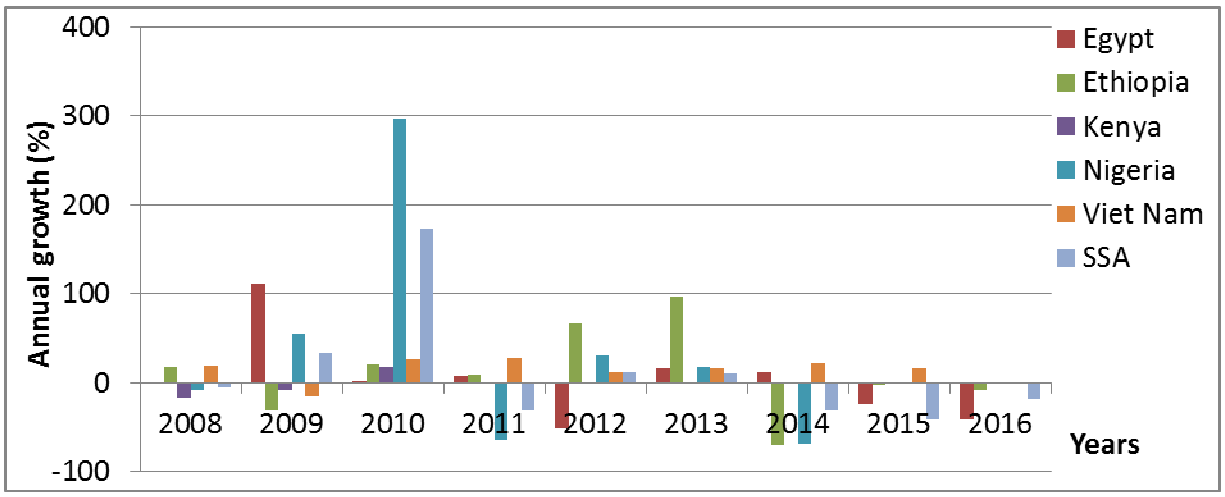

Source: UN COMTRADE (2017)

**Figure 3-3 Growth trends of export earnings of selected economies from leather goods**




Source: UN COMTRADE (2017)

**Figure 3-4 Growth trends of export earnings of selected economies from footwear products**




Source: UN COMTRADE (2017)

### 3.3.2 Revealed Comparative Advantage (RCA) in the leather sector

Predictions of the orthodox trade theories are based on the principle of comparative advantage which the Ricardian theory argues is a result of technological difference while the Hecksher-Ohlin (H-O) theory posits that it is due to relative factor scarcity. However, since relative prices of all constituent products/ sectors might not be observable, it is better to compute a comparative advantage that is 'revealed' using observed trade patterns (Balassa and Noland, 1989). Measures of Revealed Comparative Advantage (RCA) can help us assess a country's export potential. RCA is an index used to measure the relative advantage or disadvantage in a given industry of a country as evidenced by trade flows. The RCA indicates whether a country is in the process of extending the products in which it has a trade potential. The RCA index (Balassa, 1965) is calculated as:

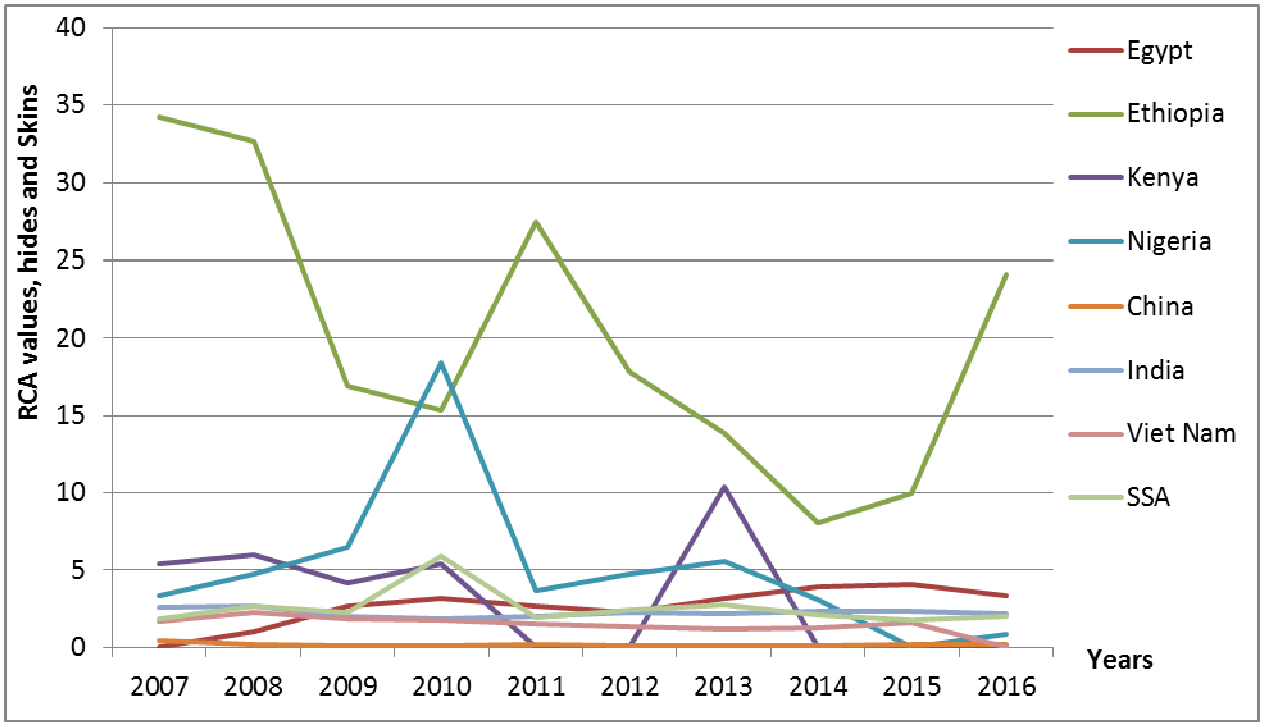
$RCA_{ijk} = \frac{x_{ijk}/X_{ij}}{x_{wjk}/X_{wj}}$, where $x$ is the value of exports of product $k$ from country $i$ to destination $j$, and $X$ is total exports from $i$ to j; and $w$ indicates the world as origin.

The RCA is equal to the proportion of a given country's exports of a product type from its total exports divided by the proportion of world exports that are of that product type. An RCA score between zero and one indicates a comparative disadvantage, while above one indicates comparative advantage. The RCA has its own limitations as a measure of comparative advantage. For instance, Siggel (2006) states that because high export volumes can result from

market distortions, such as subsides or under-valued exchange rates, the RCA could be a misnomer of comparative advantage. Besides, the RCA index tries to identify only whether a country has a "revealed" comparative advantage rather than determine the underlying sources of its comparative advantage.

Using the above definition of the RCA, we have captured Ethiopia's RCA in exports of RHSs, leather goods and footwear products. Figure 3.5 presents trends in RCA indices of the selected economies on exports of RHSs between the years 2007 and 2016.

**Figure 3-5 Trends of the RCA indices of selected economies on exports of RHSs**

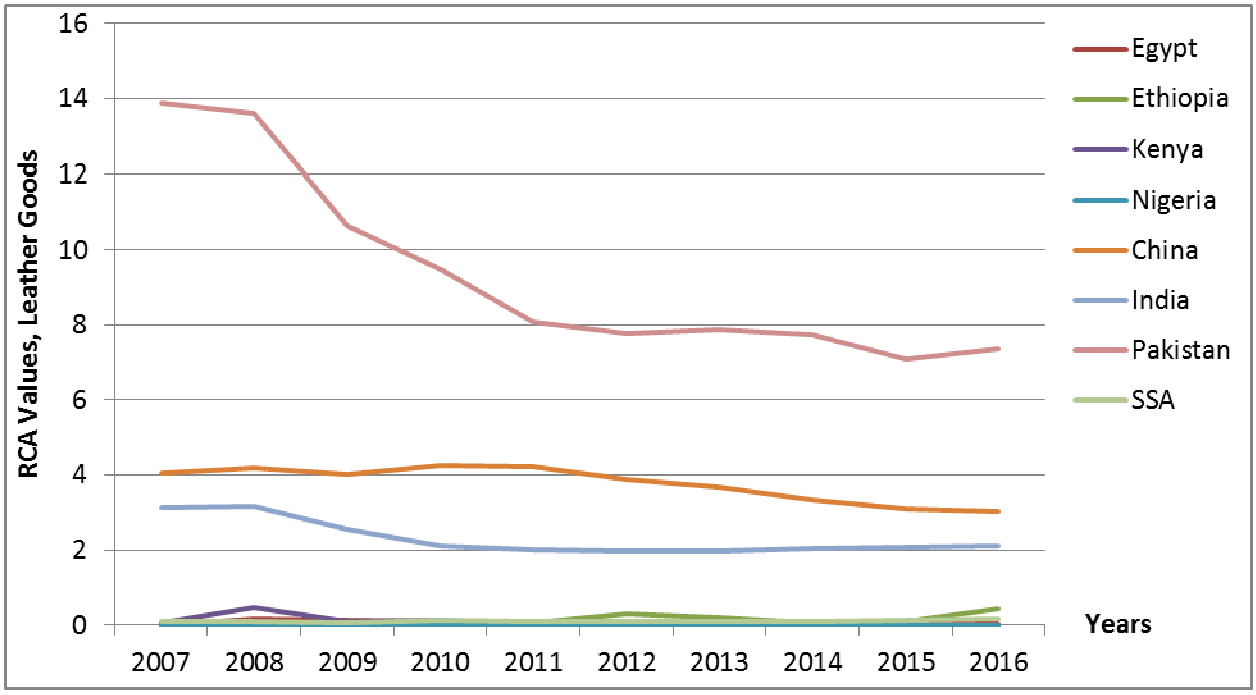



Source: UN COMTRADE (2017)

The above figure indicates that Ethiopia has RCA over all the sampled economies in export of RHSs. In those ten years, only Nigeria had ever come close to Ethiopia. This might be due to its superior livestock population. Yet, Ethiopia's RCA on RHSs exports has witnessed a swinging pattern between high and low scores (34 in 2007 and 8 in 2014). This might be explained by a number of reasons, among which, the 2008-2009 financial crisis, the continuous deterioration in quality of RHSs, and policy restrictions on exports of RHSs might have significant effects.

Regarding the RCA in exports of leather goods, we found that all the sampled African countries have experienced revealed comparative disadvantages in exports of leather goods over those ten years. The SSA as a region has also been inferior to comparators from Asia during those ten years. Ethiopia's RCA scores in leather goods export were close to zero between the years 2007 and 2016, while countries such as China and Pakistan have been the dominant forces in the global market for leather goods. The following figure summarizes the RCA indices trend in leather goods exports of the selected economies.

**Figure 3-6 Trends of the RCA indices of selected economies on exports of leather goods**

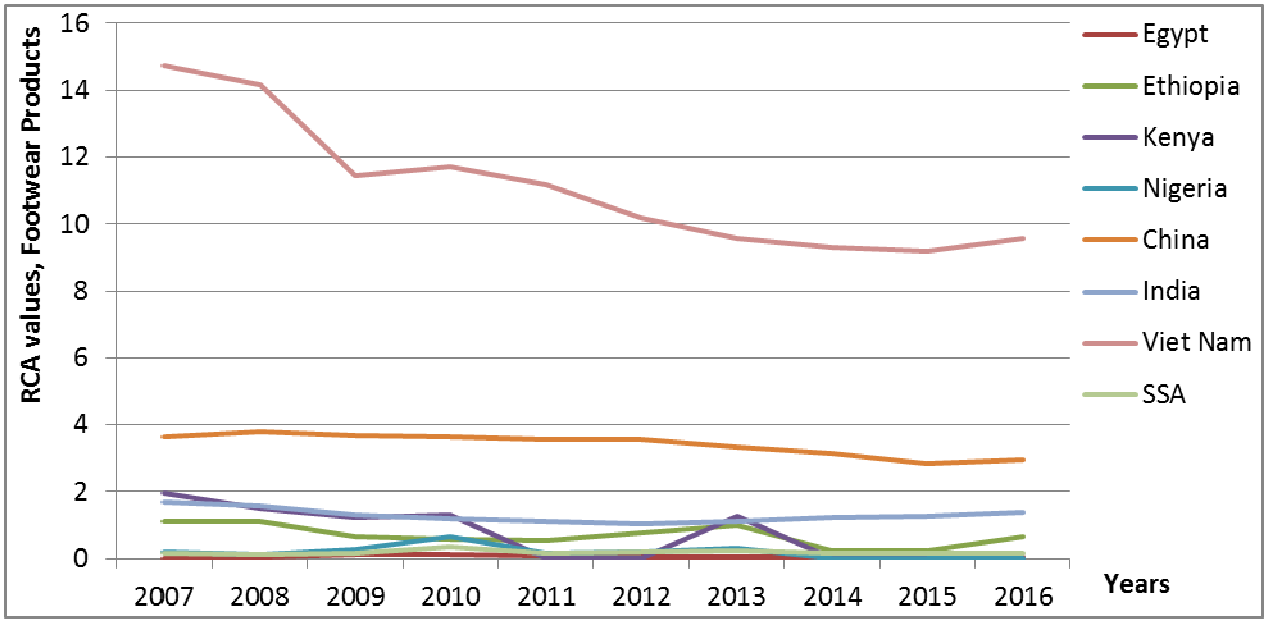



Source: UN COMTRADE (2017)

The footwear exports of our selected economies have shown quite mixed results on whether countries such as Ethiopia have any RCA over the product. It looked as if the African comparators Ethiopia and Kenya have RCAs in the market until the global financial crisis. However, in the aftermath of the crisis, both managed to have meaningful RCA only in 2013. Otherwise, all four African comparators have so far remained revealed comparative disadvantage in exports of footwear products, while countries such as Viet Nam and China have RCA over the last ten years on exports of footwear products. Shortly, the RCA indices trend of the selected economies over the ten years was such that the Asian comparators were

consistently more competitive than Ethiopia and its African peers in the global market for footwear products. The following figure summarizes the RCA indices trend on footwear products export of selected economies during those same ten years.

**Figure 3-7 Trends of the RCA indices of selected economies on exports of footwear products**

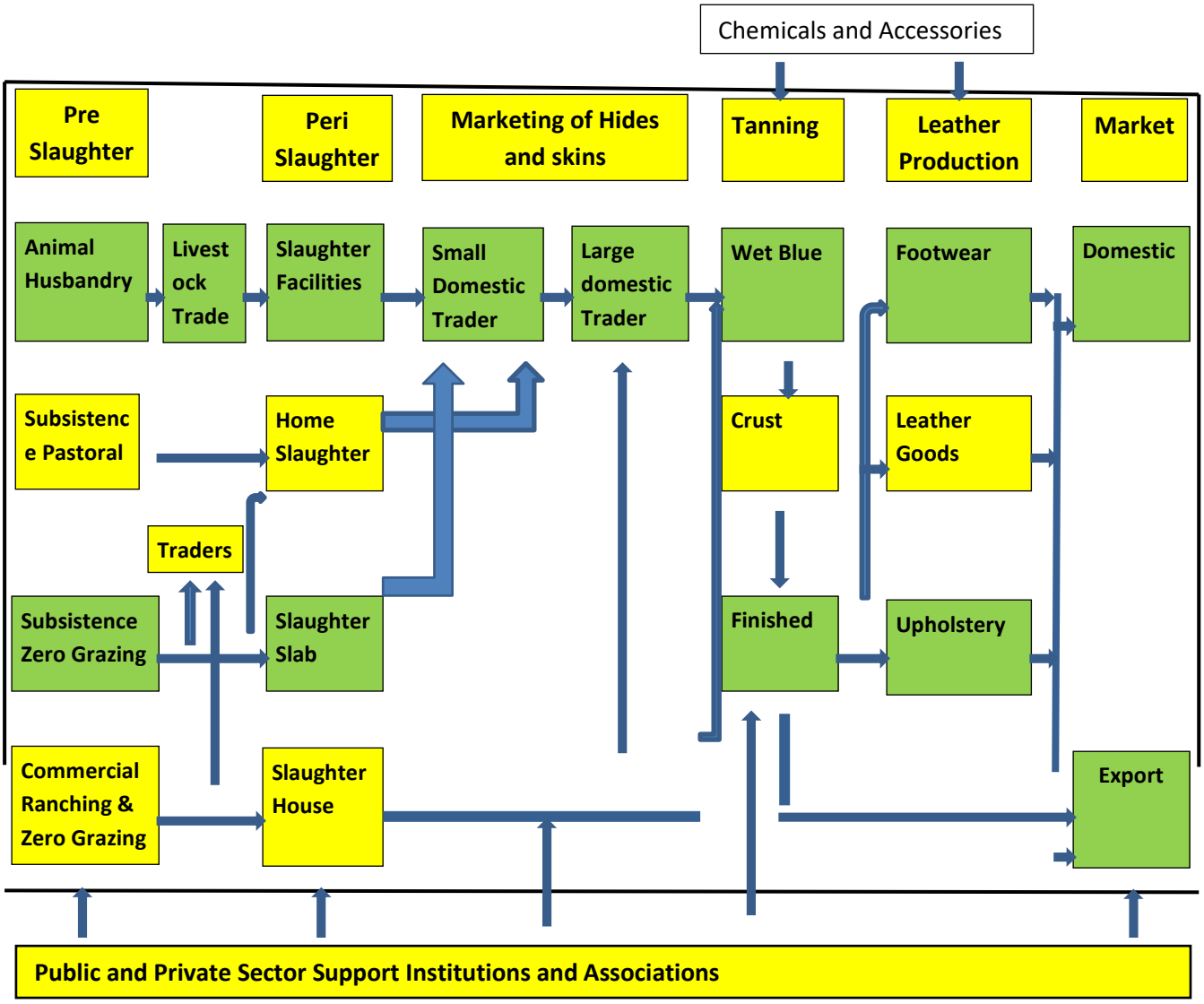



Source: UN COMTRADE (2017)

# 4. Mapping the value chain of the leather industry and quality problems

The leather value chain consists of three broad sub-sectors: animal husbandry, processing and marketing of RHSs, and tannery and leather goods processing. Each of these sub-sectors involves many actors and stakeholders that affect the quantity and quality of supply of RHSs and leather products directly or indirectly. With the support of Figure 4.1, this chapter tries to sketch the type of actors and stakeholders involved in the sector, their interactions and impacts, and the main factors that affect quality in each stage of the value chain.

**Figure 4-1 Structure of leather industry value chain in Ethiopia**




Source: Ethiopia leather sector value chain strategy, 2016 -2020.

## 4.1. Animal husbandry system and RHSs production

Production of hides and skins is largely a by-product related activity to the animal slaughtering practice of the meat industry. This implies that so as to increase quantity and quality of RHSs there must be both sufficient supply of animals to slaughter and sufficient demand for meat. Examining the animal husbandry system, which requires day-to-day caring and selective breeding of livestock, is thus crucial in understanding the RHSs and leather industry value chain.

A modern husbandry system requires skilled labor, selected breeds, modern breeding techniques, and provision of sufficient health service and feed. However, the husbandry system in Ethiopia is characterized by traditional livestock rearing. Predominantly there are two forms husbandry system in Ethiopia: the sedentary mixed crop-livestock production system and the nomadic pastoral or agro-pastoral production system (Negassa et al, 2011). The former is dependent on communal and/or private grazing land and crop residue and stubble as animal fodder, while the latter is based on extensive communal grazing, which involves extensive movement of herds (Negassa et al, 2011). Bekele and Ayele (2008) estimates that the pastoral areas are home to 40% of the cattle, 75% of the goats, 25% of the sheep, 20% of equines and nearly all of the camels. About 20% of the draft oxen in the highlands and 90% of the graded cattle and sheep for export are produced by the pastoral regions. The other forms of livestock production systems, which are less important, but growing, are peri-urban and urban, and medium to large-scale commercial livestock production systems (Gebremedhin et. al, 2007).

Ethiopia has one of the largest livestock population in Africa, with 59.5 million cattle, 30.7 million sheep and 30.2 million goats (CSA, 2016/2017). The off-take (kill) rate of about 7% for cattle, 33% for sheep and 35% for goats yields an estimated potential annual production of 2.4 million hides, 10 million sheepskins and 7.4 million goatskins (MoA and ILRI, 2013). The off-take rates in Ethiopia are relatively very small. For instance, the 7% off-take rate for cattle is far below the African average of 12.7% and the world average of 20.3%. Such low off-take rates suggest that the farmer needs animal(s) more as productive assets, such as draught power and milk provision, than as source of income if sold to the market. A recent study (USAID, 2013) shows that the principal purpose of rearing cattle in Ethiopia are draught power (24.95%),

breeding (21.06%), and milking (13.76%). The share of cattle raised for the purpose of meat is below 1%. Similarly, breeding is the major purpose of raising sheep and goats (51% and 44% respectively). The fact that animals are raised largely not for meat but for other purposes adversely affects the supply of RHSs. Moreover, Ethiopian livestock owners incur major livestock losses due to a high death rate (14.37%), which is double the African average and which in turn reduces the supply of RHSs to the market.

A poor husbandry system adversely affects not only the quantity but also the quality of RHSs supplied to the market. In a traditional rearing system (like the one in Ethiopia), pasture availability depends on rainfall, which in turn is unreliable. Animals are usually exposed from young age to seasonal drought conditions and poor pastures. Lack of feed and the search for grazing lands are common features of the husbandry system in Ethiopia. Though there is little evidence related to the effect of livestock nutrition on the quality of RHSs in Africa, it is unlikely that hides and skins quality remain unaffected (Jabbar et al, 2002).

Furthermore, prevalent animal diseases have posed major challenges on the quality of hides and skins in Ethiopia. According to USAID (2013), the most common skin diseases in cattle are caused by tick bites and demodex mange mites. Cockle (an allergic dermatitis from lice and ked infestation) and animal-pox (a disease which causes spots on the skin) are among the most common ones that significantly affect sheep and goats respectively. Kebede and Fetene (2012) indicate that skin diseases caused by lice, ticks and mange mites are one of the major causes of defective hides and skins leading to serious economic loss.

Poor disease management system is another challenge to the Ethiopian husbandry system (MoA and ILRI, 2013). The animal health service provision is supported by both national and regional governments and private service providers. Though the country seems to have large number of veterinarians, many argue that animal health services provision is inadequate (Hooper, 2016). Catley et al. (2002) and OPDC (2004) also indicate that the animal health service provision system in pastoral areas of Southern Ethiopia is not tailored to pastoralists need [as it is dominated by governments' veterinary services through stationed clinics and

health posts]. Similarly, Hooper (2016) states the prevalence of many infectious diseases in the highlands of Ethiopia where mixed crop-livestock system is practiced. He further argued that quite a large number of the rural health posts are ill-equipped and under-staffed and thus are unable to properly discharge responsibilities.

Furthermore, associated with the traditional husbandry system are mechanical damages that occur during pre-slaughtering stage, such as brand mark, scratches, horn rakes and yoke marks. According to the National Animal Health Diagnostics and Investigation Centre (NAHDIC) and LIDI national defective assessment survey (2016), 57.8% of the RHSs used for assessment were found to be defective due to scratches. Scratches are mostly consequences of cockle and go together as the former is caused by hyper skin sensitivity. Cockle is regarded as an economically catastrophic disease since it causes over 50% of skin rejection or downgrading (MoA and ILRI, 2013). Similarly, USAID (2013) indicates that nearly 80% of all sheepskins from the highland areas of Ethiopia are affected by cockle leading to high rejection rate.

The interventions meant to arrest these prevalent animal diseases have so far seemed ineffective. Our KIIs revealed that the main challenges relate to lack of commitment on part of the ministry of livestock and fishery development (revealed in poor extension services and inadequate veterinary services) and poor market institutions that have failed to encourage farmers produce good quality RHSs. Our key informants stated that the ministry hasn't exerted the required effort to revive the production of good quality RHSs. This is clearly manifested, they argued, in the new ministry's organizational structure which has not so far paid much attention on sustainable production of quality RHSs.

Besides, our KIIs revealed that the livestock extension services have neither helped farmers develop the required skills of producing good quality RHSs nor alleviated animal health related problems. For instance, traditional practices such as stitching and flaying of animals- which badly affect the quality of RHSs- are widely practiced within the farming community. Currently, the in-door animal husbandry practices don't commonly involve showering of the animals- which could have much improved the health status of animals and thus the quality of their

skins.[2] Similarly, the dire state of veterinary services has not helped the cause either. Animal diseases such as cockle and animal-pox have not properly been arrested so far.[3] Scratches, wounds and scars have not also been treated with the required attention. Besides, though efforts have been made to introduce and expand improved breeds of livestock to the farming community, animals are yet to be served with the right quality and quantity of animal feeds. This in turn has negatively impacted the size and quality of the RHSs supplied to the market.

Finally, it is important to note that RHSs are not as such marketable products that farmers consider worth investing on. RHSs are treated as just another byproduct, and given the poor price signaling mechanism on the quality of RHSs, farmers don't have the motive to invest the quality. In short, the institutional arrangements that are pertinent to production and marketing of RHSs are not suitable to induce farmers to produce and supply good quality RHSs.

The above discussions indicate that traditional husbandry system, lack of proper provision of animal health extension and marketing service and lack of proper policy environment are serious constraints to production and supply of quality RHSs. Besides, improvement in hides and skins quality at husbandry stage and its sustainability will primarily rely on the benefits it brings to the farmer. Thus, during live animal marketing, the condition of hides or skins should also form the basis for price setting so that livestock producers benefit at the very point of animal sale ICPALD (2013). Yet, it is currently difficult to have such type of a market in Ethiopia [given the traditional form of husbandry and the fact that livestock is considered the main source of livelihood and social prestige]. It requires change in the husbandry system which in turn demands time, investment and establishment of proper price incentives.

### 4.2. Slaughtering practices and marketing system of RHSs

The absence of good slaughtering and flaying techniques, and inappropriate practices in curing, collection, transportation, storage and general handling of RHSs have huge implication for the quality of RHSs as does the marketing system. This section therefore assesses these aspects and

[2] With dwindling access to grazing land, livestock activities have gradually become in-door husbandry.
[3] Cockle is a major disease that has resulted in significant drop in quality of RHSs. Until mid-1990s Ethiopia used to export about half its wet blue and pickles as grade one to three, but with emergence of the disease, grades of its RHSs have declined alarmingly- grade one to three currently account for less than 5%.

documents the procedure and actors involved in the slaughtering, RHSs collection and preservation process and how these actors interact.

**a) Slaughtering practices**

Despite Ethiopia's huge production potential of hides and skins, poor slaughtering practices in the country pose additional challenges on the quality of RHSs supplied to the market. The slaughtering practices in Ethiopia range from backyard slaughtering, rural slaughter slabs, municipal slaughter houses, and to modern abattoirs. Backyard slaughtering of sheep and goats (sometimes cattle by butchers and group of households) are more common in many parts of the country, and are meant to meet households' and 'small hotels' demand for meat. Backyard slaughtering is the major source of RHSs to the tanneries. USAID (2013) estimates that about 90% of the sheep and the goats and about 70% of the cattle are slaughtered informally in homesteads. Rural slaughter slabs, which are usually located in small towns, are also major sources of RHSs to the tanneries. Most (80%) of the rural slaughter slabs are found in Oromia and Amhara region. Municipal slaughter houses mainly serve medium to large towns and cities.

According to USAID (2013), Ethiopia has about 175 slaughter facilities, a figure by far small in comparison to its population size. Besides, even in the presence of slaughtering slabs and municipal slaughter houses, majority of the slaughtering practice (particularly of sheep and goats) in the major urban areas takes place in homesteads partly for cultural reasons. A 2011/12 report on animal slaughtering in Addis Ababa shows that nearly 76% of the sheep and 82% of the goats slaughtering were made at homesteads. There also exist 15 modern abattoirs in Ethiopia, mainly with the aim of meat exporting (LIDI, 2017).

The slaughtering practice in backyards, rural slabs and many municipal slaughter houses is undertaken manually and mostly by inexperienced personnel (USAID, 2013). This exposes the RHSs to damages, such as gouge marks, cut holes, poor patterns and vainness (vain mark). Moreover, most producers preserve the RHSs using sun drying and suspension drying which further weakens quality. NAHDIC and LIDI (2016) stated that 25.6% of their sampled RHSs had quality problems resulting from slaughtering practice. The tanneries also confirm prevalence of this problem and are of the view that RHSs collected from modern abattoirs have such quality

defects. The challenge with modern slaughter houses is that they are found in big cities and perform below capacity and thus are unable to meet the national demand for RHSs (USAID, 2013). Our key respondents commented that with the current dynamics of urban lifestyle, there is a need for awareness creation on responsible slaughtering practices. Besides, modern abattoirs need to expand adequately so that they would reach out to the public.

**b) Marketing of RHSs: collection, preservation and transportation activities**

The RHSs marketing system comprises collection, preservation, transportation and selling of the RHSs. Though the abattoirs directly supply the tanning industry, their share in total supply of RHSs is small. Instead, the households which normally slaughter at their backyards are the major suppliers of RHSs. The RHSs that originate from households have to pass through several hands before reaching the tanneries. These include: village level collectors or trader agents, small traders, intermediate traders, and large traders (or wholesalers). Such an extended marketing chain adversely affects the quality of RHSs supplied to the tanners.

Village level collectors mainly engage in door-to-door collection of RHSs and can have temporary collection posts. These collectors do not own warehouses and are limited in their financial capacity. Small collectors are traders that collect the RHSs from village collectors and/or from the producers directly. These collectors supply the RHSs to intermediary collectors which in turn supply the products to large RHSs traders that are mostly located in larger towns. The small and intermediary collectors perform various functions in this regard, such as collection, preservation, storage and transportation of the RHSs. They are, therefore, required to have both trade license and a premise for preservation and storage. However, a large number of these collectors engage in the business without meeting both requirements.

Though no reliable sources are available on the exact number of RHSs collectors in the market, estimates show that there are about 5000 RHSs collectors in Ethiopia of which about 67% of them are operating without proper license (Livestock Master Plan, 2008). The small collectors usually sell the RHSs to the intermediate collectors without adequate preservation. Given the time lag, putrefaction develops and damages quality of the RHSs. Besides, the intermediate collectors apply insufficient amount of salt during preservation. This further worsens the

damage of putrefaction. Once the RHSs arrive at the tanneries, their quality can further deteriorate due to the delay in processing. The large RHSs traders (or wholesalers) are located in Addis Ababa and other major cities. Currently, there are 13 large RHSs traders in Addis Ababa. The large collectors are generally engaged in bulking, preservation, storage and transportation to the tanneries of RHSs. The large traders are usually blamed on hoarding which in turn would further weaken the quality of RHSs.

The RHSs supply chain suffers from lack of trust and business discipline. In this regard, industry insiders think that tanneries and large traders are the main culprits. These two key actors have been at unease with each other for long. In the 2000s, tanneries used to issue advances to large traders in terms of both cash and salt and were complaining about fouls of hoarding by the traders. Thus, proclamation No. 814/2013 was partly meant to address this abuse of market power. Currently, the tanners are no longer issuing advances and are rather purchasing RHSs on credit basis. This transaction arrangement and the fact that they are responsible in setting RHSs' quality grading means that market bargaining power has shifted in favor of the tanneries. Thus, tanneries are now blamed on underpricing of RHSs (high quality of RHSs and yet low price offers that are not commensurate to quality). The tanneries are also blamed on excessive delays of payment. Both these have frustrated the traders, and hence they lack the incentive to supply better quality and quantity of RHSs. Thus, market institutions for the RHSs have so far been ineffective in addressing these challenges. The new proclamation which is expected to be ratified by the parliament may prove to be effective in addressing them.

Transportation of RHSs shall be quick enough so that the lag between slaughtering and preservation is short to alleviate putrefaction. Rapid transportation facilitates on time deliveries of the leather industry. However, transition of RHSs from households to preservation facilities is slow, and mainly due to inadequate transport infrastructure and lack of capacity of the small traders. In addition, the intermediate traders usually contract transport services in group while supplying the tanneries and/or the large traders. This results in mix up RHSs of varying qualities or those from various locations and hence complicates the selection of RHSs on quality basis.

The other main challenge with the RHSs marketing in Ethiopia is that it is predominantly traditional so much so that price signaling on quality variation is employed mainly based on geographic clustering of the production zones. Village collectors and small collectors and intermediate collectors do not have the capacity to properly measure quality and accordingly apply price discrimination strategies. This is partly explained by the very nature of RHSs in that the damages suffered during production stage, such as diseases scratches, and wounds, are unobservable until they are semi-processed at the tanneries. The failure to measure quality at the farm gate and induce price signaling into the marketing process means that farmers engaged in the sector are bereft of the incentive to invest on quality of RHSs.

## 4.3. The tanning and leather processing sector

Tanning involves a series of processes which are commonly divided into four distinct stages: pickling, tanning, re-tanning and finishing. The corresponding products of these stages are pickled pelt, wet-blue leather, crust leather and finished leather, respectively. The product could be sold in any of these stages (USAID, 2013).

In Ethiopia, the RHSs are processed by traditional and modern tanneries. According to Gebremichael (2016), there are currently about 6722 household traditional tanners in the country that are mainly scattered around northern part of Amhara, Tigray and Oromia regions. In Amhara region alone, 5292 traditional tanners are found. This study also estimates that the traditional tanners have the capacity to utilize more than 700,000 hides per annum.

The modern tanning industry in Ethiopia started over seventy years ago mainly in response to the growing domestic demand for leather shoes and other leather products. According to LIDI (2017), currently Ethiopia has 34 modern tanneries (28 operational and 6 at project stage) that produce all forms of hides and skins and finished leather for domestic and export markets. The operational tanneries have total soaking capacities of 2.86 million hides and 46.59 million skins per annum. However, the tanneries are operating below their soaking capacity (48.6% on hides and 41.1% on skins). Table 4.1 summarizes performance of the tanning industry against its annual soaking capacity in the last five years.

**Table 4-1 Soaking capacity and performance of the tanning industry (2012/13 - 2016/17)**

| | Installed Capacity (Pcs.) | | Performance (Pcs, annual) | | | | Performance (%) | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **Hides** | **Skins** | **Hides** | **Sheep** | **Goats** | **Skin (total)** | **Hides** | **Skin** |
| 2012/13 | 2702000 | 44352000 | 1390767 | 6655635 | 10758419 | 17414054 | 51.5 | 39.3 |
| 2013/14 | 2478000 | 31948000 | 1487449 | _ | _ | 17042795 | 60.0 | 53.3 |
| 2014/15 | 2942800 | 45466400 | 2026288 | _ | _ | 18937238 | 68.9 | 41.7 |
| 2015/16 | 2205000 | 34099800 | 1837874 | 9974204 | 7810314 | 17784518 | 83.4 | 52.2 |
| 2016/17 | 2858800 | 46586400 | 1388444 | 10978998 | 8160537 | 19139654 | 48.6 | 41.1 |
| **Average** | **2637320** | **40490520** | **1626164** | **9202946** | **8909757** | **18063652** | **62.5** | **45.5** |

Source: LIDI (2017)

We can observe from the table that much has not changed in the last five years on both the soaking capacity and overall soaking performance of the tanning industry. The Ethiopian leather value chain strategy document (2016-2020) indicates that though Ethiopia produces more than sufficient hides, its tanneries have not so far met their installed soaking capacity. However, the document also indicates that the country's shoat skins production has been lower than the soaking capacity of the tanneries. In fact the document projects that, during the GTP-II period, the gap between industry need and domestic production of shoat skins will continue to widen up and hence can only be met through imports. Though lack of quality RHSs is raised by the tanners, challenges such as weak supply chain management and obsolete technologies within the tanners are significantly impeding soaking performance.

# 5. Drivers of quality in the leather sector value chain

The previous section presented quality related problems along the leather value chain. This section provides a deeper analysis on what drives quality problems along the value chain.

## 5.1. Structural problems

The structural problems in the leather sector are manifested through the whole value chain. We split these challenges into two: breeding stage and post breeding stage challenges.

### i) Breeding stage challenges

The breeding stage, which includes animal feeding, care, and handling, is one of the major determinants of quality of RHSs. We examine the breeding stage from two perspectives that have lasting effects on the quality of RHSs:

***(a) What's the purpose of raising animals in the context of the Ethiopian livestock sector and what are its implications on the quality of RHSs?***

At the household-level, from where more than 80 percent of the RHSs are produced, animals are not raised for meat production. Instead, a typical Ethiopian farmer rears animals mainly maximize the benefits from animals use as draught power and for milk provision. Thus, the farmer tends to keep animals for long. As animals age and are over-used, their meat and hides and skins get worn-out. Thus, the RHSs produced from such animals would be of low quality.

***(b) What do the breeding practices look like and how do they affect the quality of RHSs?***

The livestock sector suffers from lack of modern livestock husbandry and management practices. This has led to widespread animal diseases that are capable of drastically reducing the quality of RHSs. While animal diseases [such as cockle (ekek) and animal-pox] are still rampant in the country, the corresponding veterinary services are either meager or unavailable. The in-door animal husbandry practices don't usually involve showering of the animals, while animals normally don't get the right quality and quantity of feeds. Besides, husbandry activities in Ethiopia are rainfall dependent. The quality of RHSs produced during drought seasons are severely hampered as animals don't get enough and proper food. Thus, the traditional husbandry practice further deteriorates the quality of RHSs produced by the farmers.

Problems (a) and (b) add up and render that RHSs are not as such marketable products that farmers consider worth investing on. Existing incentive structures and the institutional and organizational arrangements in relation to the production of RHSs do not seem to induce farmers to produce and supply good quality RHSs.

**ii) Post-breeding stages**

The post-breeding stage involves slaughtering, transportation and storage. The manner in which these activities are executed affects the quality of RHSs. Starting with slaughtering, farmers see their animals as productive assets and keep them for too long. Slaughtering happens at a very old age and the RHSs are usually worn-out. Besides, slaughtering in urban areas is made for meat production and RHSs are considered as just by-products. The traditional slaughtering practices in both rural and urban areas means that only a small proportion (about 20 percent[4]) of the slaughtering practices are taking place in modern slaughtering houses or abattoirs. In addition, the RHSs supplied during the Ethiopian New Year are highly infected by cockle, as the rainy season is suitable to the bacteria.

Our discussion on the previous chapter on practices of storage and transportation of RHSs in the country showed that quality leakages are persistent in each stage up to and including the processing of RHSs at the tanneries. The inadequate use of salt during preservation and the time-lag induced by the various actors exacerbate damages due to putrefaction. The quality of RHSs further deteriorates due to the failure of timely processing at the tanneries. Besides, the transport from rural areas to urban centers of RHSs tends to be traditional and slow, usually using animal power. The joint contracting of transport services to get RHSs to the tanneries also results in mix up of RHSs and hence compromises in quality. The majority of RHSs in Ethiopia are produced during religious holidays and quite rarely during causal seasons. This all implies that RHSs are supplied irregularly and hence difficult to stabilize its market.

Quality leakages also happen at later stages - at the tanneries and factory levels. The main reason for quality leakages at these stages is the use of obsolete or old technologies. The chemicals used and the tanning technology used to tan RHS is a critical factor.

[4] KII with Ethiopian Leather Industry Association and RHS Suppliers Association

## 5.2. Price incentives and quality

The previous section showed that farmers don't have the incentive to improve quality of their RHS. Similarly, the other main actors in the leather value chain face the same problems. There is a disconnect between price and quality in the leather sector. If quality premium is not rewarded by higher prices, no economic agent has the incentive to improve the quality of a given product (Akerlof, 1970). Akerlof argues that one condition has to prevail if the market for good-quality product is to exist - price differentiation according to quality of the product. However, this is possible only if quality is observable or if there is a credible certification or grading on unobservable quality.

In the context of Ethiopian leather value chain, it is important to understand how quality related information is conveyed among different actors. It is normally difficult to differentiate RHS on the basis of quality before they are tanned. So, from the farmer's perspective, low and high quality RHS fetch equal prices. The fact that higher quality RHS don't render higher prices in the market means that there is no incentive at the farm stage to improve quality of the RHS.

The other actors in the upstream leather value chain, i.e. village collectors, small collectors, intermediate collectors and large traders, face a similar problem. The collectors or traders cannot observe the quality of the RHS. For example, defects due to the cockle disease are visually unobservable. As a result, RHS collectors and traders are confronted with two options while running the business. The first option is to collect and supply all skins at an undifferentiated price. This option implies the high and low quality skins would fetch the same price. This option does not offer the right incentive for collectors and traders to exert effort to collecting high quality skins. The second option is that collectors and traders supply the RHSs to tanneries and the latter grade the RHSs into different qualities after tanning. Under this option, payment to traders is effected after the skins are tanned and their quality is differentiated. But this has its own problems. The main problem with this option is the issue of trust- whether tanneries would really pay the right amount at the right time. Though there is an international grading practice of RHSs, so far such a quality based pricing practice is ineffective in Ethiopia.

## 5.3. Bargaining power and price setting in the market for RHSs

Before the introduction of differentiated export tax on raw, semi-processed and finished products, RHSs suppliers had options of selling RHSs in the domestic and international markets. Introduction of the tax pushed them to focus on the domestic market. Gradually, transactions started to be set on basis of credit purchase, i.e. payment is effected a few months later. This had at least two problems. First, the issue of trust started to emerge as tanneries began to extra delay or even default on payments. Thus, business relationships and transactions started to fall off. Second, tanneries and factories set prices. This price setting power emerged because tanneries and factories knew that suppliers did not have the option of exporting and they started to deal prices collectively through their associations. Furthermore, lack of capital and warehouses means that small and medium collectors have to usually conduct transactions with loans from the big traders and transport the RHSs in bulk to the central market.

While the big traders are blamed for hoarding in an attempt to obtain better prices, tanneries respond by delaying or even sometimes defaulting on payments. In a bid to solve this problem, the government drafted proclamations. But the proclamations ended up controversial and were rendered ineffective in addressing the problems. For instance, one of the provisions of the proclamation bans horizontal exchange of RHSs. This means that a RHSs collector/trader cannot sell to another collector/trader. A new proclamation is already underway for ratification by the parliament. This proclamation is hoped to address the major challenges along the value chain. Furthermore, stakeholders have also devised their own solutions to the problems they faced. For example, the fact that the RHSs suppliers have been vulnerable to various abuses and price collusion by the Ethiopian Leather Industry Association (ELIA) has led them to establish their own association to strengthen their bargaining power. The formation of suppliers association somehow helped balance the price setting power in the RHSs market.

# 6. Conclusions and recommendations

Several points, patterns and implications emerged from our analysis. First, the farming community rears livestock mainly as productive assets, i.e. as draught power or milk provision. Thus, farmers retain animals as long as they are productive. When animals are kept for too long, their hides and skins get worn-out, and quality deteriorates to almost unusable state.

Second, even though Ethiopia has a huge livestock population, hides and skins are treated as mere by-products by both the farming community and the meat industry. More than 85% of the RHSs stem from individual meat consumers who practice slaughtering at their backyard. Since RHSs are considered as mere byproducts [and there is no reward for quality], meat consumers do not have extra incentive to care during both slaughtering and post-slaughtering.

Third, the off-take rate in Ethiopia is quite small for 2 basic reasons: (a) because of widespread animal diseases, low veterinary services and poor animal feed, livestock death rate is high. When an animal dies, its meat and skin are just discarded. This reduces the quantity of RHSs produced; and (b) Ethiopia is a low income country whose income and meat consumption is low in per capita terms. Though the country exports large volume of meat, the quantity is still meager when equated against its livestock population size.

Fourth, in addition to the challenges with the motives of farmers and consumers, the market poses another significant challenge on the endeavor to improve the quality of RHSs. The quality of RHSs is not observable before they get tanned. This means one cannot reward those that produce and/or supply high quality RHSs and discourage those that produce and/or supply low quality RHSs. The lack of information on quality means that the market fails to induce prices signal varying qualities of RHSs. Therefore, a better quality RHS doesn't fetch extra price in the market, and farmers and traders don't have the incentive to invest on quality of RHSs.

Fifth, in the middle of the leather value chain, there remains a fractious relationship between RHSs collectors/traders and the tanneries for quite long. Since quality of the RHSs cannot be observed on spot, the tanneries demand that quality based prices be set after semi-processing of the RHSs. This means that traders will supply RHSs to tanneries on a credit basis and

payment be made after the RHSs are tanned and their quality graded. But, such a transaction arrangement requires basic level of trust between the two parties. The leverage such a transaction arrangement offered the tanneries and the fact that they have a cartel-like unison in form ELIA means that grading and hence pricing of RHSs has been an unjust affair and a source of grudge for collectors/traders. But as the problem got worse, the collectors/traders formed their own association, the RHSs suppliers association, to set their bargaining power on par with the tanneries. Yet, the required level of trust has not so far been established between these parties, and establishing quality based marketing has remained elusive to date.

Sixth, the actors at the downstream of the leather value chain are suffering the most from poor quality of RHSs. The footwear and other leather products factories have RHS and/or its semi-processed form as its major input of production. However, factories don't have much leverage on the production of quality RHSs. Thus, the quality related problems at the livestock and tannery sectors get passed on to the leather goods factories. The poor performance of the leather sector in the global market, as evidenced by the RCA indices of Ethiopian exports of footwear and other leather products, could be explained by the poor quality of RHSs.

Some policy implications from our analysis are: (a) in the short to medium term, the livestock sector needs transition from traditional animal husbandry to modern animal husbandry. This will require: skilled professionals that gear the sector towards improved productivity and higher quality; selected animals with better bred in terms of meat, milk and skins production; modern breeding techniques; provision of better veterinary services and animals feed. (b) In the long term, Ethiopia should encourage the private sector to invest in large scale commercial ranch farming. Besides, modern abattoirs need to expand adequately so that they would reach out their services to the public. This will improve both the quality and sustainability of RHSs supply.

In relation to the marketing of RHSs, for most actors, there is a clear market failure. That is, the price-quality link is not properly functioning in the sense that high quality RHSs are not rewarded with higher prices because of lack of information on quality. To address quality observability problem, measures of quality such as grading and certification system needs to be introduced to incentivize famers and traders to invest in quality improvement. Only then will

price signal quality. In this regard, there is a need for an institutional framework that enforces contracts between RHSs collectors/traders and tanneries and yields fairer and smooth transactions among these key actors. Such framework will also help foster trust among these parties. On the other hand, awareness creation and training to farmers, collectors and traders of the RHSs on areas of proper slaughtering, preservation, storage and timely transportation will alleviate the unnecessary quality leakages along the leather value chain.

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